

大洋州地域廃棄物管理改善支援プロジェクト  
フェーズ2  
終了時評価調査報告書

令和4年12月  
(2022年)

独立行政法人国際協力機構  
地球環境部

環境
JR
22-125

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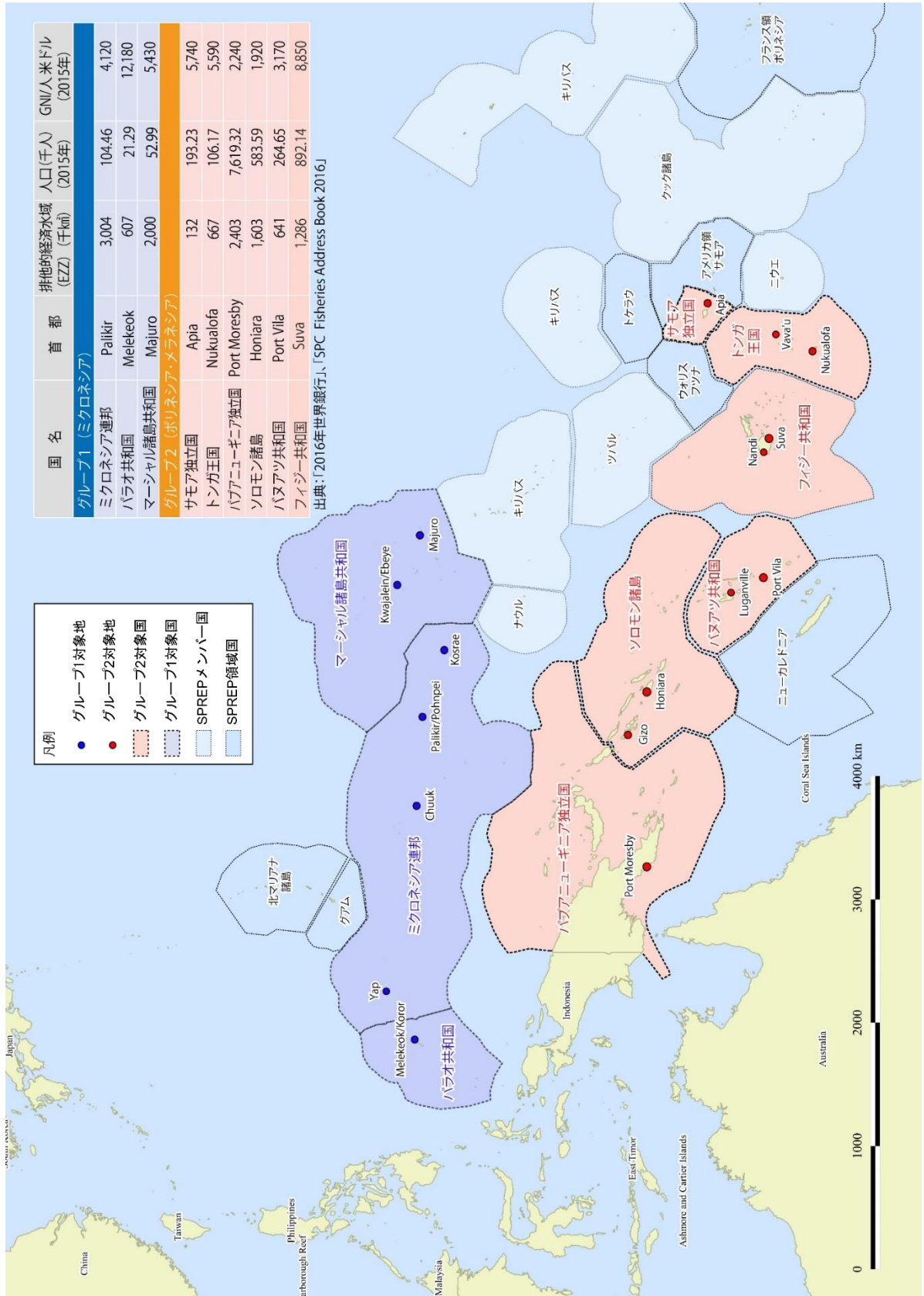
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# プロジェクトマップ



## 略語表

略語	正式名	日本語
3R	Reduce, Reuse, Recycle	減量化、再使用、再資源化
ADB	Asian Development Bank	アジア開発銀行
AFD	Agence Française de Développement	(仏) フランス開発庁
CDL	Container Deposit Legislation Container Deposit Levies	飲料容器デポジット制度
CEO	Chief Executive Officer	(行政部門の) 首長
COVID-19	COrona VIRus Disease of 2019	新型コロナウイルス
C/P	Counterpart	カウンターパート
DWM	Disaster Waste Management	災害廃棄物管理
EDF	European Development Fund	欧州開発基金
EU	European Union	欧州連合
E-waste	Electrical and electronic waste	イーウェスト、電気電子機器廃棄物
FSM	Federated States of Micronesia	ミクロネシア連邦
GEF	Global Environment Facility	地球環境ファシリティ
JCC	Joint Coordination Committee	合同調整委員会
JICA	Japan International Cooperation Agency	独立行政法人国際協力機構
JOCV	Japan Overseas Cooperation Volunteers	青年海外協力隊
J-PRISM	Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries	大洋州地域廃棄物管理改善支援プロジェクト
MM	Man Month	人月
M/M	Minutes of Meeting	ミニッツ (会議議事録)
MOU	Minutes of Memorandum	覚書
NGOs	Non-Governmental Organizations	非政府組織
NSWMS	National Solid Waste Management Strategy	国家固形廃棄物管理戦略
NWMPCS	National Waste Management and Pollution Control Strategy	国家廃棄物管理公害対策戦略
NWMP	National Waste Management Plan	国家廃棄物管理計画
ODA	Official Development Assistance	政府開発援助
OJT	On the Job Training	実地訓練
O&M	Operation and Maintenance	運営・維持管理
PALM	Pacific Islands' Leaders Meeting	太平洋・島サミット
PDCA	Plan, Do, Check, Action	計画・実行・評価・改善
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PET	Polyethylene terephthalate	樹脂 (ポリエチレンテレフタレー

略語	正式名	日本語
		ト) 製の容器、ペットボトル
PIC	Pacific Island Countries	太平洋島嶼国
PNG	The Independent State of Papua New Guinea	パプアニューギニア
PO	Plan of Operation	活動計画
POLP	Pacific Ocean Litter Project	太平洋大洋ごみプロジェクト
POPs	Persistent Organic Pollutants	残留性（難分解性）有機汚染物質
PRIF	Pacific Regional Infrastructure Facility	大洋州のインフラ支援に関する援助 協調の枠組み
PWP	Pacific Waste Plus	Pacific Waste Plus
R/D	Record of Discussions	討議議事録
RMI	Republic of the Marshall Islands	マーシャル諸島共和国
SPREP	The Secretariat of the Pacific Regional Environment Programme	太平洋地域環境計画
SWM	Solid Waste Management	固形廃棄物管理
TOR	Terms of Reference	業務指示書
UNDP	United Nations Development Programme	国連開発計画
UNEP	United Nations Environment Programme	国連環境計画
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific	国連アジア太平洋経済社会委員会
USAID	US Agency for International Development	米国国際開発庁
USD	United States Dollar	米ドル
WB	World Bank	世界銀行
WG	Working Group	ワーキンググループ
パラオ共和国 (Palau)		
BPW	Bureau of Public Works	(公共インフラ・産業・商業省) 公共 事業局
BPW-SWM	Bureau of Public Works – Solid Waste Management	公共事業局廃棄物管理課
EQPB	Environmental Quality Protection Board	環境保護局
ICETT	International Center for Environmental Technology Transfer	国際環境技術移転センター
KSG	Koror State Government	コロール州政府
KSG-SWM	Koror State Government – Solid Waste Management	コロール州政府廃棄物管理部門
MPIIC	Ministry of Public Infrastructure, Industries and Commerce	公共インフラ・産業・商業省
ミクロネシア連邦 (FSM)		
DECEM	Department of Environment, Climate Change and Emergency Management	環境・気候変動・緊急事態管理局

略語	正式名	日本語
DPW&T	Department of Public Works and Transportation	公共事業・交通局（ヤップ州）
DT&I	Department of Transportation and Infrastructure	交通インフラ局（コスラエ州）
DTPW	Department of Transportation and Public Works	交通・公共事業局（チューク州）
EPA	Environmental Protection Agency	環境保護局（ポンペイ、チューク、ヤップ州共通）
FSM	Federated States of Micronesia	ミクロネシア連邦
IMCS	Inter-Municipal Collection System	市町村間収集システム
KIRMA	Kosrae Island Resource Management Agency	コスラエ州資源管理局
KTG	Kolonia Town Government	コロニア市政府
OEEM	Office of Environment & Emergency Management	環境危機管理局
OIA	Office of Insular Affairs	（米国内務省）島嶼局
PWMS	Pohnpei Waste Management Service	ポンペイ廃棄物管理サービス（民間企業）
SSWMS	State Solid Waste Management Strategy	州固形廃棄物管理戦略
T&I	Office of Transportation and Infrastructure	交通インフラ局（ポンペイ州）
マーシャル諸島共和国（RMI）		
EPA	Environmental Protection Authority	マーシャル諸島環境保護局
KALGOV	Kwajalein Atoll Local Government	クワジェリン環礁地方政府
MAWC	Majuro Atoll Waste Company	マジュロ環礁廃棄物公社
MWIU	Ministry of Works, Infrastructure and Utilities (MWIU) Ministry of Public Works	公共公益インフラ省
NWMS	National Waste Management Strategy	国家廃棄物戦略
OEPPC	Office of Environmental Planning and Policy Coordination	環境政策局
RMI	Republic of the Marshall Islands	マーシャル諸島共和国
SWMP	Solid Waste Management Plan	固形廃棄物管理計画
パプアニューギニア独立国（PNG）		
CEPA	Conservation and Environment Protection Agency	環境保護庁
NCD	National Capital District	首都区
NCDC	National Capital District Commission	首都区庁
PGK	Kina (Papua New Guinea currency)	キナ（パプアニューギニア通貨）
PNG	The Independent State of Papua New Guinea	パプアニューギニア
ULLG	Urban Local Level Government	都市部自治体
UNEP	United Nations Environment Programme	国連環境計画
ソロモン諸島（Solomon）		

略語	正式名	日本語
HCC	Honiara City Council	ホニアラ市役所
GTC	Gizo Town Council	ギゾ町議会
LEAF	Learning and Ecological Activities Foundation for Children	こども環境活動支援協会
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology	環境保全・気候変動・防災・気象省
MHMS	Ministry of Health and Medical Services	保健医療省
NDS	National Development Strategy	国家開発戦略
NWMPCS	National Waste Management and Pollution Control Strategy	国家廃棄物管理汚染防止戦略
SBD	Solomon Dollar (Solomon Islands currency)	ソロモンドル (ソロモン通貨)
SOPE	State of Public Emergency	
WMCD	Waste Management and Control Division	廃棄物管理課
バヌアツ共和国 (Vanuatu)		
DEPC	Department of Environmental Protection and Conservation	環境保護局
DSPPAC	Department of Strategic Policy, Planning & Aid Coordination	戦略的政策計画援助調整局
IUCN	International Union for Conservation of Nature	国際自然保護連合
LMC	Luganville Municipal Council	ルーガンビル市役所
NWMPCS	National Waste Management and Pollution Control Strategy	国家廃棄物管理汚染防止戦略
PVCC	Port Vila City Council	ポートビラ市役所
SLO	State Law Office	法務局
UNDP	United Nations Development Programme	国連開発計画
VUV	Vatu (Vanuatu currency)	バツ (バヌアツ通貨)
WM&EH	Waste Management & Environmental Health Division	廃棄物・環境保健部
フィジー共和国 (Fiji)		
7R	Reduce, Reuse, Recycle, Refuse, Repair, Regenerate, Return	減量化、再利用、再資源化、拒絶、修理、再生、回帰
DLG	Department of Local Government	地方自治省
DOE	Department of Environment	環境局
LCC	Lautoka City Council	ラウトカ市役所
NTC	Nadi Town Council	ナンディ町役場
NWMPCS	National Waste Management and Pollution Control Strategy	国家廃棄物管理・汚染対策戦略
トンガ王国 (Tonga)		
MOH	Ministry of Health	保健省
MEIDECC	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and	気象、電力、情報、防災、環境、気候変動及び通信省



略語	正式名	日本語
	Communications	
NUDSP	Nuku'alofan Urban Development Sector Project	ヌクアロファ都市開発プロジェクト
TOP	Pa'anga (Tonga Currency)	パアंगा (トンガ通貨)
TSDF	Tonga Strategic Development Framework	トンガ戦略開発枠組み
WAL	Waste Authority Limited	廃棄物公社
サモア独立国 (Samoa)		
CEO	Chief Executive Officer	最高経営責任者
DEC	Division of Environment and Conservation	環境保全局
MNRE	Ministry of Natural Resource and Environment	天然資源環境省
MWCSD	Ministry of Women, Community and Social Development	女性・コミュニティ・社会開発省
NSWMS	National Solid Waste Management Strategy	国家固形廃棄物管理戦略
NWMS	National Waste Management Strategy	国家廃棄物管理戦略
SRWMA	Samoa Recycling and Waste Management Association	サモアリサイクル・廃棄物管理協会

## 評価調査結果要約表

I. 案件の概要								
国名：大洋州地域		案件名：廃棄物管理改善支援プロジェクトフェーズ II (J-PRISM 2)						
分野：廃棄物管理		協力形態：技術協力プロジェクト						
所轄部署：JICA 地球環境部環境管理 グループ、環境管理第一チーム		協力金額（評価時点）：18.7 億円						
協力期間	2017 年 2 月～ 2023 年 3 月 日（6 年間）	先方関係機関：太平洋地域環境計画 (Secretariat of the Pacific Regional Environment Programme : SPREP) 及び、大洋州島嶼国 (Pacific Island Countries : PICs) 9 カ国の廃棄物管理所轄機関						
		日本側関係機関：						
他の関連協力	2005－2008 「パラオ国廃棄物管理改善プロジェクト」 2006－2008 「バヌアツ国ブファ処理場改善プロジェクト」 2008－2012 「フィジー国廃棄物減量化・資源化促進プロジェクト」 2011－2016 「大洋州地域廃棄物管理改善支援プロジェクト (J-PRISM)」							
<p>1－1 協力の背景と概要</p> <p>大洋州地域の小島嶼国 (PICs) においては、域内の固形廃棄物管理は大きな課題の一つとなっている。JICA は、大洋州地域環境計画事務局 (SPREP) と連携して、固形廃棄物管理の分野で PICs を支援してきており、J-PRISM プロジェクトとして長期にわたる一連の技術協力プロジェクトを実施してきた。</p> <p>本事業において、JICA は前フェーズで策定支援をした大洋州地域廃棄物・汚染管理戦略 2016-2025 (Cleaner Pacific 2025) の下、対象 9 カ国 (パラオ、FSM、RMI、PNG、ソロモン、バヌアツ、フィジー、トンガ、サモア) の廃棄物関連機関及び SPREP と共同で「大洋州地域廃棄物管理改善支援プロジェクト フェーズ 2 (J-PRISM2)」を開始した。J-PRISM2 では、廃棄物管理における広域協力を引き続き促進し、「3R+Return」コンセプトの推進や適切な廃棄物管理技術の導入、効果的かつ効率的なリサイクル等、域内廃棄物管理システムの構築に貢献することを目的としている。</p> <p>1－2 協力内容</p> <p>(1) 上位目標：Cleaner Pacific 2025 に基づき、大洋州地域における自立的な廃棄物管理が強化される。</p> <p>(2) プロジェクト目標</p> <table border="1" style="width: 100%;"> <thead> <tr> <th></th> <th>プロジェクト目標</th> </tr> </thead> <tbody> <tr> <td>地域協働</td> <td>Cleaner Pacific 2025 の固形廃棄物管理分野にかかる実施状況がタイムリーにモニタリングされ、大洋州地域内協力に基づいた支援が行われる。</td> </tr> <tr> <td>パラオ</td> <td>新規処分場の運営開始を見据えて、廃棄物管理体制が改善される。</td> </tr> </tbody> </table>				プロジェクト目標	地域協働	Cleaner Pacific 2025 の固形廃棄物管理分野にかかる実施状況がタイムリーにモニタリングされ、大洋州地域内協力に基づいた支援が行われる。	パラオ	新規処分場の運営開始を見据えて、廃棄物管理体制が改善される。
	プロジェクト目標							
地域協働	Cleaner Pacific 2025 の固形廃棄物管理分野にかかる実施状況がタイムリーにモニタリングされ、大洋州地域内協力に基づいた支援が行われる。							
パラオ	新規処分場の運営開始を見据えて、廃棄物管理体制が改善される。							

FSM 連邦政府	各州において廃棄物管理体制の確立が促されるように支援を行う
ヤップ	廃棄物管理体制の確立が促進される
チューク	廃棄物管理体制の確立が促進される
ポンペイ	廃棄物管理体制の確立が促進される
コスラエ	廃棄物管理体制の確立が促進される
RMI	廃棄物管理体制の確立が促進される
PNG	国家ならびに主要な都市部自治体（Urban Local-Level Government: ULLG）レベルで固形廃棄物管理の制度的枠組み及び事業実施能力が強化される。
ソロモン	国家および Provincial Center レベルで廃棄物管理にかかる制度的な能力が強化される。
バヌアツ	バヌアツ国家廃棄物管理公害防止戦略(NWMPCS)に沿って固形廃棄物管理活動を実施・モニタリングする土台が築かれる。
フィジー	国家廃棄物管理戦略 2016-2025 に基づき、廃棄物が適正に管理される。
トンガ	現場での実施に重点を置いて、トンガ離島における持続可能な廃棄物管理の基盤が構築される。
サモア	国家廃棄物管理戦略(NWMS)に沿って、固形廃棄物管理が適切に実施される。

(3) アウトプット：「3. 調査結果の概要」「3-1 実績の検証」「(1) アウトプット達成状況」参照

(4) インプット（終了時評価調査で提供されたデータに基づく）

日本側： 専門家派遣（現地）：317 人月  
 専門家派遣（遠隔）：144.12 人月  
 機材供与：約 796,300 米ドル  
 本邦研修  
 その他の現地業務費・在外事業強化費：約 2,103,589 米ドル

大洋州側： カウンターパート(C/P)配置：163 名  
 ローカルコスト負担：（専門家が派遣中の活動を円滑に実施するための費用）  
 土地・施設提供：専門家執務室、光熱費等

## 2. 評価調査団の概要

<大洋州側>

氏名	役割	所属・役職	担当国・地域
Mr. Anthony TALOULI	大洋州側リーダー	SPREP 廃棄物・汚染管理課 汚染管理アドバイザー	地域協働及び全対象国
Mr. Joshua SAM	評価分析	SPREP 廃棄物・汚染管理課 災害廃棄物管理アドバイザー	全対象国

<日本側>

氏名	役割	所属・役職	担当国・地域
松岡 秀明	総括	JICA 地球環境部 環境管理グループ 環境管理第一チーム 課長	全般、SPREP
天野 史郎	環境管理・廃棄物	JICA 地球環境部 環境管理グループ 国際協力専門員	廃棄物管理
前島 幸司	協力企画①	JICA 地球環境部 環境管理グループ 環境管理第一チーム 主任調査役	ポリネシア（サモア、トンガ、フィ

			ジー)
深瀬 豊	協力企画②	JICA 地球環境部 環境管理グループ 環境管理第一チーム 専任参事	メラネシア (ソロモン、バヌアツ、PNG)
山田 のり子	協力企画③	JICA 地球環境部 環境管理グループ 環境管理第一チーム 専門嘱託	ミクロネシア (パラオ、FSM, RMI)
織本 厚子	評価分析①	(株)日本開発サービス、シニアコンサルタント	サモア、ソロモン、バヌアツ、SPREP
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<スケジュール>

2022年5月~7月にかけて、遠隔調査で実施された。

調査期間：2022年4月~2022年7月

評価の種類：終了時評価

### 3. 評価結果の概要

#### 3-1 実績の確認

##### (1) アウトプット達成状況

全体として、ほぼ全ての国で何らかの進捗があり、COVID-19の感染拡大による混乱にもかかわらず、全43のアウトプットのうち29のアウトプットは、達成済みまたはほぼ達成されているか、プロジェクト終了までに達成される見込みであることが確認された。

	アウトプット 1	アウトプット 2	アウトプット 3	アウトプット 4
地域協働	Cleaner Pacific 2025 に沿ったモニタリングメカニズムが強化される。	域内でローカル人材の活用と教訓の共有により域内協力が組織化・推進される。	域内災害廃棄物管理体制が強化される。	実践的および持続性のある 3R+Return システムが強化される。
結果	一部達成	達成済み	達成済み	ほぼ達成
パラオ	大洋州地域廃棄物管理戦略(2016-2025)に沿って、国家固形廃棄物管理戦略並びに付属のアクションプランが策定され、担当大臣に提出される	廃棄物管理や3Rに係るグッド・プラクティスが国内並びに地域内で共有される	バベルダオブ島の10州ならびにコロール州で、廃棄物収集が改善される	現 M-dock 処分場から新規処分場への移行が開始される
結果	達成済み	ほぼ達成	達成済み	ほぼ達成
FSM (連邦政府)	各州において州の廃棄物管理戦略が策定されるよう、DECEM (旧 OEEM)によって支援が提供される	活動廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される		
結果	達成済み	達成済み		
ヤップ	大洋州地域廃棄物管理戦略(CP2025)に沿って州廃棄物管理戦略並びに付属のアクションプランが策定される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	ヤップ島において収集が改善される	
結果	達成済み	ほぼ達成	評定不可能	

チューク	大洋州地域廃棄物管理戦略 (CP2025) に沿って州廃棄物管理戦略並びに付属のアクションプランが策定される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	有効な CDL 実施メカニズムが関係機関で検討される	
結果	達成済み	ほぼ達成	ほぼ達成の見込み	
ボンペイ	大洋州地域廃棄物管理戦略 (CP2025) に沿って州廃棄物管理戦略並びに付属のアクションプランが策定される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	有効な CDL 実施メカニズムが関係機関で検討される	
結果	達成済み	ほぼ達成	ほぼ達成の見込み	
コスラエ	大洋州地域廃棄物管理戦略 (CP2025) に沿って州廃棄物管理戦略並びに付属のアクションプランが策定される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	コスラエ州においてごみ収集が改善される	
結果	達成済み	ほぼ達成	達成済み	
RMI	廃棄物管理体制の改善に必要な政策文書が策定され、担当部局に提出される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	関係機関により、RMI に適した CDL の実施体制が検討される	
結果	ほぼ達成	ほぼ達成	達成済み	
PNG	国家政策や戦略、実施計画の策定を通じた組織能力の強化	固形廃棄物管理の課題に対処するための ULLG の能力向上	NCD による廃棄物管理計画の継続的な実施	
結果	ほぼ達成	一部達成	一部達成	
ソロモン	HCC の SWM 能力強化	ホニアラとギゾで得られた SWM の教訓を他地域に広める	SI における持続可能な SWM のための経済的措置の明示	
結果	ほぼ達成	一部達成	(継続中) <sup>1</sup>	
バヌアツ	NWMPCS を実施するための DEPC の組織的能力の向上	PVCC 固形廃棄物管理計画活動の実施とモニタリング	3R+リターンを推進するための経済的なインセンティブ・スキームの立ち上げ	
結果	達成済み	ほぼ達成	ほぼ達成	
フィジー	3R の概念を組み入れたエビデンスに基づく政策の促進	3R+リターンプログラムのパイロット調査の実施		
結果	ほぼ達成	一部達成		
トンガ	廃棄物管理サービスの拡大に向けた WAL の 5 年事業計画の策定	離島での継続的な廃棄物管理の実施に向けた WAL の能力強化	ハアパイ及びビエウアにおける廃棄物管理行動計画の策定	ハアパイ及びビエウアにおける継続的な廃棄物管理実施能力の向上
結果	達成済み	達成済み	達成済み	一部達成
サモア	NSWMS の開発	ゴミ収集モニタリングシステムの構築	財務オプションに関するフィージビリティスタディの実施	
結果	達成済み	達成済み	一部達成 <sup>2</sup>	

<sup>1</sup>プロジェクト完了までに達成する見込み。

<sup>2</sup>同上。

(2) プロジェクト目標の達成状況

	プロジェクト目標	結果
地域協働	Cleaner Pacific 2025 の固形廃棄物管理分野にかかる実施状況がタイムリーにモニタリングされ、大洋州地域内協力に基づいた支援が行われる。	<b>ほぼ達成</b> 指標 1 は部分的にしか達成されていないが、プロジェクト目標の後半に大きな成果があったため、ほぼ達成したと判断された。インプットや活動に大きな変化があった場合には、プロジェクトの実像を反映した指標を検討し、それに応じて変更する必要がある。
パラオ	新規処分場の運営開始を見据えて、廃棄物管理体制が改善される。	<b>ほぼ達成</b> プロジェクト目標の指標は全て達成された。ただし、持続可能な資金調達に関する疑問が残るため、プロジェクト目標はほぼ達成されたと考えられる。
FSM 連邦政府	各州において廃棄物管理体制の確立が促されるように支援を行う	<b>ほぼ達成</b> 4つの州の間で共有し学ぶ機会が、連邦政府の支援によって提供された。
ヤップ	廃棄物管理体制の確立が促進される	<b>ほぼ達成</b> 定量的・技術的分析に基づき課題が抽出され、その対策が提案されていることから、プロジェクト目標の指標は全て達成されている。アウトプット 1、2 はほぼ達成されたが、アウトプット 3 は外部要因によるプロジェクト実施の阻害により評価不可能と見なされた。プロジェクトの目標はほぼ達成されたと考えられる。
チューク	廃棄物管理体制の確立が促進される	<b>ほぼ達成の見込み</b> 定量的・技術的分析に基づく課題の抽出とその対応策の提案により、プロジェクト目標の指標は全て達成された。アウトプット 1、2 はほぼ達成されたが、アウトプット 3 については、専門家派遣終了の 2022 年 9 月までに必要な文書が作成されれば、ほぼ達成される見込みである。このため、プロジェクト目標はほぼ達成されたと考えられる。
ポンペイ	廃棄物管理体制の確立が促進される	<b>ほぼ達成の見込み</b> 定量的・技術的分析に基づく課題の抽出とその対応策の提案により、プロジェクト目標の指標は全て達成された。アウトプット 1、2 はほぼ達成されたが、アウトプット 3 については、専門家派遣終了の 2022 年 9 月までに必要な文書が作成されれば、ほぼ達成される見込みである。このため、プロジェクト目標はほぼ達成されたと考えられる。
コスラエ	廃棄物管理体制の確立が促進される	<b>ほぼ達成</b> 定量的・技術的分析に基づく課題の抽出とその対応策の提案により、プロジェクト目標の指標は全て達成された。3つの成果はほぼ達成された。このため、プロジェクト目標はほぼ達成されたと考えられる。
RMI	廃棄物管理体制の確立が促進される	<b>ほぼ達成</b> 定量的・技術的分析に基づき課題を抽出し、その解決策を提案したことにより、プロジェクト目標の全ての指標を達成した。また、一部懸案事項（国家廃棄物戦略が未だ必要であるかの検討）があったため、プロジェクト目標はほぼ達成されたと考えられる。
PNG	国家ならびに主要な都市部自治体（Urban Local-Level Government: ULLG）レベルで固形廃棄物管理の制度的枠組み及び事業	<b>ほぼ達成</b> ほぼ達成しているものの、残された課題はプロジェクト期間中に達成される必要がある。ULLG の役割や責任分担は廃棄物計画において明記されていないが、いくつかのワークショップ開催を通じて実質的には理

	実施能力が強化される。	解されており、モニタリングシステムも既に構築されている。
ソロモン	国家および Provincial Center レベルで廃棄物管理にかかる制度的な能力が強化される。	<b>部分的に達成</b> (ほぼ達成/プロジェクト終了までに達成する可能性有) 少なくとも、2 番目の州センターでアウトプット 2 の指標がすべて達成されれば、プロジェクトの目的はプロジェクト終了までに「ほぼ達成」する可能性がある。
バヌアツ	バヌアツ国家廃棄物管理公害防止戦略(NWMPCS)に沿って固形廃棄物管理活動を実施・モニタリングする土台が築かれる。	<b>ほぼ達成</b> プロジェクト目標の指標はアウトプット 1 のみによりほぼ達成されており、他のアウトプットの成果が反映されていなかった。有意義なアウトプットや活動の追加・変更があったため、それに合わせて指標もプロジェクトの実態を反映したものに変更されるべきであった。
フィジー	国家廃棄物管理戦略 2016-2025 に基づき、廃棄物が適正に管理される。	<b>ほぼ達成</b> プロジェクト目標はほぼ達成されたと言える。今後、13 の地方自治体において、モニタリングや指標の報告の手順、遠隔地をカバーするためのロードマップなど地方自治体の廃棄物管理計画の策定が確実になされることが重要である。
トンガ	現場での実施に重点をおいて、トンガ離島における持続可能な廃棄物管理の基盤が構築される。	<b>達成した</b> WAL による廃棄物管理サービスはトンガの離島において普及しており、廃棄物料金の徴収を含む廃棄物管理体制は構築されたと考えられる。
サモア	国家廃棄物管理戦略(NWMS)に沿って、固形廃棄物管理が適切に実施される。	<b>部分的に達成</b> (ほぼ達成/プロジェクト終了までに達成する可能性有) 様々な課題があったにもかかわらず、大きな成果を上げた。 終了時評価時点では、サモアの国別プロジェクト目標は「ほぼ達成」と評価されているが、プロジェクト終了までにすべての指標が達成される可能性が高いと考えられる。

### 3-2 評価結果の要約

#### (1) 妥当性

本プロジェクトは、必要性・優先度の高さに鑑み、妥当であると評価された。廃棄物の増加への対応と最終処分場の整備に関する問題、リサイクル率の低さなど、各国に共通する課題、小規模島嶼国においては、廃棄物管理に携わる技術者や専門家の人数は少なく、自治体はそのスキルは限定的である一握りの担当者に頼っており、本プロジェクトの必要性は高い。また、開発戦略の中で、廃棄物管理はそれぞれの国で改善すべき優先課題の一つとして挙げられており、統合的かつ持続可能な廃棄物管理および汚染防止・制御のための包括的な長期広域セクター戦略「Cleaner Pacific 2025」にとも整合性がとれている。

#### (2) 整合性

COVID-19 の感染拡大時には、多くの協力が計画通りに進まなかったが、日本の ODA 政策、日本の他のスキーム、他の開発パートナーとの整合性という点において、このプロジェクトの整合性は高い。

#### (3) 有効性

COVID-19 の影響によりプロジェクト中盤に大幅な遅れが生じたが、プロジェクト目標の達成見込み及びアウトプット達成への寄与を考慮すると、本事業は比較的有效であると評価される。

プロジェクト目標の達成度に関しては、有効な指標の大半は既に完全またはほぼ達成されており、プロジェクト終了までにプロジェクト目標が達成できる見込となっている。ただし、プ

プロジェクト目標の達成度を評価するための指標のいくつかは、検証が困難となっており、(他の指標に重きを置く、条件を追加する等) 達成度をより包括的に評価した。アウトプットはプロジェクト目標の達成に寄与していることが再確認されたが、一部の PDM では、プロジェクト目標の指標がアウトプットの一部でしか達成されておらず、PDM のレビューのプロセスで指標の修正・追加が適切に行われていなかった。また、総括的に見て、プロジェクト目標達成レベルの具体的な貢献・阻害要因は特定されていなかった。

(4) 効率性

今回の調査では、COVID-19 感染拡大という特有な事態であったため、「効率性」の判断は行わず、アウトプットの達成レベル、アウトプットを達成するためのインプットの適切性、地域協働活動の活用についての内容を確認するにとどまった。

(5) インパクト

上位目標の指標達成の見込みについては、地域協働 PDM の指標では検証できず、各国の PDM でも指標が埋まっていないため、検証可能な指標を設定する必要がある。しかしながら、様々な正のインパクトがすでに観測されている。プロジェクトの実施が原因となって起こった負のインパクトは見られない。

特筆すべき正のインパクトは下記の通り。

地域／国名	正のインパクト
地域協働	<ul style="list-style-type: none"> <li>・モアナ・タカ・パートナーシップ (MTP) は SPREP と J-PRISM2 が共同で行ったもので、J-PRISM2 の最初の 3R+Return 専門家が主導した。フィジー、サモア、PNG、RMI はすでに MTP の利用を開始している。</li> <li>・サモア、バヌアツ、トンガが大規模な自然災害に見舞われた際、本プロジェクトを通して迅速な支援が可能であった。また、世界の災害リスク指数上位 3 カ国であるバヌアツ、ソロモン諸島、トンガの国家災害管理局との緊密な連携が強化された。</li> <li>・トンガの「災害廃棄物管理計画」を主導し、災害廃棄物管理事業のフォローアップのための政府予算支援の基礎となった。</li> <li>・サモアの「国家災害管理計画 2017-2020」に「災害廃棄物」が環境部門として盛り込まれ、サイクロン「ギータ 2018」と 2020 年の「洪水」時の災害廃棄物管理活動への政府予算支援の基礎となった。</li> <li>・リサイクル協会の設立は、当初プロジェクトの対象外であったが、サモア、バヌアツ、ソロモン、PNG、トンガの 4 つのリサイクル・廃棄物管理協会が設立され、参加することとなった。</li> </ul>
パラオ	<ul style="list-style-type: none"> <li>・廃棄物収集システムの分析、計画、設定、実施、廃棄物処理場の管理など、廃棄物管理の技術分野における C/P の能力向上がみられた</li> <li>・地域によっては輸送距離が長くなるにもかかわらず、集約的な最終処分場を備えた州間収集システムの導入によって、より効率的な廃棄物収集が可能になった。</li> <li>・オープンダンピングであった既存の処分場の閉鎖による環境負荷の軽減。</li> </ul>
FSM	<ul style="list-style-type: none"> <li>・各州の州固形廃棄物管理戦略が策定され、課題、優先順位、対策が明確になり、廃棄物管理戦略の面で改善が見られた</li> <li>・廃棄物処理業者の知識向上 (データ収集など) により、収集などの改善の見える化が可能になった。</li> <li>・コミュニティへの働きかけを通じて、固形廃棄物管理におけるコミュニティの責任について話し合う機会ができた。コミュニティは意識を高め、より良い廃棄物処理に気を配るようになった (ヤップ)。</li> <li>・自治体間収集システムによる週次収集により、収集率が向上し (運用開始 1 週目の収集データによる)、コミュニティでの不法投棄が減少していることが確認された (コスラエ)。</li> </ul>
RMI	<ul style="list-style-type: none"> <li>・最終処分場の改善に代表されるように、固形廃棄物管理を継続的に改善するための意識と政治的コミットメントが向上した。</li> <li>・廃棄物管理に関する技術力の向上 (CDL の運用、最終処分場の改善に関する) がみられた。</li> </ul>



	<ul style="list-style-type: none"> <li>・ CDL 制度導入により不法投棄が減少した。</li> <li>・ 処分場の内海への拡大による水質汚濁の防止による環境保護効果がみられた。</li> </ul>
PNG	<ul style="list-style-type: none"> <li>・ ココポ市において、廃棄物処分場での廃棄物情報の収集と分析の重要性が以前より認識されるようになった。その結果、ココポ市の廃棄物の 50% が有機物由来であることが確認されたことから、コンポストの普及活動が促進され、堆肥がココポ市の美化活動に使用されることとなった。処分場周辺のコミュニティの生活水準を向上させたほか、廃棄物管理政策や戦略の面でも多くの改善が見受けられた。その他の社会的なインパクトとしては、NCDC のコメントによると、「3R Eco School Project」といった学校活動との連携や協力により、「ゴミを無視する社会」から「ゴミを意識する社会」へと変化を促すことができたことである。</li> </ul>
ソロモン	<ul style="list-style-type: none"> <li>・ HCC 廃棄物管理課の設立。</li> <li>・ その収入が廃棄物管理だけに利用されず、他の用途にも支出されているものの、処分場におけるゴミ料金回収システムが確立された。</li> <li>・ 対象州のみならず、他の州においても廃棄物管理の重要性が認識され始めている。</li> </ul>
バヌアツ	<ul style="list-style-type: none"> <li>・ PVCC に廃棄物管理・環境衛生部門が設置された。</li> <li>・ DEPC のさらなる強化に向けた組織再編が実施されている。</li> <li>・ GPS を活用した収集システムにより、燃料の節約や収集車の動きの管理ができるようになった。</li> <li>・ 他地域への支援が開始された。</li> <li>・ 廃棄物削減計画（2021-2025）最終案が策定された。</li> <li>・ 環境教育の授業ガイダンスを策定した（教育省との連携）。</li> <li>・ 災害廃棄物管理および国家災害管理局を支援する技術的な能力が強化された。</li> <li>・ 廃棄物管理におけるより多くの援助協調が実施された（2021 年 10 月に DEPC、PWP、J-PRISM2 の間で容器デポジット制度（CDS）に関する協議を行い、役割分担が決定した）。</li> </ul>
フィジー	<ul style="list-style-type: none"> <li>・ 全てのプロジェクト対象自治体の廃棄物管理計画のドラフトが作成され、継続的にモニタリングがなされている。その結果、DLG は、農村部での廃棄物収集サービスの拡大など、適切な政策の基礎を構築することに貢献した。</li> </ul>
トンガ	<ul style="list-style-type: none"> <li>・ ババウにおいて、これまで存在しなかった廃棄物収集システムが確立され、WAL に支払われる廃棄物料金の徴収率の高さに表されるように地域住民の廃棄物管理に対する意識が向上していることが確認された。今後、他の離島であるハアパイやエウアでも同様のシステムの確立及び住民の意識向上が期待される。</li> </ul>
サモア	<ul style="list-style-type: none"> <li>・ 収集サービスの向上（クレーム件数。苦情件数：100 件→15 件/月、収集率：63%→75%、苦情解決までの目安：2~7 日→即時~2 日、など）。通常、エンドユーザーへのプラスの影響はプロジェクト実施後何年も経ってから現れるものであるため、終了時評価時点では並外れたインパクトであると言える。</li> <li>・ 廃棄物（レジ袋）管理規則 2018 の承認と施行：単一使用レジ袋、プラスチック製包装袋、プラスチック製ストローの禁止を施行日（2019 年 1 月 30 日）とする。</li> <li>・ 廃棄物管理に関する実績は、MNRE の Annual Report に記載されるようになった。</li> </ul>

#### (6) 持続性

本プロジェクトの効果の持続性は、対象国が廃棄物管理に予算と人材の投入を継続し、SPREP が対象国の努力を継続的に支援すれば、中程度と評価される。

##### <政策・制度面>

地域協働：「Cleaner Pacific：大洋州地域廃棄物・汚染管理戦略 2016-2025」は、大洋州地域で唯一の包括的な地域廃棄物・汚染管理戦略である。2020 年の中間レビュー後に、「CP2025 大

洋州地域廃棄物・汚染管理戦略実施計画 2021-2025」が策定され、2020年7月に発行された。J-PRISM2はCP2025を支援するものであり、政治的・制度的な持続可能性が確保されることが予測される。

#### <組織面>

地域協働活動：廃棄物管理に関する域内協力については、「クリーン・パシフィック・ラウンドテーブル」が設立され、2016年から定期的に会合を開き、地域の廃棄物管理に関する情報を共有する枠組みを構築している。また、次フェーズの実現により、広域レベルでの一定の持続可能性が期待される。一方、SPREP側のプロジェクト廃棄物管理担当者は1名と限られており、SPREPは、プロジェクトオフィスがなければJ-PRISM2のプロジェクト活動の支援は難しい。

#### <財政面>

地域協働活動：他の地域機関と同様、SPREPの資金源は、加盟国からの拠出金と開発パートナーからの資金で構成されている。EUはEDF11(2017-2022)下、1,700万ユーロという最大の資金提供を約束しており、2020年末時点でも700万米ドル以上が利用可能となっている。プログラム/ドナーファンドの収入については、廃棄物管理・公害対策は、2,424,287USD(2019年)から3,019,346USD(2020年)に予算が増えている。これは、このセクターに対するドナーの強い関心を示している。

#### <技術面>

地域協働活動：COVID-19感染拡大時のコミュニケーションギャップにもかかわらず、対象国のC/Pの技術力は、COVID-19以前に習得した知識・技術やプロジェクト専門家の遠隔支援により、SWM、処分場管理、3R+Returnに関する知識が徐々に強化されており、一部の国ではプロジェクト活動で移転した知識・技術の大部分が維持されていると考えられる。しかしながら、能力強化されたスタッフの頻繁な離職や異動は、プロジェクトの持続可能性を確保する上で最も深刻な問題の一つであり、交代が起こった際には、新たに採用されたスタッフに対する研修や技術移転の強化が必要である。人材・トレーニング情報のデータベースであるPIDOCがSPREPに提出されているため、今後、地域の人材強化に活用されることが期待される。

### 3-3 結論

本プロジェクトの実績と実施プロセスを精査した結果、全ての対象国が廃棄物管理に予算と人員を投入し続け、SPREPがその努力を支援し続けるならば、本プロジェクトは(1)依然として妥当であり、(2)全体の整合性は比較的高く、(3)有効であり、(4)正のインパクトが見られ、(5)持続性は中程度であると判断された。

プロジェクト目標は、プロジェクト終了までにほぼ達成される見込みとなっている。したがって、2023年3月に本プロジェクトを終了することが適当である。

### 3-4 提言（国別の提言については、付属資料ANNEXの各国版報告書（英文）を参照）

#### (1) プロジェクトに対する提言（SPREPおよびプロジェクトオフィス専門家）

上位目標の達成度合いを検証可能にするように指標を変更することを提案する。

代替指標の例

- 対象国の廃棄物管理に関する国家戦略/政策が、X件以上（または「すべて」）改訂または最新になっている。
- （メラネシアおよびポリネシア）対象国各国において、少なくとも1都市について、国の廃棄物管理戦略・政策に基づく廃棄物管理計画が策定されている。
- プロジェクト完了3年後においても、XX%以上の能力強化された人材が地域内で廃棄

物管理セクターに従事し続けている。

- X国以上において、プロジェクト活動や実績が、該当組織の年次業務計画報告書に記載されている。

## (2) SPREP に対する提言

大洋州諸島能力開発活動データベース (PIDOC) が見直しされ、改訂版が SPREP に提出された。このツールは、大洋州-大洋州協力に貢献できる大きな可能性を秘めており、SPREP が大洋州地域における様々な廃棄物管理活動に地域の専門家を参加させるために活用することを提案する。

### 3-5 教訓

#### <プロジェクトモニタリング: 品質とフォローアップの重要性>

プロジェクトの進捗を定期的にモニターし、問題点を早期に発見することは非常に重要であるため、J-PRISM のような大規模で複雑なプロジェクトについては、プロジェクトの中間地点において、その進捗状況や課題を PDM に反映するために、モニタリングシートを利用した総括的なレビューを実施することが望ましい。

#### <プロジェクト・デザイン (検証可能な指標) >

本プロジェクトの終了時評価を実施するにあたり、検証することができない指標が散見するなど、問題のある PDM がいくつかあり、プロジェクトの達成度を評価することが非常に困難であったため、下記を念頭にプロジェクトをデザインすることが望ましい。

- 活動とアウトプット、アウトプットとプロジェクト目標の関係のロジックの確認
- 客観的に検証可能であり適切な指標の設定
- PDM の変更・改訂が必要な場合、ステークホルダーや評価担当者に確認する。
- C/P の能力開発結果を可視化できるような指標を盛り込む。

#### <プロジェクト実施体制>

ハイブリッド型 (広域活動やプロジェクト運営は、直営の長期専門家、各国活動の実施は、コンサルタント (短期専門家) のグループという組み合わせ) の場合には、プロジェクトの実施体制をどのようにするか (長期専門家と各国活動をするコンサルタントとの関係等)、各国における広域の活動についても各国の PDM に含めることやプロジェクト総括への報告義務を課すなど注意が必要となる。

#### <COVID-19 関連の教訓>

- 海外渡航禁止もしくは国境封鎖になった場合の対応策を予め盛り込んでおく。  
今後とも、COVID-19 や他の伝染病や自然災害発生、国際情勢の変化により、同様のことが起こる可能性があるため、専門家の長期出張が不可能な場合は、現地で活動を支援、プロジェクトが継続していくことができる人材を含めておく必要がある。
- 事務的な目的のオンラインミーティング利用を継続する。



## Summary of Evaluation Results

I. Outline of the Project							
Region/Countries: Pacific region / 9 Pacific Islands Countries (PICs)	Project title: Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II (J-PRISM2)						
Issues/Sector: Solid waste management	Cooperation scheme: Technical Cooperation						
Division in charge: Environmental Management Team 1, Global Environment Group, Global Environment Department	Total Cost: approx. 187 million JPY						
Period of Cooperation	February 2017 – March 2023						
	Partner Country’s Implementing Organization: Secretariat of the Pacific Regional Environment Programme (SPREP) and Implementing agencies in charge of solid waste management of 9 PICs Supporting Organization in Japan:						
Related Cooperation Projects:	2005 – 2008 The Project for Improvement of Solid Waste Management in the Republic of Palau 2006 – 2008 Improvement of Bouffa Landfill (Vanuatu) 2008 – 2012 Waste Minimization and Recycling Promotion Project in the Republic of the Fiji Islands 2011 – 2016 Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM)1						
<p>1. Background of the Project</p> <p>Over several decades, waste has become one of the major concerns for small island countries in the Pacific region. JICA has been assisting PICs in terms of solid waste management in collaboration with the Secretariat of the Pacific Regional Environment Programme (SPREP). Followed by J-PRISM Phase I, under the Pacific Regional Waste and Pollution Management Strategy (2016-2025) as Cleaner Pacific 2025, JICA has commenced “Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management, Phase II (J-PRISM2)”. In J-PRISM2, it is aimed to create a more effective and efficient regional system to promote regional and south-south Pacific-to-Pacific) cooperation in waste management and to contribute to realizing the “3R+Return” concept, proper organic waste treatment, effective/efficient resource recycling, and appropriate disposal within and across the countries.</p> <p>2. Outline of the Project</p> <p>(1) Overall Goal: Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).</p> <p>(2) Project Purpose(s)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="text-align: center;">Project Purpose</th> </tr> </thead> <tbody> <tr> <td>Region-Wide</td> <td>Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored and supported based on Pacific-to-Pacific cooperation.</td> </tr> <tr> <td>Palau</td> <td>With a view to commencement of a new landfill site, an appropriate solid waste management system is created</td> </tr> </tbody> </table>			Project Purpose	Region-Wide	Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored and supported based on Pacific-to-Pacific cooperation.	Palau	With a view to commencement of a new landfill site, an appropriate solid waste management system is created
	Project Purpose						
Region-Wide	Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored and supported based on Pacific-to-Pacific cooperation.						
Palau	With a view to commencement of a new landfill site, an appropriate solid waste management system is created						

FSM Fed.Gov.	Support to creation of solid waste management system in each four state is provided
Yap	Creation of solid waste management system is promoted
Chuuk	Creation of solid waste management system is promoted
Pohnpei	Creation of solid waste management system is promoted
Kosrae	Creation of solid waste management system is promoted
RMI	Creation of solid waste management system is promoted
PNG	Strengthening the institutional framework and project implementation capacity of SWM
Solomon Is.	Institutional capacity for SWM is strengthened at the national and provincial centers' levels.
Vanuatu	A foundation of implementing and monitoring SWM activities in line with the Vanuatu National Waste Management and Pollution Control Strategy (NWMPCS) is built.
Fiji	Implementation of SWM based on Fiji's national strategy
Tonga	Establishment of foundation of SWM in outer islands
Samoa	Solid waste is appropriately managed based on the National Waste Management Strategy (NWMS).

(3) Outputs (See 'III. Results of Evaluation', '1. Project Performance', '(1) Outputs')

(4) Inputs (Based on the data and information provided at the time of the terminal evaluation)

Japanese side:

Dispatch of the experts : 317 MM  
Input by experts (remote) : 144.12MM  
Provision of Equipment: approx. 796,300 USD  
Training in Japan / third-country  
Other local cost support : approx. 2,103,589USD

Pacific side:

Assignment of C/Ps : 163 C/Ps  
Local cost contribution: Provided the necessary amount for the smooth implementation of the project activities, while JICA experts are in countries.  
Land and facilities: Office of the experts, utilities, etc.

## II. Evaluation Team

<Pacific Side>

Name	Role/ Responsibility	Position/Affiliation	In charge of country/region
Mr. Anthony TALOULI	Leader	Pollution Advisor, Waste Management and Pollution Control Division, SPREP	Overall and all countries
Mr. Joshua SAM	Evaluation Analysis	Hazardous Waste Management Adviser, Waste Management and Pollution Control Division, SPREP	All target countries

<Japanese Side>

Name	Role/ Responsibility	Position/Affiliation	In charge of country/region
Hideaki MATSUOKA	Leader	Director, Environmental Management Team 1, Environmental Management Group, Global Environment Department, JICA	Overall and SPREP
Shiro AMANO	Waste Management	Senior Advisor, Environmental Management Group, Global Environment Department, JICA	Overall and SPREP
Koji MAESHIMA	Cooperation Planning	Deputy Director, Environmental Management Team 1, Environmental Management Group,	Fiji, Samoa, Tonga

		Global Environment Department, JICA	
Yutaka FUKASE	Cooperation Planning	Senior Assistant Director, Environmental Management Team 2, Environmental Management Group, Global Environment Department, JICA	PNG, Solomon, Vanuatu
Noriko YAMADA	Cooperation Planning	Technical Advisor, Office for Climate Change, Environmental Management Group, Global Environment Department, JICA	FSM, Palau, RMI
Atsuko ORIMOTO	Evaluation Analysis	Senior Consultant, Consulting Division, Japan Development Service Co., Lt d.	Overall, SPREP, Samoa, Solomon, Vanuatu
Keisuke NISHIKAWA	Evaluation Analysis	Senior Manager, QUNIE CORPORATION	PNG, Fiji, Tonga
Sugumi TANAKA	Evaluation Analysis	Consultant, Japan Development Service Co., Ltd.	FSM, Palau, RMI

<Schedule>

Remote survey was taken place from May to July 2022.

Period of Evaluation: April 2022 – July 2022	Type of Evaluation: Terminal Evaluation
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### III. Results of Evaluation

#### 1. Project Performance

##### (1) Outputs

Overall, some progress has been made in almost all countries, and 29 out of the total 43 Outputs had been fully or mostly achieved or were likely to be achieved by the end of the Project despite the disruption caused by the COVID-19 pandemic.

	Output 1	Output 2	Output 3	Output 4
Region-wide	Monitoring mechanism for solid waste management in line with Cleaner Pacific 2025 is strengthened.	Regional cooperation within the Pacific is organized and promoted by utilizing regional human resource and sharing lessons learnt in the region.	Regional capacity of disaster waste management is strengthened.	Practical and sustainable 3R+Return system is enhanced.
Results	Partially Achieved	Achieved	Achieved	Mostly Achieved
Palau	Formation and submission for approval of National Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Improvement in waste collection in 10 states of Babeldaob Island and in Koror	Transition from M-dock landfill to a new landfill
Results	Achieved	Mostly achieved	Achieved	Mostly achieved
FSM (Federal government)	Support to each state in the formulation of SSWMS	Promotion of good practices on SWM and 3R + Return		
Results	Achieved	Achieved		
Yap	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Improvement of waste collection	
Results	Achieved	Mostly achieved	Unable to evaluate	

Chuuk	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Exploration of effective CDL implementation mechanism	
Results	Achieved	Mostly achieved	Expected to be mostly achieved	
Pohnpei	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Exploration of effective CDL implementation mechanism	
Results	Achieved	Mostly achieved	Expected to be mostly achieved	
Kosrae	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Improvement of waste collection	
Results	Achieved	Mostly achieved	Achieved	
RMI	Formulation and submission of (Solid) Waste Management Strategies to relevant authorities	Promotion of good practices of SWM and 3R + Return	Exploration of CDL mechanisms suitable to RMI	
Results	Mostly achieved	Mostly achieved	Achieved	
PNG	Enhancement of institutional capacity through the development of national policy, strategy and implementation plan	Enhancement of ULLGs' capacities to tackle the SWM issues	Sustainable implementation of NCD's waste management plan	
Results	Mostly achieved	Partially achieved	Partially achieved	
Solomon	Strengthening SWM capacity of HCC	Promotion of lessons learnt from the SWM obtained in Honiara and Gizo to other areas.	Specifying economic measures for sustainable SWM in the SI.	
Results	Mostly achieved	Partially achieved.	(On-going) <sup>3</sup>	
Vanuatu	Enhancement of institutional capacity of DEPC to implement NWMPCS	Implementation and monitoring on SWM activities of PVCC's plan.	Initiation on an economic incentive scheme for promotion of 3R + Return	
Results	Achieved	Mostly achieved	Mostly achieved	
Fiji	Promotion of evidence-based policies based on the 3R concept	Implementation of a pilot study for regional 3R + Return program		
Results	Mostly achieved	Partially achieved		
Tonga	Formulation of WAL's 5-year business plan for the expansion of waste management services	Strengthening of WAL's capacity in implementing sustainable SWM in outer islands	Formulation of SWM action plans in Ha'apai and 'Eua	Capacity development in implementing sustainable SWM in Ha'apai and 'Eua
Results	Achieved	Achieved	Achieved	Partially achieved
Samoa	Development of NSWMS	Establishment of rubbish collection monitoring system	Implementation of feasibility study on financial options	
Results	Achieved	Achieved	Partially Achieved <sup>4</sup>	

<sup>3</sup> Expected to be achieved before the completion of the project.

<sup>4</sup> Ditto.



(2) Project Purposes

	Project Purpose	Results
Region-Wide	Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored and supported based on Pacific-to-Pacific cooperation.	<b><u>Mostly achieved</u></b> It was because of the great achievements made in the latter part of the Project Purpose, although the indicator 1 was assessed to be only partially achieved. Whenever there were great changes on inputs and/or activities, indicators should have been examined and altered accordingly to reflect the real picture of the project.
Palau	With a view to commencement of a new landfill site, an appropriate solid waste management system is created	<b><u>Mostly achieved</u></b> All indicators of Project Purpose were met. However, due to the remaining question on the sustainable financing, the Project Purpose is considered to have been mostly achieved
FSM Fed.Gov.	Support to creation of solid waste management system in each four state is provided	<b><u>Mostly achieved</u></b> Opportunities for sharing and learning among the four states were created by the federal government
Yap	Creation of solid waste management system is promoted	<b><u>Mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The Output 1 and 2 have been largely achieved, but it was not possible to evaluate the Output 3 due to external factors inhibiting the project implementation. As such, the Project Purpose is considered to have been mostly achieved.
Chuuk	Creation of solid waste management system is promoted	<b><u>Expected to be mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The Output 1 and 2 have been largely achieved, but the Output 3 is expected to be mostly achieved if necessary documents are drafted before the end of engagement of experts in September 2022. As such, the Project Purpose is considered to have been mostly achieved.
Pohnpei	Creation of solid waste management system is promoted	<b><u>Expected to be mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The Output 1 and 2 have been largely achieved, but the Output 3 is expected to be mostly achieved if necessary documents are drafted before the end of engagement of experts in September 2022. As such, the Project Purpose is considered to have been mostly achieved.
Kosrae	Creation of solid waste management system is promoted	<b><u>Mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The three Outputs were largely achieved. As such, the Project Purpose is considered to have been mostly achieved.
RMI	Creation of solid waste management system is promoted	<b><u>Mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. As there was some pending issue (clarification regarding NWMP), the Project Purpose is considered to have

		been mostly achieved.
PNG	Strengthening the institutional framework and project implementation capacity of SWM	<b><u>Mostly achieved</u></b> and the remaining work needs to be completed by the end of the project period. The roles and responsibilities of the ULLG are not stipulated in the waste plans but have been understood in substance through several workshops, and a monitoring system for the ULLG has been also established.
Solomon Is.	Institutional capacity for SWM is strengthened at the national and provincial centers' levels.	<b><u>Partially achieved</u></b> (Potentially Mostly achieved or Achieved by the end of the project) Potentially, the project purpose could be assessed as “Mostly achieved” by the end of the project, if, at least, all verifiable indicators of Output 2 are achieved in a second provincial center.
Vanuatu	A foundation of implementing and monitoring SWM activities in line with the Vanuatu National Waste Management and Pollution Control Strategy (NWMPCS) is built.	<b><u>Mostly achieved</u></b> However, the indicators of the Project Purpose have largely been achieved through Output 1. Since there were meaningful outputs and activities added/modified, indicators should have been changed accordingly to reflect the reality of the project.
Fiji	Implementation of SWM based on Fiji’s national strategy	(Can be said) <b><u>mostly achieved</u></b> The Project Purpose can be said to have been mostly achieved. It is important to ensure that the local government waste management plan will be finalised in all 13 councils, including the procedure for monitoring and reporting of the indicators as well as the roadmap to cover rural areas.
Tonga	Establishment of foundation of SWM in outer islands	<b><u>Achieved</u></b> The service of waste management by WAL has disseminated in outer islands in Tonga and it could be considered that the waste management system including waste fee collection has been established.
Samoa	Solid waste is appropriately managed based on the National Waste Management Strategy (NWMS).	<b><u>Mostly achieved</u></b> (Potentially Mostly achieved or Achieved by the end of the project) Despite the challenge, great achievements were observed under the project. At the time of terminal evaluation, it has been assessed that the Country Project Purpose of Samoa was “Mostly Achieved”; however, it seems that all indicators will most-likely be achieved before the completion of the project.

## 2. Summary of the Evaluation Results

### (1) Relevance

The Project is evaluated to be still relevant in terms of necessity and priority.

There are issues related to coping with the increase in waste due to population growth and economic activity and the development of final disposal sites; and low recycling rates, moreover; technicians and specialist who are engaged in waste management in small island countries are not many, and local authorities rely on a handful officers, whose skills are often limited. Therefore, the needs of the waste management are still high. In regards to the priority, Waste Management is stated in development strategies as one of the priority issues to be improved in respective country, and the Project has been aligned with the single regional sector strategy, Cleaner Pacific 2025, which is a comprehensive long-term strategy for integrated and sustainable waste management and pollution prevention and control in the Pacific islands region from 2016 to 2025.

### (2) Coherence

The coherence of the project is high in terms of the consistency with Japanese ODA policy, other Japanese schemes and other development partners, although many collaboration did not progress as

planned during the COVID-19 pandemic.

(3) Effectiveness

The Project is evaluated to be relatively effective considering the prospects for achievement of the Project Purpose and contribution of the Outputs to the achievement, though there were substantial delay at the middle of the project due to the COVID-19.

The majority of the valid indicators have already been fully or mostly achieved, and the project purpose is expected to be achieved. However, some indicators were not verifiable to assess the achievement of the Project Purpose, and the levels of achievements were assessed in a more comprehensive way (weigh more on other indicators, add conditions, etc.).

(4) Efficiency

Due to the extraordinary situation with COVID-19 pandemic, the degree of “Efficiency” was not determined in this survey, although the production level of the Outputs, appropriateness of the Inputs in producing the Outputs, and the utilization of the Region-wide Activities were examined.

(5) Impacts

The indicator of the Overall Goal was not verifiable in the Region-Wide PDM and no indicators filled in country PDMs; therefore, it is necessary to set up verifiable indicator(s). Various positive impacts have been observed. Negative impacts have not been observed.

Remarkable impacts are in the following table:

Area/Country	Positive Impacts
Region-Wide	<ul style="list-style-type: none"> <li>• The Moana Taka Partnership (MTP) was a joint effort by SPREP and J-PRISM2, which was initiated by the 1st 3R+Return expert in J-PRISM2. Fiji, Samoa, PNG and RMI have already started to use MTP.</li> <li>• The project could assist promptly Samoa, Vanuatu and Tonga after major natural disaster hit those countries. Moreover, the project strengthened ties closely with National Disaster Management Offices, in particular, Vanuatu, the Solomon Islands and Tonga, which are the top 3 high risk countries in disaster risk index in the world.</li> <li>• Project led Tonga’s Disaster Waste Recovery Plan, which provided the basis for the government budget support for the follow up of Disaster Waste recovery operations. Samoa’s inclusion of Disaster Waste under the Environment Sector in the National Disaster Management Plan 2017-2020 provided the basis for government budget support for Disaster Waste recovery operations during the Cyclone Gita 2018 and the Flooding in 2020.</li> <li>• Establishment of recycle associations were not in the original scope of the project; however, four Recycle and Waste Management Associations were established in Samoa, Vanuatu, Solomon and PNG, and Tonga to join. This activity has boosted the 3R+Return mood in target countries.</li> </ul>
Palau	<ul style="list-style-type: none"> <li>• Improved capacity of C/P in the technical areas of waste management, including analysis, planning, setting-up and implementation of waste collection systems and management of waste disposal site.</li> <li>• Positive environmental impact of closing state disposal sites which was an open dumping site</li> <li>• More efficient waste collection despite longer distance of transport from some areas, which was made possible by the successful introduction of an Inter-State Collection System with a centralized disposal site</li> </ul>
FSM Fed.Gov. Yap Chuuk Pohnpei Kosrae	<ul style="list-style-type: none"> <li>• There has been improvement in terms of waste management strategies with the development of the SSWMS in each state was developed, clarifying the challenges, priorities and measures to be taken</li> <li>• Knowledge of the waste operators was improved, including data collection, which was used to visualize improvements.</li> <li>• The project brought opportunities for the C/P to discuss with communities on their responsibilities for SWM through community outreach. Communities gained awareness and they are much more mindful and concerned about better disposal of waste (Yap).</li> <li>• Due to the weekly collection by the inter-municipal collection system, the collection rate was improved (according to the collection data of the first week of the operation), and it was observed that the littering in the communities has been reduced (Kosrae)</li> </ul>
RMI	<ul style="list-style-type: none"> <li>• Raised awareness and political commitment to continue improving solid waste management,</li> </ul>

	<p>exemplified in the improvement of the final disposal site.</p> <ul style="list-style-type: none"> <li>Improved technical capacity in waste management (on the CDL operations and improvement of the final disposal site)</li> <li>Reduced littering through the introduction of CDL system</li> <li>Environmental protection through preventing water pollution due to the expansion of the disposal sites to the inland sea</li> </ul>
PNG	<ul style="list-style-type: none"> <li>In the case of Kokopo municipality, the importance of collecting and analysing waste information at the landfill site has become more recognized than before. It was observed that 50% of waste in Kokopo was of organic origin, and the waste composting activity in Kokopo was smoothly promoted and the soil manure has been produced and used in the gardens in Kokopo for beautification.</li> <li>There has been lots of improvements in terms of waste management policies and strategies. Moreover, the project also has elevated a standard of living for the communities especially around the landfill sites. In terms of positive impact to social aspect, according to the comment from NCDC, the linkages and collaboration with schools such as “3R Eco School Project” has been able to change the culture from “Waste ignorant Society” to “Waste Conscious Society”.</li> </ul>
Solomon	<ul style="list-style-type: none"> <li>Formulation of the Waste Management and Control Division of HCC.</li> <li>Tipping fee system has been established under HCC, although the revenue is used for not only waste management but also other purposes.</li> <li>Not only the target provinces, but other provinces have started to gain awareness of the importance of waste management.</li> </ul>
Vanuatu	<ul style="list-style-type: none"> <li>The establishment of the Waste Management and Environmental Health Division in the PVCC.</li> <li>The restructuring of the DEPC for further enhancement.</li> <li>A collection system utilizing GPS saves fuel and allows better control over the movement of collection vehicles.</li> <li>Starting to assist other parts of the country.</li> <li>The Final Draft of the National Waste Minimization Plan (2021-2025) has been formulated.</li> <li>Lesson guidance for environmental education has been formulated (in partnership with the Ministry of Education).</li> <li>The technical capacity of disaster waste management and assisting the National Disaster Management Office has been strengthened.</li> <li>More aid coordination in waste management (Dialogue among the DEPC, the PWP and J-PRISM2 regarding the Container Deposit System (CDS) was held in October 2021 to decide demarcations).</li> </ul>
Fiji	<ul style="list-style-type: none"> <li>Draft waste management plans of all targeted municipalities have been developed and continuously monitored since then. This has resulted in the DLG being able to set a foundation for appropriate policies, such as the expansion of waste collection services in rural areas.</li> </ul>
Tonga	<ul style="list-style-type: none"> <li>The project has observed that the awareness on waste management has been raised among the local residents in Vava’u by establishing the waste collection system which had never existed before, and is represented by the high rate of waste fees paid to WAL. The same procedure is being established in other outer islands of Ha’apai and ‘Eua, and it is expected that the awareness among the residents will be raised as well.</li> </ul>
Samoa	<ul style="list-style-type: none"> <li>Collection services are improved (number of complaints: 100 to 15 per month, collection coverage 63% to 75%, approximate time to solve a complaint 2-7days to immediate-2days, etc.)</li> </ul> <p>It is an extraordinary impact at the time of the terminal evaluation, since positive impacts on end users normally only emerge many years after the project implementation.</p> <ul style="list-style-type: none"> <li>Endorsement and enforcing of the Waste (Plastic Bag) Management Regulations 2018 in which the effective date (30 January 2019) of banning single use plastic shopping bags, plastic packing bags and plastic straws.</li> <li>Numbers of achievement on Waste Management are listed in the Annual Report of the MNRE.</li> </ul>

(6) Sustainability

Sustainability of effects of this Project is evaluated to be fair, if all target countries continue committing their budget and personnel towards waste management, and SPREP continues supporting the countries’ effort.

<Policy and Institutional side>

Region-wide: Cleaner Pacific 2025 (Pacific Regional Waste and Pollution Management Strategy 2016-

2025) is the only comprehensive regional waste and pollution management strategy in the Pacific Region. Midterm review was conducted in 2020, and “CP 2025 Pacific Regional Waste and Pollution Management Strategy Implementation Plan 2021–2025” was developed and issued on the 31st of July 2020. J-PRISM2 is to support CP 2025, and political and institutional sustainability is likely to be secured.

< Organizational side >

Region-Wide: In terms of regional cooperation on waste management, as mentioned above, the Clean Pacific Roundtable was established and has been meeting regularly since 2016 to develop a framework for sharing information on waste management in the region. In addition, a certain level of sustainability at the regional level is expected through the realization of the next phase. On the other hand, the number of personnel in charge of waste management (the counterpart of this project) is limited to one, and the SPREP would have struggle to support the project activities of J-PRISM2 without the Project Office.

< Financial side >

Region-Wide: Like other regional organization, the SPREP’s revenue comprise of contributions from member countries and funding from development partners. EU had pledged the largest funding, 17 million EUR, under EDF 11 (2017-2022), and over 7 mil USD was still available in the end of year 2020. Regarding program/donor fund income, Waste Management and Pollution Control increase it expenses from 2,424, 287USD (2019) to 3,019,346USD (2020). It shows strong interests among donors in this sector.

< Technical side >

Region-Wide: Despite the communication gap during the COVID-19 pandemic, the technical capacity of C/Ps in the target countries has gradually been enhanced in terms of knowledge regarding SWM, landfill management, and 3R+Return by applying the knowledge and skills acquired through the previous period and a remote support by the project experts, and in some countries, most of the knowledge and technologies transferred through the project activities is very likely to be maintained. However, staff turn-over is one of the most serious issues in securing sustainability of the project and more training and technical transfer is necessary for newly recruit staff members. Database of human resources and training information, PIDOC was submitted to the SPREP, and expected to be utilized to keep enhancing human resources in the region.

### 3. Conclusion

After careful examination of the Project Performance and the Project Implementation Process, (1) the Project is still relevant, (2) the overall coherence is relatively high, (3) it is effective, (4) positive impacts are observed and (5) sustainability is fair, if all target countries continue committing their budget and personnel towards waste management, and the SPREP continue supporting the countries’ effort.

The Project Purpose is expected to be mostly achieved before the completion of the project. Therefore, it is appropriate to terminate the Project in March 2023.

### 4. Recommendation (See ANNEX: Country Terminal Evaluation Report under ATTACHMENT, for country specific recommendations)

#### (1) **To the Project** (SPREP and Project Office experts)

To consider altering the indicator of Overall Goal more verifiable.

Examples of alternative indicators

- X or more (or “All”) national waste management strategies/policies of target countries are revised or up-to-date.
- Waste management plan (s) for at least one city of each country based on the national waste management strategies/policy is developed and/or up-to-date.
- More than XX% of trained personnel remains working in the waste management sector in the region.
- Project activities/implementation is included in the organizational annual work plan report.

(2) **To SPREP**

To utilise revised PIDOC effectively

Pacific Islands Database of Capacity Development Activities (PIDOC), has been reviewed and submitted to SPREP. It has a great potential to be able to contribute towards the Pacific-to-Pacific cooperation and it is highly recommendable for SPREP to utilise the tool to engage the regional experts to various waste management activities in the Pacific region.

5. Lessons Learnt

<Project Monitoring: Importance of the quality and following up the findings>

It is very important to monitor the progress of the project regularly, and detect any problems in the early stage. Therefore, it is recommendable to conduct comprehensive review with utilizing the monitoring sheets at the middle of the project to reflect its progress and challenges to the PDM on large-scale project such as J-PRISM.

< Project Design (Verifiable Indicators)>

There are several PDMs, which have problems regarding the verifiable indicators, and it made very difficult to assess the level of the achievement of the project.

- Logical relations have to be confirmed
- To decide appropriate objectively verifiable indicators.
- To alter/revise PDMs with close consultation among stakeholders, when it is necessary.
- To include indicators to be able to visualize the capacity development of the C/Ps.

< Project Implementation Structure>

When the project is executed as a “hybrid-type” (combination of long-term experts for regional activities and project administration, and groups of consultants (short-term experts) to implement each country’s activities), it is important to pay more attention on the project implementation structure; how the relationship between long-term experts and consultants who work for each country is like; regional activities taken place in each country should be included in countries’ PDMs, and; consultants should report their activities to the Chief Advisor, etc.

< COVID-19 Related Lessons>

- To include measures in case of international travelling ban.  
It will be possible to have outbreak of COVID-19 and/or other diseases again. Therefore, it will be necessary to include personnel who can assist the project activities on site, when the experts cannot travel prolonged period of time.
- To continue on-line meeting for administrative purposes.

## 1. はじめに

### 1-1 背景

大洋州地域の小島嶼国（PICs）は、過去数十年間にわたり都市化に伴う廃棄物量の増加や産業廃棄物及び医療廃棄物などの固形廃棄物そのものの質の変化が著しく、その不適切な管理による公衆衛生や水・食料の供給、生態系、気候変動などの様々な分野への負の影響が懸念されていることから、域内の固形廃棄物管理は大きな課題の一つとなっている。また、PICsの地理的な隔絶性や狭小性、経済の脆弱性、海外援助、輸入品への依存といった制約も廃棄物の管理をより困難な状況にしている。

JICAは、大洋州地域環境計画事務局（SPREP）と連携して、固形廃棄物管理の分野でPICsを支援してきており、J-PRISMプロジェクトとして長期にわたる一連の技術協力プロジェクトを実施してきた。前フェーズでは、現地のC/Psの能力向上プログラムや「3R+Return」のコンセプトの推進等の技術協力を実施しており、自国のみならず周辺地域の国々に不可欠な人材の育成に貢献してきた。

本事業において、JICAは前フェーズで策定支援をした大洋州地域廃棄物・汚染管理戦略 2016-2025（Cleaner Pacific 2025）の下、対象9カ国（パラオ、FSM、RMI、PNG、ソロモン、バヌアツ、フィジー、トンガ、サモア）の廃棄物関連機関及びSPREPと共同で「大洋州地域廃棄物管理改善支援プロジェクト フェーズ2（J-PRISM2）」を開始した。J-PRISM2では、廃棄物管理における広域協力を引き続き促進し、「3R+Return」コンセプトの推進や適切な廃棄物管理技術の導入、効果的かつ効率的なリサイクル等、域内廃棄物管理システムの構築に貢献することを目的としている。

### 1-2 プロジェクトの概要

広域プロジェクト共通のPDMに記載されている上位目標、プロジェクト目標及びアウトプットは以下の通りである。

#### <上位目標>

大洋州地域廃棄物・汚染管理戦略 2016-2025（Cleaner Pacific 2025）に基づき大洋州地域の固形廃棄物管理持続性が向上する。

#### <プロジェクト目標>

Cleaner Pacific 2025の実施を通じ、大洋州の持続可能な固形廃棄物管理に資する人材及び組織・制度の能力基盤が強化される。

#### <プロジェクト期間>

2017年2月～2023年3月

当初のプロジェクト期間は2017年2月から2022年2月までの5年間と設定されていたものの、COVID-19感染拡大の影響から、各国の活動は2022年9月まで、地域協働活動は2023年3月まで期間延長がされた。

### 1-3 終了時評価の評価者及びスケジュール

終了時評価チームは以下のメンバーで構成されている。

#### <大洋州側>

氏名	役割	所属・役職	担当国・地域
Mr. Anthony TALOULI	大洋州側リーダー	SPREP 廃棄物・汚染管理課 汚染管理アドバイザー	地域協働及び全対象国
Mr. Joshua SAM	評価分析	SPREP 廃棄物・汚染管理課 災害廃棄物管理アドバイザー	全対象国

#### <日本側>

氏名	役割	所属・役職	担当国・地域
松岡 秀明	総括	JICA 地球環境部 環境管理グループ 環境管理第一チーム 課長	全般、SPREP
天野 史郎	環境管理・廃棄物	JICA 地球環境部 環境管理グループ 国際協力専門員	廃棄物管理
前島 幸司	協力企画①	JICA 地球環境部 環境管理グループ 環境管理第一チーム 主任調査役	ポリネシア (サモア、トンガ、フィジー)
深瀬 豊	協力企画②	JICA 地球環境部 環境管理グループ 環境管理第一チーム 専任参事	メラネシア (ソロモン、バヌアツ、PNG)
山田 のり子	協力企画③	JICA 地球環境部 環境管理グループ 環境管理第一チーム 専門嘱託	ミクロネシア (パラオ、マーシャル、ミクロネシア)
織本 厚子	評価分析①	(株)日本開発サービス、シニアコンサルタント	サモア、ソロモン、バヌアツ、SPREP
西川 圭輔	評価分析②	(株)クニエ、シニアマネージャー	PNG、フィジー、トンガ
田中 直実	評価分析③	(株)日本開発サービス、コンサルタント	ミクロネシア (パラオ、マーシャル、ミクロネシア)

評価分析作業は以下のスケジュールで実施された。

#### <スケジュール>

日程	内容
5月11日	キックオフ会議
5月16日～5月下旬	質問票の配布・回収



5月16日～6月上・中旬	C/P等へのヒアリング、必要資料・データの収集・整理、質問票回答内容のフォローアップ
6月中・下旬まで	各国版報告書（英文）第一稿完成・コメント取付
7月上旬まで	各国版報告書（英文）完成
7月上旬まで	合同評価報告書（英文）第一稿完成・コメント取付
7月中旬～下旬	合同評価報告書（和文・英文）の完成

## 2. 評価の目的および方法

### 2-1 評価の目的

終了時評価の主な目的は以下の通りである。

- 達成された成果の状況やプロジェクトの実施過程を検証する。
- プロジェクト実施期間終了までにプロジェクトの目的を達成する見込みがあるかを評価する。
- 評価6項目（妥当性、整合性、有効性、効率性、インパクト、持続可能性）に従い、進捗と達成度を評価する。
- プロジェクト実施に影響を与えた促進要因と阻害要因を特定する。
- 今後のプログラムに活かせる教訓を抽出する。

評価チームは、個々の国の PDM と地域協力活動の評価を行った。国別 PDM の評価は、本報告書の付属資料となっており、国別 PDM の達成度、課題、好事例を概説している。国別 PDM と地域協力活動の分析により、地域プロジェクト目標「太平洋地域の廃棄物・汚染管理戦略 2016-2025（クリーナーパシフィック 2025）に基づき、太平洋地域の固体廃棄物の持続可能な管理を強化する」の達成度を評価することができた。

このプロジェクトは、日本政府による他の協力事業（分野別研修、草の根技術協力、草の根無償資金協力）と統合された形で実施されてきた。また、近年、太平洋島嶼国の廃棄物管理分野では、他の開発パートナーや民間企業など、様々な新しいアクターが関わってきている。そのため、他のプロジェクト、スキーム、アクターとの連携・協力については、効率性（外部資源の活用）、一貫性（相乗効果、補完性）の観点から評価した。

JICA は、太平洋島嶼国における廃棄物管理を長年にわたって支援しており、廃棄物管理を重要な開発課題として主流化することに貢献してきた。本チームは、J-PRISM2 が地域プロジェクトとして果たした役割と貢献を検証し、将来のプログラムに反映させ得る教訓を抽出した。

J-PRISM2 は、廃棄物管理の基本分野である収集・運搬・最終処分に加え、リサイクルや循環型経済の構築を支援してきた。この調査では、遠隔地、孤立、国土の狭さといった特徴を持つ太平洋島嶼国での 3R+リターンの達成度についても評価した。

また、プロジェクト実施期間の後半は COVID-19 を背景としてプロジェクトが実施された。そのため、本評価では、COVID-19 がプロジェクトの進捗と達成に与えた影響、および渡航制限によって推進されたイノベーションについても検証している。

### 2-2 評価の方法

#### 2-2-1 プロジェクトの実績、実施プロセスの検証

評価は JICA と SPREP の共同で実施された。分析対象となった文書には、最新版プロジェクトデザインマトリックス (PDM)、業務計画 (PO)、モニタリングシート、進捗報告書、様々なテーマ別報告書や研修報告書などが含まれる。チームはカウンターパートや関係組織の主要な担当者にオンラインによる聞き取り調査を行った。実際の投入、活動、実施プロセスを検証し、アウトプ

ットとプロジェクト目標の達成度を最新の PDM による指標と PO に照らし合わせて評価した。達成された成果は、評価 6 項目（妥当性、整合性、有効性、効率性、インパクト、持続可能性）に照らし合わせて評価された。

プロジェクト実施中、正式な中間レビューは実施されなかったため、最終評価では、プロジェクト全期間における業績を検証した。

## 2-2-2 評価 6 項目

評価 6 項目を以下に示す。

表 2-1 評価 6 項目

評価基準	定義
妥当性	支援実施（プロジェクト）の目的およびデザインが、受益者のニーズ、及びグローバル、当該国、パートナー・機関のニーズ、政策、優先事項にどの程度対応しているか、また状況が変わっても対応し続けられるか。
整合性	日本の政策への整合性の他、当該国、セクター、関係機関や他の開発パートナーが実施している支援（プロジェクト・プログラム等）との適合性。
有効性	実施した支援（プロジェクト）がその目的をどの程度達成したか、あるいは達成すると期待されるか、およびその結果。支援を受けた機関や対象の状況に変化があったか。
効率性	・事業の投入計画や、事業期間・事業費の計画と実績を比較し、経済的かつタイムリーな方法で結果をもたらすことができたか。
インパクト	・正負の間接的・長期的効果の実現状況（社会システムや規範、人々の幸福、人権、ジェンダーの平等、環境社会配慮）重要な正又は負の、意図された又は意図されない、高次の効果が支援実施（プロジェクト）により生じた又は生じると予期される度合い。
持続可能性	事業により発現した効果が持続する、あるいは持続する可能性の度合い。

(出典: <https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>)

## 2-3 調査の限界

評価は、C/P、短期専門家、JICA 海外事務所・支部、プロジェクトオフィス、本部からの情報提供、関係者へのインタビューに基づく遠隔調査のみで行われた。そのため、得られた情報の量や質は国ごとに異なり、国別報告書の統一性を保つことは困難であった。また、評価チームは、均質な国別報告書を作成することよりも、各国から得られた情報を最大限に活用することに注力した。

インタビューの設定や質問票回収に多大な努力を払ったにもかかわらず、一部の国では回答が限られていた。また、インターネット接続が不十分であったことが、インタビューを実施する上での障壁となった国もある。一部のアクターやステークホルダーからの情報が不足していたため、本評価におけるプロジェクトの成果やプロセスの概観は、プロジェクト実施プロセスや得られた成果の全体像を捉えていない可能性がある。現地調査の不足を補うため、チームは可能な限り複数の情報源から得た情報を検証するよう努めた。

このプロジェクトでは、プロジェクトオフィスと本部の両方において、高い率で人の入れ替わり

が見られた。6年間を通してプロジェクトに関わったのは、サモア人のアシスタント・チーフ・アドバイザー1名のみであった。そのため、過去の情報を持つ関係者が非常に少なかった。特に地域協働活動については、プロジェクト初期の状況が十分に把握されていない可能性がある。

### 3. プロジェクトの達成度

#### 3-1 インプット

評価団は、R/D に記載された計画（PDM、PO を含む）に沿って、対象国ごとにプロジェクトの達成度を確認した。

##### 3-1-1 日本側

###### (1) 専門家

<現地派遣>

2022 年 4 月現在、表 3-1、表 3-2 に示すように、合計 317 人月（人月）の JICA 専門家が派遣されている。

表 3-1 JICA 専門家各国への派遣実績

	国名	短期専門家	長期専門家 (サブリージョナルコーディネーター <sup>5</sup> )	備考
G1	パラオ	ミクロネシア地域 3ヶ国分 52.64 人/月 7 人/月	24 人/月 (パラオ駐在)	短期専門家 7 名 (CDL 専門家 1 名、車両・重機整備専門家 1 名を含む)
	FSM			
	RMI			
G2	PNG	22.42 人月	24 人月 (ソロモン駐在)	
	ソロモン	18.31 人月		
	バヌアツ	22.75 人月		
	フィジー	16.07 人月	24 人月 (研修/ プロジェクト調整, サモア駐在)	
	トンガ	14.78 人月		
	サモア	24.26 人月 <sup>6</sup>		
	小計	171.23 人月	72 人月	

表 3-2 JICA プロジェクトオフィス専門家派遣実績

No.	指導項目	派遣期間	備考
1	1 チーフアドバイザー	43 人月	計 4 チーフアドバイザー
2	1 固形廃棄物管理/ モニタリング	22 人月	
3	1 3R+Return	12 人月	
4	1 モニタリング/3R+Return	23 人月	モニタリング専門家 (No.2) および 3R+Return 専門家 (No.4) の後任
5	1 業務調整	12 人月	
6	1 地域連携/ 業務調整	34 人月	業務調整 (No.5) および研修/業務調整 (表 3-1)
(7)	1 アシスタントチーフアドバイザー <sup>7</sup>	(26 人月)	(提供資料インタビューにより調査団にて換算した概算値)
	小計	146 (+26) 人月	

<sup>5</sup> プロジェクト開始後 2 年間のみ。

<sup>6</sup> 国際航業株式会社による自社負担 (1.27 M/M)

<sup>7</sup> 国内専門家であるため、コストについては、現地業務費用に含まれている。

<遠隔業務>

2022年4月現在、遠隔業務従事期間は、以下の通り JICA 専門家全体で約 144.12 人月となっている：

グループ 1 短期専門家： 34.40 人月 （パラオ、FSM、RMI）

グループ 2 短期専門家： 50.72 人月 （PNG、ソロモン、バヌアツ、フィジー、トンガ、サモア）

プロジェクトオフィス長期専門家： 59 (+32<sup>8</sup>) 人月

(2) 本邦研修

本邦研修は、2020年の COVID-19 感染拡大による国境閉鎖の前に実施された。

表 3-3 本邦研修リスト<sup>9</sup>

	研修項目	参加人数	備考
1	Comprehensive Waste Management (D)	4	ソロモン (1), PNG (3)
2	Enhancement of Solid Waste Management Capacity (Advance, Planning & Policy) (A)	6	ソロモン (1), バヌアツ (1), サモア (2), PNG (2)
3	Enhancement of Solid Waste Management Capacity (Advance, Planning & Policy) (B)	1	PNG (1)
4	Design and Maintenance of Semi Aerobic Landfill Site (Fukuoka Method)	3	PNG (3)
5	Advancement of Solid Waste Management Technologies (Advance, Technique) (B)	1	PNG (1)
6	Improvement of Solid Waste Management Technologies (Basic Technique) (A)	3	PNG (3)
7	Collection, Analysis and Dissemination of Data regarding Solid Waste Management	1	PNG (1)
8	Urban Solid Waste Management (Emphasis on Collection, Transportation and Final Disposal) (C)	1	PNG (1)
9	Sustainable Solid Waste Management in Islands Areas(A)	6	PNG (6)

(3) 機材供与

約 796,300 米ドル<sup>10</sup>に相当する設備や機械が、各国別活動や地域協働活動に供与された。大型の供与機材としては、掘削機（約 397,600 米ドル、バヌアツ）、計量ブリッジ（約 186,300 米ドル、PNG）、破砕機・押出機（約 111,300 米ドル、パイロットプロジェクト、サモア）、その他、プロジェクト活動のための災害廃棄物関連機器（チェーンソー、タブレット、PPE など）、ドローン、大型モニターなどが提供された。また、国によっては、廃棄物管理関連の資料や報告書の作成を容易にするため、コピー機、パソコン、レーザープリンター、プロジェクターなどの事務機器も提供された。

<sup>8</sup> ナショナルエキスパート、ニュージーランドからリモートで作業。費用は現地費用に含まれる。

<sup>9</sup> プロジェクト専門家や C/P から提出された情報をもとに調査チームが作成したものであるため、すべての研修情報が含まれていない可能性有り。

<sup>10</sup>各年度末の JICA 公定レートにて換算： 1USD=106.787 円（2017 年度）、109.341 円（2018 年度）、109.485 円（2019 年度）、105.743 円（2020 年度）、115.555 円（2021 年度）。

#### (4) 現地業務費

プロジェクト活動を実施するため、2022年3月末までに総額約2,103,589米ドルの現地業務費が短期専門家を通じて支出された。各対象国別の現地業務費内訳は表3-4の通りである。主な費用項目は、交通費（特にレンタカーと航空運賃）、現地コンサルタントとプロジェクトアシスタントの雇用、通信費、消耗品などである。2020年4月以降、航空運賃は大幅に減少したが、JICA 専門家がプロジェクト活動を継続するために、現地におけるサポートを必要としていたため、現地コンサルタントやプロジェクトアシスタントの雇用費用は大幅に増加した。

表 3-4 現地業務費 (短期専門家を通じた国別の支出)

	国名	金額 (日本円)	米ドル換算 <sup>11</sup>	主な経費、備考
1	パラオ	15,351,632	132,850	パラオ、FSM、RMI - コンサルタント (53,366USD) - レンタカー (36,190USD) - 国内旅費 (23,580USD)
2	FSM			
3	RMI			
4	PNG	52,164,000	451,400	- コミッションフィー (計量ブリッジ設置工事): 187,100USD - 現地専門家備上費: 67,350USD - 車両借上費用: 56,650USD - 国内出張: 71,150USD - 会議費用: 53,900USD
5	ソロモン	2,396,335	20,750	
6	バヌアツ	15,811,000	136,850	現地専門家: 91,900 ドル
7	フィジー	7,297,000	63,150	
8	トンガ	2,227,776	19,300	
9	サモア	5,873,000	50,800	スタディツアー: 20,450USD
	複数国にまたがる支出	6,664,000	57,650	- ソロモンとバヌアツの CDL に関する専門家: 49,850USD ドローン1機、調査ツール など
	計	107,784,743	932,750	

(出典: 短期専門家のデータをもとに調査チームが作成)

表 3-5 現地業務費 (地域協働活動に区分される支出)

	費用項目	金額 (日本円)	米ドル換算 <sup>12</sup>	主な経費、備考
1	旅費 (航空運賃)	37,148,744	321,481	2017年2月~2020年3月
2	旅費 (航空運賃以外)	26,975,523	233,443	2017年2月~2020年3月
3	再委託費	32,619,380	282,284	現地コンサルタントへのコミッシ

<sup>11</sup>2021年度末のJICA公認為替レート (1USD=115.555JPY) で換算。

<sup>12</sup>2021年度末のJICA公認為替レート (1USD=115.555JPY) で換算。

				ヨンフィーが主体
	給与	8,419,328	72,859	主にプロジェクトアシスタント
4	通信・交通費	3,473,341	30,057	
5	レンタル/リース	25,278,698	218,759	- ソロモン: 51,142USD (2017) - フィジー: 43,031USD (2020)
6	その他	1,381,658	11,956	
	計	133,915,014	1,170,839	

(出典：プロジェクトオフィス提供のデータをもとに調査団が作成)

### 3-1-2 大洋州側

#### (1) カウンターパート

実施プロセスにおいて、プロジェクト活動を実施するため、退職・異動のあった場合には、C/Pの再配置が行われた。終了時評価時点におけるマネジメント及び技術 C/P の総数は表 3-6 の通りである。

表 3-6 C/P の人数

	国名	人数
1	パラオ	6
2	FSM	21
3	RMI	11
4	PNG	32
5	ソロモン	28
6	バヌアツ	27
7	フィジー	12
8	トンガ	17
9	サモア	9
	計	163

(出典：短期専門家から提供されたデータをもとに調査チームが作成)

#### (2) 現地業務費

ほとんどの国は、プロジェクト活動に対する現地業務費への実際の支出額を提示することができなかったが、調査のための質問票・インタビューに回答した短期専門家および C/P によると、対象国は専門家が派遣中の活動を円滑に実施するために、プロジェクト期間中、適切な現地費用を負担したと回答していた。

以下は、廃棄物管理への貢献（直接的、間接的）の特筆すべき例である。

表 3-7 直接的・間接的なプロジェクト活動への貢献の例

国名	特筆すべき貢献
パラオ	M-dock 処分場の拡張工事
FSM	コスラエの処分場の改善：入り口位置の変更と盛土の建設 ヤップ州の処分場改善：埋立ガス放出パイプの垂直延長、処分能力拡大のためのアクセス道路嵩上げ
RMI	バトカン最終処分場の改善



PNG	計量台設置に伴う取付道路及びフェンスの建設：599,454 PKG 計量台設置に伴う排水施設及びワイヤーの設置：339,423 PKG
バヌアツ	都市省による廃棄物収集に関するワークショップの実施（2回）
サモア	タファイガタ 軽量ブリッジ技術評価。6,038.00 WST (約 2,255 USD)

### 3-2 アウトプット

プロジェクトデザインは J-PRISM フェーズ I プロジェクトと同様で、対象国ごとにプロジェクト・デザイン・マトリックス（PDM）を作成し、CP2025 の優先項目と関連付けさせながら国ごとの課題に取り組むというものであった。

表 3-8 プロジェクト・デザインの概念図

上位目標		Cleaner Pacific 2025に基づき、大洋州地域における自立的な廃棄物管理が強化される。									
地域共通プロジェクト目標		Cleaner Pacific 2025の実施を通して、大洋州地域の持続可能な廃棄物管理にかかる人材および組織・制度的な基盤が強化される。									
地域協働および国別プロジェクト目標		〔「3-3 プロジェクト目標」参照〕									
Cleaner Pacific 2025の戦略的行動 <sup>13</sup>		地域協働	サモア	トンガ	パラオ	ミクロネシア	マーシャル	フィジー	PNG	ソロモン	バヌアツ
A	組織能力の強化	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
B	官民連携の促進	○	○		○					○	○
C	持続的な優良事例の展開	再資源化プログラム	◎		◎			○	○	◎	◎
		インフラ整備改善、持続的な運営・維持管理			◎	◎	◎	◎	◎		
D	人材育成	◎	○	○	○	○	○	○	○	○	○
E	廃棄物管理の成果・優良事例の普及	◎	○	○	○	○	○	○	○	○	○
F	地域間、国家間の協力推進	◎			◎	◎	◎	○	◎	◎	○

（出典：J-PRISM2「基本計画調査報告書」）

凡例：◎：プロジェクトのアウトプットが戦略的アクションに直接貢献するもの、○：プロジェクトのアウトプットが戦略的アクションに間接的に貢献するもの

表 3-9 および表 3-10 にまとめられたように、地域協働活動と各国のアウトプットと各国の達成度は達成指標を用いて判断した。なお、この表は各国で計画されたことの達成度を示すものであり、地域全体の相対的な判断ではないことに留意する必要がある。全体として、ほぼ全ての国で何らかの進捗があり、COVID-19 の感染拡大による混乱にもかかわらず、全 43 のアウトプットのうち 29 のアウトプットは、達成済みまたはほぼ達成されているか、プロジェクト終了ま

<sup>13</sup> クリーナー・パシフィック 2025 の 15 の戦略的行動から、プロジェクト活動が直接または間接的に達成に貢献できるものを選択。

で達成される見込みであることが確認された。

### 3-2-1 地域協働活動のアウトプット

表 3-9 地域協働活動のアウトプットの概要

アウトプット1	アウトプット2	アウトプット3	アウトプット4
Cleaner Pacific 2025 に沿ったモニタリングメカニズムが強化される。	域内でローカル人材の活用と教訓の共有により域内協力が組織化・推進される。	域内災害廃棄物管理体制が強化される。	実践的および持続性のある 3R+Return システムが強化される。
一部達成	達成済み	達成済み	ほぼ達成

#### <アウトプット 1>

アウトプット 1 では、プロジェクト専門家が CP2025 と J-PRISM2 に沿って固体廃棄物管理の状況をモニタリングするために必要なデータや指標を特定し、プロジェクト実施のモニタリングと評価に必要なフォーマットを含む対象国におけるモニタリングシステムを開発し、対象国の C/P に必要な研修を実施した。これらの活動は、2019 年 9 月に完了したとされている。

2020 年 2 月に第 1 回目のモニタリングが実施され、3 カ国からフォームが提出された。しかしながら、COVID-19 感染拡大下におけるコミュニケーションがきわめて難しく、対象国でモニタリング活動を行うことが極めて困難となり、傾向分析やタイムリーなアドバイスをするために必要なモニタリング結果の収集が進まなかった。

2022 年 1 月に報告書が発行され (<https://www.sprep.org/j-prism-2/regional-monitoring>)、プロジェクトオフィスおよび SPREP はともにアウトプット 1 は達成されたと考えている。ただし、全ての対象国からモニタリングシートが提出されたわけではなく、今後、状況が正常化した際に、対象国がモニタリングメカニズムの利用を再開するかどうかを検証する必要がある。

#### <アウトプット 2>

当初のアウトプット 2 の達成指標は、「地域人材の活用」に重点が置かれていたが、SPREP の機能に合わせて、研修実施や人材強化全般にシフトした。

本アウトプットでは、多くのケーススタディや教訓を収集・分析する等、「大洋州から大洋州への協力」という考え方は未だ有効となっている。SPREP が非常に高く評価している PIDOC だけでなく、多くの有用な資料や情報が、対象国だけでなく他の PICs や廃棄物管理分野で活動する開発パートナーに提供されている。

アウトプット 2 のすべての達成指標は、その達成度を検証するためには、より明確化する必要があるが、アウトプット 2 においては、実質的な成果が得られており、アウトプット 2 は達成されたと判断される。

#### <アウトプット 3>

当初の成果 3 の達成標は、ガイドラインの作成、研修の実施、ガイドラインに基づく対応策を講じるというものが主であった。終了時評価時点での指標は、当初の指標で設定された目標よりも高い目標を目指しており、「災害廃棄物管理における域内能力強化」が実際に何を意味す

のかについてよく考え、その達成度を評価するものとなっている。

国によっては、災害廃棄物管理計画の公式な承認や策定することは、プロジェクトチームでコントロールすることができないことであり、非常に困難である。

しかしながら、すべての活動が実施され、指標 3-1 の達成に遅れが生じたものの、アウトプット 3 の指標はいずれも達成された。

#### <アウトプット 4>

アウトプット 4 の活動は当初、リサイクルの実践やリサイクル品の流れに関する様々な調査、3R+リターンシステムの詳細調査のモニターを行うものであり、地域協働 PDM においては、3R+リターンシステム強化のための実際の活動は含まれていなかった。

当初の PDM で計画されていた各国で実際に行う作業の範囲が非常に限られていたため、アウトプットは徹底的に見直された

その結果、調査は JICA 本部が別途実施／手配することとなり、2020 年初頭から新たな活動や達成指標が導入されることになった。残念なことに、COVID-19 に続く国境閉鎖のため、パイロットプロジェクトのサイトは、ソロモンからプロジェクトオフィスのあるサモアに変更せざるを得なかったが、パイロットプロジェクトは順調に進み、各国で設立されたすべての協会がこのパイロットプロジェクトに倣う予定となっている。

大洋州地域におけるリサイクル協会の役割に関する教訓、民間セクターによるリサイクル活動を促進するための 3R+Return グッドプラクティスの例は、SPREP ウェブサイト (<https://www.sprep.org/j-prism-2/lessons-learnt/>) にアップされている。

両指標とも、検証可能なものとするためには、より明確にする必要がある（例えば、「促進」と「強化」をどのように判断しているか等）。しかしながら、プロジェクトは短期間に様々な困難を乗り越え、大きな進展を遂げたため、成果 4 の新指標の意図は達成されたと評価できる。

### 3-2-2 各国アウトプット

表 3-10 各国アウトプット概要

	アウトプット 1	アウトプット 2	アウトプット 3	アウトプット 4
パラオ	大洋州地域廃棄物管理戦略(2016-2025)に沿って、国家固形廃棄物管理戦略並びに付属のアクションプランが策定され、担当大臣に提出される	廃棄物管理や3Rに係るグッド・プラクティスが国内並びに地域内で共有される	バベルダオブ島の 10 州ならびにコロール州で、廃棄物収集が改善される	現 M-dock 処分場から新規処分場への移行が開始される
結果	達成済み	ほぼ達成	達成済み	ほぼ達成
FSM (連邦政府)	各州において州の廃棄物管理戦略が策定されるよう、DECEM (旧 OEEM)によって支援が提供される	活動廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される		
結果	達成済み	達成済み		
ヤップ	大洋州地域廃棄物管理戦略(CP2025)に沿って州廃棄物管理戦略並びに付属のアクションプランが策定され	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	ヤップ島において収集が改善される	

	アウトプット 1	アウトプット 2	アウトプット 3	アウトプット 4
	る			
結果	達成済み	ほぼ達成	評価不可能	
チューク	大洋州地域廃棄物管理戦略(CP2025)に沿って州廃棄物管理戦略並びに付属のアクションプランが策定される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	有効な CDL 実施メカニズムが関係機関で検討される	
結果	達成済み	ほぼ達成	ほぼ達成の見込み	
ボンベイ	大洋州地域廃棄物管理戦略(CP2025)に沿って州廃棄物管理戦略並びに付属のアクションプランが策定される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	有効な CDL 実施メカニズムが関係機関で検討される	
結果	達成済み	ほぼ達成	ほぼ達成の見込み	
コスラエ	大洋州地域廃棄物管理戦略(CP2025)に沿って州廃棄物管理戦略並びに付属のアクションプランが策定される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	コスラエ州においてごみ収集が改善される	
結果	達成済み	ほぼ達成	達成済み	
RMI	廃棄物管理体制の改善に必要な政策文書が策定され、担当部局に提出される	廃棄物管理や 3R に係るグッド・プラクティスが国内並びに地域内で共有される	関係機関により、RMI に適した CDL の実施体制が検討される	
結果	ほぼ達成	ほぼ達成	達成済み	
PNG	国家政策や戦略、実施計画の策定を通じた組織能力の強化	固形廃棄物管理の課題に対処するための ULLG の能力向上	NCD による廃棄物管理計画の継続的な実施	
結果	ほぼ達成	一部達成	一部達成	
ソロモン	HCC の SWM 能力強化	ホニアラとギゾで得られた SWM の教訓を他地域に広める	SI における持続可能な SWM のための経済的措置の明示	
結果	ほぼ達成	一部達成	(継続中) <sup>14</sup>	
バヌアツ	NWMPCS を実施するための DEPC の組織的能力の向上	PVCC 固形廃棄物管理計画活動の実施とモニタリング	3R+リターンを推進するための経済的なインセンティブ・スキームの立ち上げ	
結果	達成済み	ほぼ達成	ほぼ達成	
フィジー	3R の概念を組み入れたエビデンスに基づく政策の促進	3R+リターンプログラムのパイロット調査の実施		
結果	ほぼ達成	一部達成		
トンガ	廃棄物管理サービスの拡大に向けた WAL の 5 年事業計画の策定	離島での継続的な廃棄物管理の実施に向けた WAL の能力強化	ハアパイ及びエウアにおける廃棄物管理行動計画の策定	ハアパイ及びエウアにおける継続的な廃棄物管理実施能力の向上
結果	達成済み	達成済み	達成済み	一部達成
サモア	NSWMS の開発	ゴミ収集モニタリングシステムの構築	財務オプションに関するフィージビリティスタディの実施	

<sup>14</sup>プロジェクト完了までに達成する見込み。

	アウトプット 1	アウトプット 2	アウトプット 3	アウトプット 4
結果	達成済み	達成済み	一部達成 <sup>15</sup>	

## (1) 特筆すべきアウトプット

### 【制度的な能力強化】

- FSM, RMI、パラオ共和国(アウトプット 1): 固形廃棄物管理戦略/計画を策定するための基礎として、プロジェクト開始時に技術的・定量的分析を実施した。この分析を通じて、C/P や関連機関にとって課題と優先事項が明確になり、具体的で行動指向の戦略/計画の策定に役立ち、それがアウトプット3 および4 の活動の実施にも方向づけられた。
- サモア (アウトプット 1&2): アウトプット 1 はもともと固定廃棄物管理戦略を開発することを目的としていた。しかしながら、天然資源環境省 (MNRE) の要請により、化学・有害廃棄物管理担当の SPREP 職員との協力のもと、化学・有害廃棄物管理も戦略に組み込まれることになり、2019 年 1 月に「国家廃棄物管理戦略 2019-2023」(NWMS 2019-2023) として承認された。終了評価調査時点においては、NWMS が施行され、実施段階に入っていた。NWMS の一環として、ごみ収集のモニタリングシステムがアウトプット 2 の下で確立され、MNRE はその実施に完全に責任を持ち、継続的に実施されている。
- ソロモン (アウトプット 1): ホニアラ市議会は固体廃棄物管理計画を策定しており、2019 年に承認された。SWM 計画を確認した後、HCC は固体廃棄物管理を専門に行う部門、廃棄物管理統制部門 (WMCD) を設立した。SWM 計画のもう一つの優先アクションであるティッピングフィー制度も 2020 年 9 月にスタートした。MECDM の支援を受けた WMCD は、処分場管理や収集サービスの改善、パフォーマンスレポートの作成など、SWM 計画の行動計画に沿って様々な活動を実施している。
- バヌアツ (アウトプット 1 及び 2): 環境保護・保全局 (DEPC) は国家廃棄物管理及び汚染防止戦略 (NWMPCS) の実施を開始した。自治体における SWM 計画の策定と実施は NWMPCS の非常に重要な優先事項であり、ポートビラ市議会 (PVCC) による SWM 計画の策定は大きな成果であった。
- フィジー (アウトプット 1): J-PRISM2 はフィジーの全 13 自治体において廃棄物管理計画の策定を支援してきた。J-PRISM2 以前にはスバ市を除いてそのような計画は存在せず、プロジェクト期間終了までに最終化される見込みである。
- PNG (アウトプット 2): 4 つの ULLG のうち 3 つは廃棄物管理改善計画が準備中でありアウトプットを完全に達成してはいない。これは主に土地の権利関係の問題に起因しており、プロジェクト関係者間で早急に解決される必要がある。このような問題は、今後、他の地域へ活動を拡大する際に他の多くの ULLG で発生することが予想される。廃棄物処分場や集積所を建設するための適切な土地区画を見つけることは、PNG や他国でも時間を要するプロセスとなる可能性があるため、廃棄物管理計画を策定するには、地元コミュニティとの十分な協議を図る必要がある。

**【廃棄物・化学物質・汚染物質 (WCP) 管理における持続可能なベストプラクティスの実施】**  
(資源回収プログラム/インフラの改善と持続可能な運用・保守の支援)

<sup>15</sup>同上。

- サモア（アウトプット 3）：他の PICs のユーザーペイシステムの事例を学び、検討するために、スタディーツアーを実施した。トンガ、バヌアツ、フィジーへのスタディーツアーに参加した MNRE の C/P は、バヌアツのプリペイドバッグシステムやトンガの電気料金とゴミ料金との合算請求を学べたことが非常に有用であったとしており、結果として、プリペイドバッグシステムの導入を検討することになった。
- トンガ（アウトプット 2）：ババウにおいて WAL による廃棄物管理サービス導入や定期的な廃棄物収集サービス、O&M マニュアルに基づく処分場の管理等が達成された。これらのオペレーションはモニタリングシートを活用して管理されており、住民からの廃棄物料金によって WAL の財政を賄っている。廃棄物料金は電気代支払いと同時に徴収され、地域住民もその重要性を理解した上で定期的な支払いに応じているため、徴収率は比較的高く、適切な回収サービスの実施が可能となっている。

#### [地域と国の連携促進]

- PNG（アウトプット 1 及び 2）：NCDC と各地方自治体の間で都市間協力協定の MOU が締結された。これにより、NCDC と地方自治体との協力関係がより緊密になり、特にゴロカでの廃棄物監査、ココポの処分場の改善計画策定などがスムーズに行われた。
- バヌアツ（アウトプット 1 および 2）：DEPC は、国内の他の都市部や地方都市部の支援を通じて、NWMPCS の実施を開始した。都市関連省の促進により、PVCC はルーガンビル市議会（LMC）と SHEFA 州に廃棄物収集と埋立管理に関する研修を実施し、アイデアや弱点などについて意見交換するためのワークショップを開催した。

#### (2) 貢献要因

- 地域協働活動：プロジェクトオフィスは SPREP にあり、他の開発パートナーのプロジェクトの多くが SPREP に籍を置いているため、地域レベルの情報へのアクセスが容易となっている。
- 地域協働活動：広域プロジェクトとして対象 9 カ国との関係が構築されていることは大きな強みである。例えば、大規模な自然災害（サモアのサイクロンと洪水、バヌアツのサイクロン、トンガの火山噴火など）の被災国に対して、災害後の支援に迅速に対応することが可能になった。
- 共通：本プロジェクトは、無償資金協力、草の根・人間の安全保障無償資金協力、大使館からの機材提供など、日本政府による他のスキームを効果的に活用し、プロジェクトの成果達成を促進している。
- FSM、RMI、パラオ共和国：JICA 専門家と C/P の間の良好なパートナーシップがプロジェクトの円滑な実施に貢献した。短期専門家は、PDM の内外を問わず、C/P の技術指導の要請に対して高い対応力を発揮した。
- RMI: CDL の影響を受ける可能性のある産業や商業が国内にほとんど存在しなかったため、CDL を開始するためのステークホルダーがあまりいなかった。そのため、CDL の実施に反対する者もほぼ存在しなかった。
- PNG: 日本大使館や JICA 現地事務所、プロジェクト専門家の効果的な連携により、C/P 機関及び NCDC 知事によるバルニ処分場 12 の視察が行われた。この結果、NCDC から

計量台を継続的に稼働させるための発電機の調達予算が追加された。

- フィジー：本事業における DLG と地方自治体の協力関係は良好であり、アウトプット及びプロジェクト目標の達成に貢献した。また、プロジェクト期間の途中で採用した現地スタッフは DOE の元職員であり、COVID-19 の影響による短期専門家不在の間、廃棄物調査委託の実施監理等のプロジェクト活動のフォローアップを行うなど活動への貢献度は高かった。
- サモア：サモアの短期専門家は比較的長い派遣期間となっており、プロジェクトの初期段階で C/P と共に PDM の包括的なレビューを行い、C/P が本当に必要としているもの、望んでいるもの、実施可能なものを PDM に反映させることができた。これにより、プロジェクトの実施が容易になり、プロジェクトに対する C/P の自信とオーナーシップが高まった。専門家が長期にわたってサモアに来られない場合でも、関係者の信頼と強いオーナーシップが、C/P のプロジェクトへのコミットメントを後押しした。
- ソロモン MECDM 次官は、廃棄物管理に対して強いコミットメントを示し、スタッフ (C/P) を海外に派遣し、この分野のスペシャリストを育成している。また、プロジェクト活動のために多くの人員を配置し、有能な C/P の数が増えている。

### (3) 阻害要因

- 共通：COVID-19 の流行により、JICA 専門家の渡航ができなくなったことにより、プロジェクト活動に対する専門家のサポートが制限され、PDM のタイムリーな改訂を含むプロジェクトの活動に遅れが生じた。
- 共通：SPREP/大洋州側だけでなく、日本側でもプロジェクトオフィスの専門家、JICA 本部や現地事務所・支所の職員など、プロジェクトに関わる人が交替することによって、プロジェクトの進捗に負の影響を与えている可能性がある。
- FSM：頻繁な人事異動（例：ポンペイ EPA）、主要人物の長期不在（例：ヤップ）がプロジェクト実施の阻害要因となった。
- FSM：経済は自由連合協定に基づく米国からの資金援助に大きく依存している。基金の中の小規模セクター助成金（環境）は、各州の廃棄物処理に使用されてきたが、2019 年に小規模セクター助成金における方針が変更され、各州が独自に予算源を見つける必要が生じ、難しい調整が必要となった。州予算を利用することになったが、ヤップの場合、基金の削減がプロジェクト実施に直接的な影響を及ぼした。（アウトプット 3、廃棄物収集の改善）。
- バヌアツ／ソロモン：処分場の技術者の離職と信頼できる重機の不足が処分場の運営と管理に影響を与えた（バヌアツでは 2022 年に必要な重機が供与された）。処分場スーパーバイザーやオペレーターは、プロジェクトの下でトレーニングを受けておらず、物理的に処分場を管理する技術的能力を強化する必要がある。
- バヌアツ／ソロモン：予算削減がプロジェクト実施に影響した。COVID-19 の大流行により、予算のほとんどが国の安全を守るための対策に振りかえとなり、プロジェクト活動を行うための予算は十分に残されていなかった。また、給与の大幅カット（50%）により、退職する C/P もおり、阻害要因となっていた。

### 3-3 プロジェクト目標

プロジェクト目標達成の見込みは、地域レベルの指標と国レベルの指標（複数）により評価されており、統合されたプロジェクト目標となっている。

全体として、終了時評価時点での指標の達成度（大半は既に「達成済み」もしくは「ほぼ達成」）やアウトプットの達成状況を考慮すると、プロジェクト完了までに、プロジェクト目標はほぼ達成される可能性が高い。個々の国別 PDM におけるプロジェクト目標の達成見込みに関しては、表 3-11 にまとめられている。

表 3-11 各 PDM におけるプロジェクト目標の達成見込み

	プロジェクト目標	結果
地域協働	Cleaner Pacific 2025 の固形廃棄物管理分野にかかる実施状況がタイムリーにモニタリングされ、大洋州地域内協力に基づいた支援が行われる。	<b>ほぼ達成</b> 指標 1 は部分的にしか達成されていないが、プロジェクト目標の後半に大きな成果があったため、ほぼ達成したと判断された。インプットや活動に大きな変化があった場合には、プロジェクトの実像を反映した指標を検討し、それに応じて変更する必要がある。
パラオ	新規処分場の運営開始を見据えて、廃棄物管理体制が改善される。	<b>ほぼ達成</b> プロジェクト目標の指標は全て達成された。ただし、持続可能な資金調達に関する疑問が残るため、プロジェクト目標はほぼ達成されたと考えられる
FSM 連邦政府	各州において廃棄物管理体制の確立が促されるように支援を行う	<b>ほぼ達成</b> 4つの州の間で共有し学ぶ機会が、連邦政府の支援によって提供された
ヤップ	廃棄物管理体制の確立が促進される	<b>ほぼ達成</b> 定量的・技術的分析に基づき課題が抽出され、その対策が提案されていることから、プロジェクト目標の指標は全て達成されている。アウトプット 1、2 はほぼ達成されたが、アウトプット 3 は外部要因によるプロジェクト実施の阻害により評価不可能と見なされた。プロジェクトの目標はほぼ達成されたと考えられる
チューク	廃棄物管理体制の確立が促進される	<b>ほぼ達成の見込み</b> 定量的・技術的分析に基づく課題の抽出とその対応策の提案により、プロジェクト目標の指標は全て達成された。アウトプット 1、2 はほぼ達成されたが、アウトプット 3 については、専門家派遣終了の 2022 年 9 月までに必要な文書が作成されれば、ほぼ達成される見込みである。このため、プロジェクト目標はほぼ達成されたと考えられる
ポンペイ	廃棄物管理体制の確立が促進される	<b>ほぼ達成の見込み</b> 定量的・技術的分析に基づく課題の抽出とその対応策の提案により、プロジェクト目標の指標は全て達成された。アウトプット 1、2 はほぼ達成されたが、アウトプット 3 については、専門家派遣終了の 2022 年 9 月までに必要な文書が作成されれば、ほぼ達成される見込みである。このため、プロジェクト目標はほぼ達成されたと考えられる
コスラエ	廃棄物管理体制の確立が促進される	<b>ほぼ達成</b> 定量的・技術的分析に基づく課題の抽出とその対応策の提案により、プロジェクト目標の指標は全て達成された。3つの成果はほぼ達成された。このため、プロジェクト目標はほぼ達成されたと考えられる
RMI	廃棄物管理体制の確立が	<b>ほぼ達成</b>



	促進される	定量的・技術的分析に基づき課題を抽出し、その解決策を提案したことにより、プロジェクト目標の全ての指標を達成した。また、一部懸案事項（国家廃棄物戦略が未だ必要であるかの検討）があったため、プロジェクト目標はほぼ達成されたと考えられる
PNG	国家ならびに主要な都市部自治体（Urban Local-Level Government: ULLG）レベルで固形廃棄物管理の制度的枠組み及び事業実施能力が強化される。	<b>ほぼ達成</b> ほぼ達成しているものの、残された課題はプロジェクト期間中に達成される必要がある。ULLGの役割や責任分担は廃棄物計画において明記されていないが、いくつかのワークショップ開催を通じて実質的には理解されており、モニタリングシステムも既に構築されている。
ソロモン	国家および Provincial Center レベルで廃棄物管理にかかる制度的な能力が強化される。	<b>部分的に達成</b> （ほぼ達成／プロジェクト終了までに達成する可能性有） 少なくとも、2番目の州センターでアウトプット2の指標がすべて達成されれば、プロジェクトの目的はプロジェクト終了までに「ほぼ達成」する可能性がある。
バヌアツ	バヌアツ国家廃棄物管理公害防止戦略(NWMPCS)に沿って固形廃棄物管理活動を実施・モニタリングする土台が築かれる。	<b>ほぼ達成</b> プロジェクト目標の指標はアウトプット1のみによりほぼ達成されており、他のアウトプットの成果が反映されていなかった。有意義なアウトプットや活動の追加・変更があったため、それに合わせて指標もプロジェクトの実態を反映したものに変更されるべきであった。
フィジー	国家廃棄物管理戦略 2016-2025に基づき、廃棄物が適正に管理される。	<b>ほぼ達成</b> プロジェクト目標はほぼ達成されたとと言える。今後、13の地方自治体において、モニタリングや指標の報告の手順、遠隔地をカバーするためのロードマップなど地方自治体の廃棄物管理計画の策定が確実になされることが重要である。
トンガ	現場での実施に重点を置いて、トンガ離島における持続可能な廃棄物管理の基盤が構築される。	<b>達成した</b> WALによる廃棄物管理サービスはトンガの離島において普及しており、廃棄物料金の徴収を含む廃棄物管理体制は構築されたと考えられる。
サモア	国家廃棄物管理戦略(NWMS)に沿って、固形廃棄物管理が適切に実施される。	<b>部分的に達成</b> （ほぼ達成／プロジェクト終了までに達成する可能性有） 様々な課題があったにもかかわらず、大きな成果をあげた。 終了時評価時点では、サモアの国別プロジェクト目標は「ほぼ達成」と評価されているが、プロジェクト終了までにすべての指標が達成される可能性が高いと考えられる。

### 3-4 上位目標

地域協働 PDM の上位目標および指標は以下の通り。

<p><b>上位目標（共通）：</b> Cleaner Pacific 2025 に基づき、大洋州地域における自立的な廃棄物管理が強化される。</p>
<p><b>達成指標：</b> 大洋州地域で域内協力を通じて廃棄物管理の課題が改善される。</p>

上記の指標は検証可能となっていないため、終了時評価時に上位目標の達成度を検証することはできなかった。今後、適切で検証可能な指標を設定する必要がある。

上位目標は、プロジェクトの目的が達成され、プロジェクト目標レベルの重要な外部条件が満た

されれば、(JICA の実務ではプロジェクト終了後 3 年以内に) 達成することが期待される目標となっている。

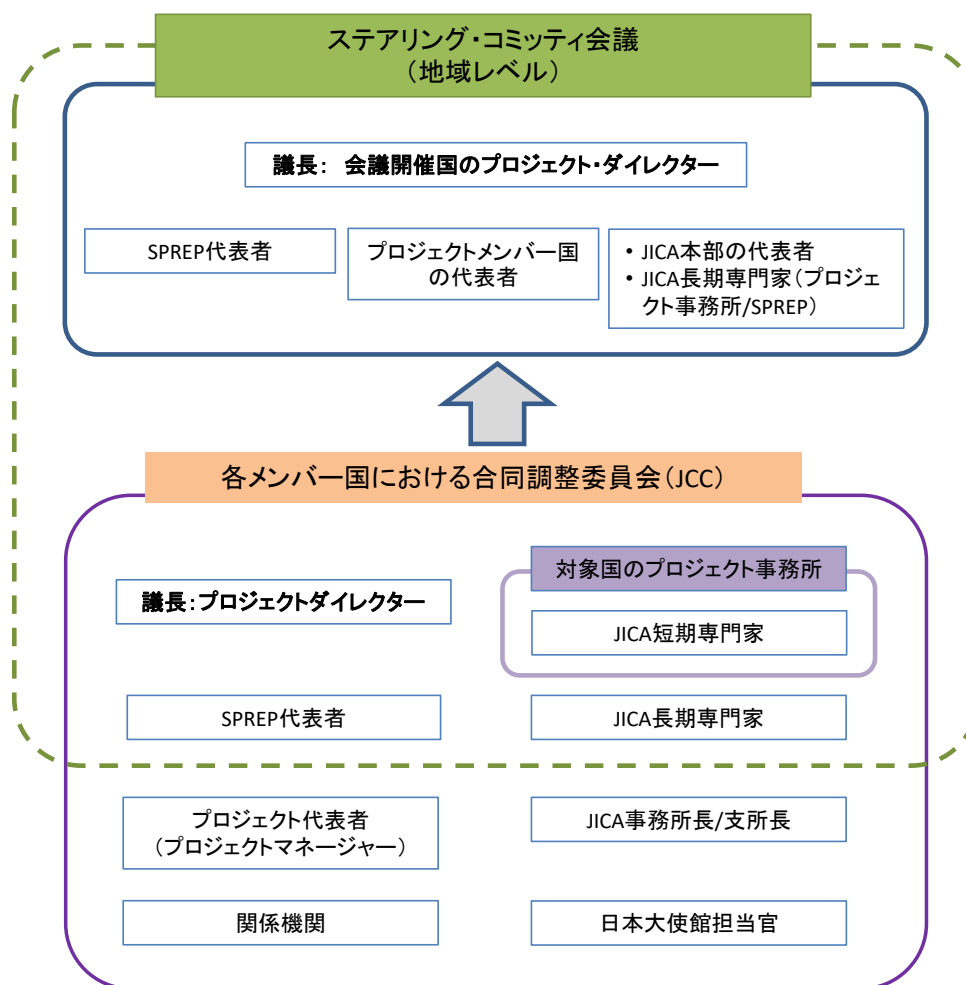
今回の終了時評価調査では、2025 年までの上位目標達成の見込みを評価することはできず、将来的にプロジェクトのインパクトを評価するために、上位目標の指標を再設定する必要がある。

#### 4. 実施プロセス

SPREP は各国と異なり、実施機関ではなく、広域プロジェクトである J-PRISM2 のホストパートナーである。そのため、各国の合同調整委員会（JCC）の代わりに運営委員会（SC）があり、プロジェクトオフィスは、CP2025 を達成するために SPREP を支援する広域プロジェクトのコンポーネントを実施する役割を担っている。

図 4-1 は、各国の JCC とプロジェクトオフィス/SPREP の関係を示したものである。

各国の JCC は、各国におけるプロジェクト運営の意思決定機関となっており、運営委員会は、情報・教訓の交換によるアイデアの創出や、モチベーションの向上など、貴重な機能を担っています。



(出典：J-PRISM2「基本計画調査報告書」)

図 4-1 プロジェクトの実施体制図

この変更により、JICA 短期専門家と各 JICA 在外事務所・支所との関係が緊密になり、専門家はより迅速に課題に取り組み、担当する国とその PDM に集中することが可能になった。反面、一部の国では、長期専門家と短期専門家・JICA 在外事務所・支所とのコミュニケーションギャップが拡大し、J-PRISM2 の広域プロジェクトとしての一体性・機動性が弱くなった可能性がある。

#### 4-1 特筆すべき各国個別実施プロセス

- ミクロネシア地域の3カ国（パラオ、FSM、RMI）に対して、5名の短期専門家がそれぞれ異なるテーマ領域で横断的に支援を行った。このチーム編成とチーム内の連携により、専門家チーム全体として幅広い支援を提供できた。このような体制やサブリージョナルなアプローチは、領土や人口、プロジェクト活動の規模の小ささなどの共通点がある、ミクロネシア地域では特に、相互に刺激を与える交流や学習の機会を創生するのに有効であった。さらに、CDL 専門家1名、車両・重機整備専門家1名がプロジェクトを支援した。プロジェクトオフィスとの連携は、アウトプットの立て付け上連携が必要なアウトプット2ではより明確であったが、他のアウトプットではあまり明確でなかった。
- 2021年以降、COVID-19による移動の制限から、JCCはミクロネシア地域の3カ国（パラオ、FSM、RMI）合同でオンラインで開催されるようになった。この3カ国合同JCCは、3カ国間で相互に刺激となる経験共有と学習の場となった一方で、3カ国、4州、2環礁にまたがる7つのプロジェクトをJCCで説明しなければならなかったため、プレゼンテーションの数も参加者も多くなり、会議が長時間に及んだ。このため、例えばPDMを修正する必要がある場合など、個々の国について深く議論することが難しいという点もあった。

#### 4-2 プロジェクト・マネージメント

前述の通り、運営委員会は、情報交換や教訓からアイデアを得たり、モチベーションを高めたりする役割を担っている。

各国に設置されたJCCについては、各国のスコープに関する意思決定を担っていると認識されており、COVID-19の感染拡大の影響を受けるまで、ほとんどの国で年一回、第三回までのJCC会合が計画通り開催された。2020年から2021年初めにかけて、プロジェクト活動の進展があまりなかったため、5年半の間にメラネシア、ポリネシア地域の国々では、JCC会合は合計4回開催されるにとどまった。ミクロネシア地域の3カ国では、5回のJCC会合が開催され、そのうち最後の2回は、3カ国合同で開催された。JCC会合では、過去1年間の進捗状況が報告されるが、COVID-19の影響でJCC定例会合が中断されたものの、JCC会合は、プロジェクト全体の指導と方向付けに有効であったと考えられる。

地域協働および国別のPDMとPOは、大方十分活用されており、2020年初頭までは、必要に応じて改訂されていた。しかしながら、COVID-19の感染拡大により、PDMとPOは適切なタイミングに更新されず、ほとんどのPDMの最後の改訂は2022年になってから実施された。また、プロジェクトの正式な中間レビューは実施されなかったこともあり、レビューが必要であったいくつかの指標について、変更の必要性が検討されず、検証できない指標のまま終了時評価調査が実施された。

地域協働と各国のPDMの最大の問題の一つは、相互関連性が低いことにある。一般的に、地域協働のPDMはより包括的で、より高いレベルの指標となっているが、対象国のC/Pや関連機関が直接関わる活動も含まれている。このような場合、サモアのプロジェクトオフィスと連携している活動やそのC/Pは、同国のPDMでは認識されておらず、混乱を招いたり、ま

た、グループ 2<sup>16</sup>の国々において、地域協働の活動が各国の PDM に含まれていないため、短期専門家は PDM に含まれている活動のみに集中し、他の開発パートナーやプロジェクトオフィスが行う活動など、PDM 外の活動は見落とされがちであった可能性がある。

#### [SPREP 側]

SPREP は JICA にとって長期に亘る信頼できるパートナーである。前述の通り、SPREP はプロジェクトの実施機関ではなく、ホストパートナーであり、多くの多国籍機関と同様、資金がない限り、SPREP が自らの予算で CP2025 の実施及び/又は進捗状況のモニタリングを行うことは困難である。しかしながら、SPREP は、大洋州地域における廃棄物管理に関する JICA の長期的なコミットメントや貢献を良く理解しており、JICA 専門家の仕事は、廃棄物管理・公害防止 (WMPCD) 局長とスタッフによって非常に高く評価されていた。J-PRISM2 の主要コーディネーターはプロジェクト期間中に 2 回交代したが、SPREP は常に可能な限りプロジェクトをサポートするコーディネーターを配置するよう心がけている。

#### [対象国側]

ミクロネシア 3 国およびサモアにおいては、プロジェクト期間中、ほとんどの C/P が同じポジションに留まるか、一部職員が異動となっても比較的早く代替りの職員が配置されていたことが確認された。その他の国では、C/P の交代や異動に関する記録が不完全であり、C/P の配置の全体像を分析する適切なデータを得ることができなかった。

しかしながら、一般的には、終了時評価までに C/P が追加されて、C/P 数が増加していたり、交代要員が配置されていることを確認できた国が多数であった。

JICA 専門家は、ほとんどの C/P から高く評価され、感謝されていることが確認された。

#### [JICA 側]

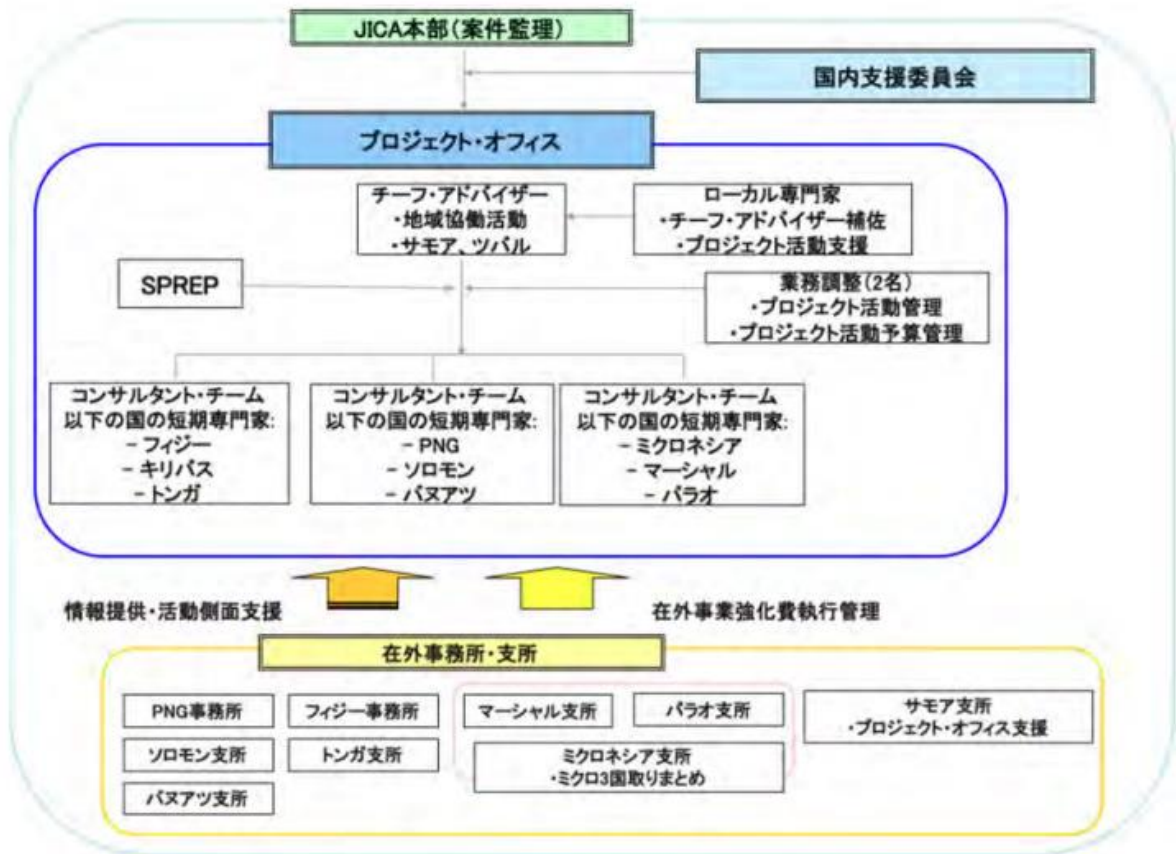
プロジェクト実施上、活動の最大の妨げとなったのは、COVID-19 の感染拡大により、JICA 専門家が、適切なタイミングで担当国を訪問できなかったことがあげられる。COVID-19 により、大洋州においては多くの国で 2 年以上にわたって国境が閉鎖され、プロジェクト管理に大きな影響を与えた。

その他にも、チーフアドバイザー (CA) や JICA 本部の担当者など、JICA 側のプロジェクト担当者の入れ替わりが頻繁に行われたこともプロジェクト実施の障害となった可能性がある。CA や本部の担当者の交代により、プロジェクトの活動が遅れたり、プロジェクトオフィスの機能が十分発揮することができないという状況が生じた。チーフアドバイザー (CA) は 1 名の CA 代理を含めて計 4 名が着任した他、各サブリージョンで鍵となるはずであった 3 名のサブリージョナルコーディネーターは、その機能を誰がどのように実施するかという明確な引継ぎもなく、2 年間で終了した。

さらに、プロジェクトデザインから派生した課題もある。以下は、JICA 側のプロジェクト体制である。

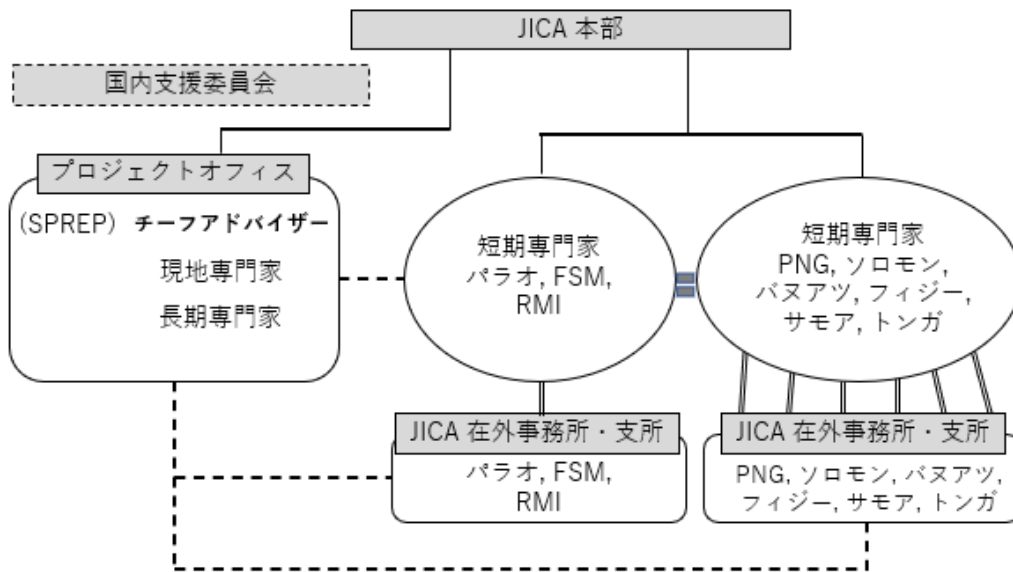
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<sup>16</sup>プロジェクトの実施には 2 つの契約があり、グループ 1 には、パラオ、FSM、RMI が含まれており、グループ 2 には PNG、ソロモン、バヌアツ、フィジー、トンガ、サモアが含まれている。



(出典: J-PRISM フェーズ1プロジェクト終了時評価調査報告書)

図 4-1 日本側実施体制 - J-PRISM フェーズ1後半 -



(出典: ヒアリング結果に基づき終了時評価チームが作成)

図 4-2 終了時評価時点における日本側プロジェクトレポートライン

フェーズ 1 プロジェクトと比較すると、短期専門家とプロジェクトオフィスとの距離が遠くなったことがうかがえるが、グループ 1 に関しては、プロジェクトオフィスと緊密に連携していた。その理由として、①広域のコンポーネントである「固形廃棄物管理/3R のグッドプラクティスが国内・地域内に普及する」が各国版 PDM の活動・アウトプットに含まれていたこと、②複数の短期専門家からなるチームが、3 カ国からなるミクロネシアのサブリージョンを支援し、サブリージョン・コーディネーターに匹敵する専門家によりプロジェクトオフィスと連携したこと、などが挙げられる。一方、グループ 2 の短期専門家は、担当する対象国の問題に集中する傾向があり、PDM に広域コンポーネントが含まれていないこともあり、プロジェクトオフィスと協力するインセンティブもマנדートも見出せなかったことが考えられる。

#### 4-3 技術移転の方法

JICA の研修は、日本で実施される本邦研修およびサモア等で実施される第三国研修の他、OJT やオンラインワークショップといった形で実施されている。JICA 専門家が行うアドバイスは、技術移転において大きな役割を担っている。その他、インタビューした C/P から、今後の研修はより実践的で、C/P が新しく学んだコンセプトを実践する機会を提供するような研修を求める声が聞かれた。

(COVID-19 感染拡大後の) 2020 年 4 月以降、C/P と短期専門家の双方から、コミュニケーションが難しいという意見が出され、ソロモンの C/P は、フルタイムの専門家や派遣期間の長い専門家を希望していた。

#### 4-4 コミュニケーション

特に COVID-19 の感染拡大以降、コミュニケーションは非常に難しくなったが、COVID-19 の正の影響として、国境や物理的な距離を超えたミーティングのアレンジや開催が容易になったことがあげられる（「5-4 効率性」参照）。

SPREP とプロジェクトオフィスとの間のコミュニケーションは、非常に良好である。しかしながら、プロジェクトオフィスと短期専門家との間のコミュニケーションは、担当者によっても異なることが確認された。これは、短期専門家の報告義務が、プロジェクトオフィスではなく、JICA 在外事務所・支所や本部にあるためと思われる（「4-2 プロジェクトマネジメント参照」）。

多くの JICA 在外事務所・支所が短期専門家と密接な関係を築いていたが、中にはプロジェクトオフィスとのコミュニケーションがあまり密でない事務所・支所もあった。また、一部の JICA 在外事務所・支所では、担当者の異動が広域プロジェクト活動へのコミットメントの度合いに大きな影響を及ぼしていることが見受けられる。

多くの C/P は、広域研修、災害廃棄物、リサイクル協会設立などの地域活動/インプットが直接行われた場合を除き、プロジェクトオフィスや SPREP の長期専門家と直接接触する機会は、フェーズ 1 プロジェクトほどには恵まれなかった。

#### 4-5 特筆すべき地域協働活動

広域プロジェクトとしての強みは、国境を越えた活動を提供できることにある。複数の国が関わる研修では、研修生としてだけでなく、研修講師派遣などの形で、C/P に様々な学びの機会を与えることも可能となっていた。(各国の詳細は、ANNEX 1 参照)。

以下は、プロジェクトオフィスが直接関わった研修およびワークショップの一覧である。15回の研修のうち8回は COVID-19 感染拡大による移動制限前に現地で行われたもので、2020年3月から2021年7月までは、研修を実施することができなかった。COVID-19 発生後、「ミクロネシアにおける重機の日常メンテナンス」についてのオンライン研修が2021年7月に初めて開催され、その後6回のオンライン研修/ワークショップが開催された。

表 4-3 広域研修/ワークショップ (地域協働活動)

	年月	研修/ワークショップ (参加国)	ホスト国	備考
1	2017/10-11	Melanesia Landfill Operation and Management Training (PNG)	PNG	Co-hosted by SPREP Trainers from Vanuatu and Solomon
2	2017/11	Trainer Dispatch for Ranadi Rehabilitation Work	Solomon Is.	Trainer from Vanuatu
3	2018/02	Sanitary Landfill Design and Operation by Fukuoka Method (Palau, FSM and RMI)	Palau	
4	2018/03	Disaster Waste Management and Tafaigata Waste Disposal Site Risk Assessment Review	Samoa	
5	2018/10	Regional Disaster Waste Management Guideline Development Consultation Workshop (Fiji, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu)	Samoa	Co-hosted by SPREP
6	2019/02	Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, FSM and RMI)	Palau	Co-hosted by SPREP
7	2019/11	Disaster Waste Management Workshop, Trainers Training	Vanuatu	Co-hosted by SPREP
8	2020/03	Disaster Waste Management Workshop, DWM Contingency Plans Vanuatu	Vanuatu	Co-hosted by SPREP
9	2021/10	Kobotool Training for Disaster Waste Management	Vanuatu	On-line
10	2021/07 – 2021/10	Online Training on Daily Inspection (Pre-& Post-Operation Inspection) of Waste Collection Vehicles and Heavy Machinery *	FSM, Palau	On-line
11	2021/12	Kobotool Training for Disaster Waste Management (Fiji, Samoa and Kiribati)	Samoa	On-line
12	2022/02	Regional Workshop on Waste Collection Vehicles and Heavy Machinery*	FSM, Palau and RMI (Virtual)	On-line
13	2022/02	Consultation on Periodic Maintenance of Waste Collection Vehicles and Heavy Machinery *	FSM, Palau and RMI	On-line



			(Virtual)	
14	2022/03	Regional Workshop on Waste Collection Vehicles and Heavy Machinery (Fiji, FSM, Palau, Solomon Islands and RMI)*	FSM, Palau and RMI (Virtual)	On-line
15	2022/03	Regional Workshop on Waste Collection Vehicles and Heavy Machinery*	RMI (Virtual)	On-line
16	2022/03	Kobotool Training for Disaster Waste Management	Tonga	On-line
17	2022/06	Solomon Islands Kobotoolbox Training for Disaster Waste Management	Solomon	On-line
-	2019/09	Study tour by Samoan C/Ps (case study from Vanuatu (Prepaid Bag) and Tonga (Electricity Bill))	Vanuatu, Tonga	Organized by short-term experts as a part of country specific activities involving the region.

\* 短期専門家との協力にて開催

#### 4-6 他の日本・国際的なスキーム・活動との調整・連携

COVID-19 の発生以前は、国内外の他のスキームとの連携が活発に行われていたが、発生後は、多くの活動が停止、延期、縮小され、他のスキームや活動との連携が困難になっている。

多くのステークホルダーが存在し、多くの開発パートナーが大洋州地域の廃棄物管理を支援し始めたため、他機関との連携がより重要になってきている。多くの開発パートナーが SPREP の下で活動しており、ドナーからの支援による利益を最大化するために、SPREP は援助調整をより積極的に主体的に行っていくことが期待されている。しかしながら、SPREP には常駐スタッフが少なく、非常に困難な状況となっている。ただし、SPREP 内にプロジェクトオフィスがあるため、開発パートナー間の情報交換は比較的容易となっている。

その他、プロジェクトオフィスが連携している開発パートナーの活動は以下の通り。

表 4-4 他の開発パートナーとの連携

開発パートナー	連携の形態
PacWaste Plus (PWP)/SPREP	対象国での役割分担や災害廃棄物管理分野におけるアドバイスを行っている。 J-PRISM2 で開始されたモアナ・タカ・パートナーシップ (MTP) を実施している。 バヌアツにおける容器ディポジットスキームでの連携 <sup>17</sup> 。
国際移住機関(IOM)	J-PRISM2 との情報交換。 IOM は UNEP を通じて、バヌアツの災害廃棄物管理を支援している。
フランス開発庁(AFD)	一部のターゲット地域での連携の可能性。 重点分野：使用済みオイル/マリン・デブリス (清掃活動)

<sup>17</sup> EU が資金提供し、SPREP が実施する PacWastePlus プロジェクトは、J-PRISM2 が実施した予備フィージビリティ調査の提言に従って、容器ディポジットスキームの開発を支援している。

	／持続可能なファイナンス／災害廃棄物管理
アジア開発銀行 (ADB)	<p>情報交換を行っている。</p> <p>バヌアツ: ルーガンビル処分場への関与の可能性有り。</p> <p>ソロモン: ホニアラ、ムンダにおける廃棄物管理支援。</p>
国連開発計画 (UNDP)	<p>廃棄物回収プログラム (CERO Waste) のための循環型経済を介した協力を実施している。</p> <p>サモアとトケラウのプラスチックとガラスのリサイクル。サモアについては要調整。</p>
地球環境ファシリティ (GEF)7/ISLAND	<p>重複する対象国に関する情報交換を実施している。</p> <p>対象国 14 カ国</p> <p>重点項目: 有害廃棄物管理戦略の策定を支援する。</p> <p>E-waste (バヌアツ、ソロモン)、使用済みオイル (ミクロネシア連邦、RMI)、化学廃棄物 (パラオ)、POPs (PNG)、処分場改善 (トンガ)、地域廃棄物 (フィジー)、残渣物 (サモア)。</p>
国際自然保護連合(IUCN)	<p>2021年10月に開催される「Plastic Waste Free Islands Project (PWFI)」の最終報告書を発表するためのワークショップに参加した。</p>

## 5. 評価 6 項目による評価結果

### 5-1 妥当性

本事業は、必要性・優先度の高さを鑑み、引き続き妥当であると評価された。

#### 5-1-1 必要性

J-PRISM フェーズ 1 プロジェクト終了後、各国の一部の地域で廃棄物収集の改善が見られたものの、経済発展や都市化、ライフスタイルの近代化に伴い、各国の廃棄物量は増加の一途をたどっていた。農村部や離島など様々な地域で同様のサービスを提供できないこと、人口増加や経済活動による廃棄物の増加への対応と最終処分場の整備に関する問題、リサイクル率の低さなど、各国に共通する課題も見受けられた。また、小規模島嶼国においては、廃棄物管理に携わる技術者や専門家の人数は少なく、自治体はそのスキルは限定的である一握りの担当者に頼っている。そのため、廃棄物管理をさらに強化する必要がある。

#### 5-1-2 開発政策・戦略との整合性

開発戦略の中で、廃棄物管理はそれぞれの国で改善すべき優先課題の一つとして挙げられている。本プロジェクトは、廃棄物管理強化に対する政府の継続的なコミットメントと支援を定めた全ての PICs の開発政策と合致している（詳細は ANNEX を参照）。また、本プロジェクトは、2016 年から 2025 年までの大洋州諸島地域における統合的かつ持続可能な廃棄物管理および汚染防止・制御のための包括的な長期戦略である広域セクター戦略「クリーナー・パシフィック 2025」にも整合性がとれている。

### 5-2 整合性

COVID-19 の感染拡大時には、多くの協力が計画通りに進まなかったが、日本の ODA 政策、日本の他のスキーム、他の開発パートナーとの整合性という点において、このプロジェクトの整合性は高い。

#### 5-2-1 日本の ODA 政策との整合性

本事業は、日本の ODA 政策と合致している。2015 年 5 月の第 7 回大洋州諸島首脳会議 (PALM7) 福島「いわき」宣言、続く 2018 年の PALM8 では、環境の持続可能な開発、管理、保全の重要性が再確認された。首脳は、環境に配慮した廃棄物管理や 3R (リデュース、リユース、リサイクル) 政策の推進など、環境問題への包括的かつ統合的な取り組みへのコミットメントを表明した。また、日本の技術協力プロジェクト「大洋州島嶼国における固体廃棄物管理に関する地域イニシアティブの推進」(J-PRISM) の価値にも言及した。

その他、日本の大洋州島嶼国に対する国別開発協力方針が 2019 年に更新され、より統一された内容となった。支援の基本方針は、「経済・社会分野への支援を通じた持続可能な経済発展及び生活水準の向上のための支援」であり、重点分野の 1 つは「環境保全」である。最新の国別開発協力方針は、若干異なっているが (詳細は ANNEX 参照)、すべての対象国の国別開発協力方針において、環境分野の中で J-PRISM2 が認識されていた。

## 5-2-2 日本の他のスキームおよび他の開発パートナーとの整合性

### (1) 日本の他のスキームとの整合性

COVID-19 感染拡大以前より、プロジェクトは、ボランティアプログラムと連携していた。シニアボランティアや青年海外協力隊が、環境行政、廃棄物管理、環境教育の分野で派遣されており、プロジェクト活動と補完関係になっていた。

日本大使館の草の根・人間の安全保障無償資金協力との連携は有効であることが証明されている。日本大使館は効果的なプロジェクトを探し、資金を提供することで、技術協力プロジェクトや JICA ボランティアが行う活動との相乗効果を生み出すことが多い。草の根・人間の安全保障無償資金協力で提供された機材や施設の例を以下に記す。

- サモア・リサイクルセンター サモア・リサイクル廃棄物管理協会（サモア）
- ブルドーザーの提供（バヌアツ）

### (2) 他の開発パートナーとの整合性

20 年前、PICs の廃棄物管理に対する関心は低く、JICA は援助の調整を促進する必要はなかった。JICA と SPREP の推進努力により、廃棄物管理はこの地域で主流化が進み、多くの開発パートナーがこの分野で活動を開始した。

前述の通り、多くのプログラムや活動は地域ごとに行われているが、プロジェクトオフィスが SPREP 内にあることは、ドナー間のコミュニケーションを円滑にするのに役立っている。以下は、この地域で行われている主なプログラムや活動の一覧となっている。

- EU から支援を受けている PacWastePlus (PWP)
- フランス開発庁 (AFD) の資金提供による「大洋州地域における持続可能な廃棄物対策 (SWAP)」。
- 地球環境ファシリティ (GEF) & 国連環境計画 (UNEP) が資金提供する「小島嶼開発途上国における持続可能な低・非化学物質開発の実施 (ISLANDS)」(2021-2026)。
- 豪州援助による、大洋州ゴミプロジェクト (POLP)
- 大洋州地域インフラストラクチャー・フレームワーク (PRIF) は、地域循環ネットワーク・スコーピング・スタディを実施している。
- ADB は、「マジュロ統合都市サービス改善 (IUSI) プロジェクト」、「エベアイ固体廃棄物管理プロジェクト」(RMI)、「ホニアラ持続可能な固体廃棄物管理プロジェクト準備調査 (プロジェクト準備融資)」(ソロモン) 等に資金供与している。
- 国連開発計画 (UNDP) が資金提供する廃棄物回収プログラム (CERO Waste) のための循環型経済。
- 国際自然保護連合 (IUCN) が資金提供する「プラスチックゴミのない島」構想ソリューション
- 英国が支援する環境・漁業・水産養殖科学センター (CEFAS) supported by United Kingdom (UK)
- ソロモンのための「強いビジネス」(オーストラリア援助による資金提供)

### 5-3 有効性

COVID-19 の影響によりプロジェクト中盤に大幅な遅れが生じたが、プロジェクト目標の達成見込み及びアウトプット達成への寄与を考慮すると、本事業は比較的有效であると評価される。

#### 5-3-1 プロジェクト目標の達成度 (詳細は ANNEX を参照)

本プロジェクトにおいては、正式な中間レビューが行われず、COVID-19 感染拡大中は、多くの活動が行われなかったため、PDM のレビューと各 JCC による承認が遅れた。しかしながら、感染拡大による困難を反映した PDM の最終調整が行われ、「3-3 プロジェクトの目的」で説明したように、現在のアウトプットの達成度から考えて、プロジェクト目標はプロジェクト終了までにほぼ達成されると思われる。有効な指標の大半は既に完全またはほぼ達成されており、インタビューやアンケートに答えた専門家や C/P の大多数が、プロジェクト目標が達成できると確信していた。

しかしながら、プロジェクト目標の達成度を評価するための指標のいくつかは、検証が困難となっており、(他の指標に重きを置く、条件を追加する等) 達成度をより包括的に評価した。

#### 5-3-2 アウトプットのプロジェクト目標への貢献

各 PDM において、アウトプットとプロジェクト目標のロジックが確認され、アウトプットはプロジェクト目標の達成に寄与していることが再確認された。しかしながら、一部の PDM では、プロジェクト目標の指標がアウトプットの一部でしか達成されておらず、PDM のレビューのプロセスで指標の修正・追加が適切に行われていないように見受けられた。

本プロジェクトは、9つの国別 PDM と地域協働活動の PDM で構成されている。地域協働活動では、国境を越えた課題を扱っているが、ミクロネシアの3カ国だけが地域とリンクしたアウトプットを含んでおり、メラネシアとポリネシアの他の6カ国は、CP2025 と直接的または間接的にリンクしたそれぞれのアウトプットで、国特有の課題に個別に取り組んでいる。

#### 5-3-3 他の貢献要因・阻害要因

9つの国別 PDM と地域協働活動の PDM を加えた個別の10 PDM の中で、具体的な貢献・阻害要因は特定されていない。しかしながら、グループ2の国々(メラネシア、ポリネシア)においては、広域プロジェクトとして、各国と広域を結びつけるコンポーネントが PDM に含まれていなかったため、地域協働活動プロジェクトと国別 PDM(メラネシア、ポリネシア)との連携が弱かったと考えられる。

### 5-4 効率性

今回の調査では、COVID-19 感染拡大という特有な事態であったため、「効率性」の判断は行わなかったが、アウトプットの達成レベル、アウトプットを達成するためのインプットの適切性、地域協働活動の活用については、その内容を検証した。

#### 5-4-1 アウトプットの達成

全体として、「3-2 アウトプット」に記載されているように、アウトプットはほぼ達成された。

#### 5-4-2 インプットの適切性 (詳細は「3-1 インプット」参照)

日本側、SPREP/大洋州側双方からのインプットは、ほぼ適切であったが、COVID-19 感染拡大を受け、プロジェクト関係者全員が多くの変更と不規則な投入に直面し適応しなければならなかった。

##### (1) 日本側

JICA 専門家: JICA 専門家の派遣は、投入のタイミング的にも量的にも、感染拡大以前はほぼ適切であった。しかし、プロジェクトの初期段階でプロジェクトオフィス専門家が何度か交代したことは、プロジェクトの円滑な実施に影響を及ぼした可能性がある。

JICA 専門家の質に関しては、短期・長期ともに SPREP と C/P から高い評価を受けている。

機材: プロジェクトで提供された機材は非常に高く評価され、プロジェクト活動に活用されているが、一部の機材は計画にはないものとなっている。

研修: 本邦研修は、COVID-19 の感染拡大前までしかなく、2021 年のプロジェクト活動再開後は、ほとんどの研修はオンラインで開催せざるを得なかった。

パラオ、FSM、RMI を対象とした「廃棄物収集車・重機適正管理研修」(詳細は ANNEX 参照) は、COVID-19 関連の渡航制限によりオンラインで実施された。ビデオ(現場担当者による整備作業の様子を撮影)とオンラインセッションを組み合わせた画期的な手法で実施し、研修評価では高い評価を得た。

現地業務費: もともと計画されていた現地業務費と大きく異なったのは、現地要員の雇用であった。当初計画では、プロジェクトオフィスとの間で予定していた人員以外の現地要員を雇用する費用は含まれていなかったが、COVID-19 により JICA 専門家が現地に不在となることの弊害を軽減するために追加現地要員が雇用され。その代わりに、通常高額になる航空運賃や渡航費に関する経費が大幅に削減された。

##### (2) SPREP/大洋州側

人材の配置: ほとんどの国では、関連する経歴や経験を持つ人材が、本プロジェクトに配属されているが、一方で、廃棄物管理の経験がほとんどない C/P が配属されている国もある。メラネシア諸国では、長期間の空席と頻繁な交代が問題となっているが、C/P の数は全体的に増加し、いくつかの都市・地方都市では、廃棄物問題に取り組むために独立した廃棄物管理部門の設立が実現した。

施設の提供 SPREP 及び大半の実施機関において、JICA 専門家のために必要なオフィススペースとユーティリティが提供された。

現地コスト: 十分な根拠とデータが提供されなかったが、JICA 専門家および C/P ともに必要な予算が配分されているとの見解で一致していた。

#### 5-4-3 外部リソースの適用

「整合性」で述べたように、COVID-19 感染拡大後、開発パートナーからの支援や援助調整は減少している。しかしながら、この地域には多くの開発パートナーがおり、EU、GEF、国連機関、AFD、ADB などのドナーとの協力は不可欠であり、PWP、GEF7/ISLAND、SWAP、

CERO waste などのプログラムにより良い結果を生んでいる。

また、「草の根・人間の安全保障無償資金協力」のもと、日本大使館からプロジェクトに直接関連する設備や建物が多数提供された。

#### 5-4-4 その他の貢献・阻害要因

##### (1) 貢献要因

- SPREP 下のプロジェクトオフィス：多くのパートナーが SPREP に拠点を置いているため、他の広域プロジェクトに関する情報にも容易にアクセスできる。
- アウトプットのひとつに災害廃棄物があるが、対象国が 9 カ国の広域プロジェクトであるため、大規模な自然災害（サモアのサイクロンと洪水、バヌアツのサイクロン、トンガの火山噴火など）が発生した際、対象国に対して迅速な災害後の支援が可能になった。
- 通常であれば阻害要因に分類される移動の制約から、遠隔によるオンラインミーティングを推進せざるを得なかったため、インターネット接続さえあれば、異なる場所にいる多くのステークホルダーを一度に集めることが容易かつ安価にできるようになった。

##### (2) 阻害要因

- COVID-19 の感染拡大により、プロジェクト活動への専門家の支援が妨げられ、PDM にも適切なタイミングで改訂を行うことができなくなるなど、いくつかの活動に遅れが生じた。
- 短期専門家のレポートラインは JICA 在外事務所および本部にあり、プロジェクトオフィス/SPREP ではなかったため、一部の短期専門家とプロジェクトオフィス専門家/SPREP とのコミュニケーションが不十分になり、広域プロジェクトの利点が十分に生かされなかった可能性がある。
- 地域協働の活動の中には、各国レベルの廃棄物管理に直接影響を与えたり、活動を実施するものがあるが、その活動は国別の PDM には含まれていない。そのため、それらの活動が対象国で認識されておらず、地域協働活動を知らない C/P もおり、活動への参加意欲が低い原因となっていた可能性がある。
- SPREP/大洋州側だけでなく、日本側でもプロジェクトオフィスの専門家、JICA 本部や在外事務所・支所の職員が頻繁に交代したことは、プロジェクトの進行にマイナスの影響を与えた。
- JICA 協力で能力向上が計られた専門家が少ないため、主要な専門家・技術者が離職するたびにマネジメントシステムが崩壊し、ゼロからやり直さなければならない。主要な C/P が頻繁に入れ替わり、適切な引継ぎが行われていない国もあり、プロジェクトの進行が遅れた可能性がある。

#### 5-5 インパクト

上位目標の指標達成の見込みについては、地域協働 PDM の指標では検証できず、各国の PDM でも指標が埋まっていないため、検証可能な指標を設定する必要がある。しかしながら、様々な正のインパクトがすでに観測されている。負のインパクトは見られない。

### 5-5-1 上位目標達成の可能性

地域協働 PDM の上位目標および指標は以下の通り。

<p>上位目標（共通）： Cleaner Pacific 2025 に基づき、大洋州地域における自立的な廃棄物管理が強化される。</p>
<p>達成指標： 大洋州地域で域内協力を通じて廃棄物管理の課題が改善される。</p>

ただし、上記の指標は検証可能なものではないため、終了時評価時に全体の目標達成の可能性を検討することはできない。今後、地域協働で検証可能な適切な指標を設定する必要がある。

上位目標の検証可能な指標が国別 PDM には記載されていない。プロジェクト目標が異なるため、必ずしも地域協働と同じである必要はない。上位目標は、プロジェクトの目的が達成され、重要な前提条件が満たされた場合に、プロジェクト終了後数年（JICA の評価制度では 3 年）後に達成されることになっている。従って、プロジェクト終了前に、短期専門家と C/P が協議し、適切な指標を設定することが望まれる。

### 5-5-2 その他の正のインパクト

表 5-1 に示すように、既に様々な正の影響が確認されている。さらに正の効果が期待される。（詳細については、付録を参照）

表 5-1 その他の正のインパクト

地域／国名	正のインパクト
地域協働	<ul style="list-style-type: none"> <li>・モアナ・タカ・パートナーシップ (MTP) は SPREP と J-PRISM2 が共同で行ったもので、J-PRISM2 の 1 番目の 3R+Return 専門家が主導した。フィジー、サモア、PNG、RMI はすでに MTP の利用を開始している。</li> <li>・サモア、バヌアツ、トンガが大規模な自然災害に見舞われた際、迅速な支援が可能であった。また、世界の災害リスク指数上位 3 カ国であるバヌアツ、ソロモン諸島、トンガの国家災害管理局との緊密な連携が強化された。</li> <li>・トンガの「災害廃棄物復興計画」を主導し、災害廃棄物復興事業のフォローアップのための政府予算支援の基礎となった。</li> <li>・サモアの「国家災害管理計画 2017-2020」に「災害廃棄物」が環境部門として盛り込まれ、サイクロン「ギータ 2018」と 2020 年の「洪水」時の災害廃棄物復旧活動への政府予算支援の基礎となった。</li> <li>・リサイクル協会の設立は、当初プロジェクトの対象外であったが、サモア、バヌアツ、ソロモン、PNG、トンガの 4 つのリサイクル・廃棄物管理協会が設立され、参加することとなった。この活動により、対象国の 3R+Return ムードが盛り上がることを期待されます。</li> </ul>
パラオ	<ul style="list-style-type: none"> <li>・廃棄物収集システムの分析、計画、設定、実施、廃棄物処理場の管理など、廃棄物管理の技術分野における C/P の能力向上がみられた</li> <li>・地域によっては輸送距離が長くなるにもかかわらず、集中処分場を備えた州間収集システムの導入によって、より効率的な廃棄物収集が可能になった</li> <li>・開放型廃棄物処理場であった現州処分場の閉鎖による環境負荷の軽減</li> </ul>
FSM	<ul style="list-style-type: none"> <li>・各州の州固形廃棄物管理戦略が策定され、課題、優先順位、対策が明確になり、廃棄物管理戦略の面で改善が見られた</li> <li>・廃棄物処理業者の知識向上（データ収集など）により、収集などの改善の見える化が可能になった</li> <li>・コミュニティへの働きかけを通じて、固形廃棄物管理におけるコミュニティの責任について話し合う機会ができた。コミュニティは意識を高め、より良い廃棄物処理に気を配るようになった（ヤップ）</li> </ul>



	<ul style="list-style-type: none"> <li>自治体間収集システムによる週次収集により、収集率が向上し（運用開始1週目の収集データによる）、コミュニティでのポイ捨てが減少していることが確認された（コスラエ）</li> </ul>
RMI	<ul style="list-style-type: none"> <li>最終処分場の改善に代表されるように、固形廃棄物管理を継続的に改善するための意識と政治的コミットメントが向上した</li> <li>廃棄物管理に関する技術力の向上（CDLの運用、最終処分場の改善に関する）</li> <li>CDL制度導入によるポイ捨てが減少した</li> <li>処分場の内海への拡大による水質汚濁の防止による環境保護効果</li> </ul>
PNG	<ul style="list-style-type: none"> <li>ココポ市において、廃棄物処分場での廃棄物情報の収集と分析の重要性が以前より認識されるようになった。その結果、ココポ市の廃棄物の50%が有機物由来であることが確認されたことから、コンポストの普及活動が促進され、堆肥がココポ市の美化活動に使用されることとなった。処分場周辺のコミュニティの生活水準を向上させたほか、廃棄物管理政策や戦略の面でも多くの改善が見受けられた。その他の社会的なインパクトとしては、NCDCのコメントによると、「3R Eco School Project」といった学校活動との連携や協力により、「ゴミを無視する社会」から「ゴミを意識する社会」へと変化を促すことができたとのことである。</li> </ul>
ソロモン	<ul style="list-style-type: none"> <li>HCC 廃棄物管理課の設立。</li> <li>その収入が廃棄物管理だけに利用されず、他の用途にも支出されているものの、処分場におけるゴミ料金回収システムが確立された。</li> <li>対象州のみならず、他の州においても廃棄物管理の重要性が認識され始めている。</li> </ul>
バヌアツ	<ul style="list-style-type: none"> <li>PVCCに廃棄物管理・環境衛生部門を設置された。</li> <li>DEPCのさらなる強化に向けた組織再編が実施されている。</li> <li>GPSを活用した回収システムにより、燃料の節約や回収車の動きの管理ができるようになった。</li> <li>他地域への支援が開始された。</li> <li>廃棄物削減計画（2021-2025）最終案が策定された。</li> <li>環境教育の授業ガイダンスを策定した（教育省との連携）。</li> <li>災害廃棄物管理および国家災害管理局を支援する技術的な能力が強化された。</li> <li>廃棄物管理におけるより多くの援助協調が実施された（2021年10月にDEPC、PWP、J-PRISM2の間で容器ディポジット制度（CDS）に関する協議を行い、役割分担が決定した）</li> </ul>
フィジー	<ul style="list-style-type: none"> <li>全てのプロジェクト対象自治体の廃棄物管理計画のドラフトが作成され、継続的にモニタリングがなされている。その結果、DLGは、農村部での廃棄物収集サービスの拡大など、適切な政策の基礎を構築することに貢献した。</li> </ul>
トンガ	<ul style="list-style-type: none"> <li>ババウにおいて、これまで存在しなかった廃棄物収集システムが確立され、WALに支払われる廃棄物料金の徴収率の高さに表されるように地域住民の廃棄物管理に対する意識が向上していることが確認された。今後、他の離島であるハアパイやエウアでも同様のシステムの確立及び住民の意識向上が期待される。</li> </ul>
サモア	<ul style="list-style-type: none"> <li>回収サービスの向上（クレーム件数。苦情件数：100件→15件/月、回収率：63%→75%、苦情解決までの目安：2～7日→即時～2日、など）。通常、エンドユーザーへのプラスの影響はプロジェクト実施後何年も経ってから現れるものであるため、終了時評価時点では並外れたインパクトであると言える。</li> <li>廃棄物（レジ袋）管理規則 2018 の承認と施行：単一使用レジ袋、プラスチック製包装袋、プラスチック製ストローの禁止を施行日（2019年1月30日）とする。</li> <li>廃棄物管理に関する実績は、MNREのAnnual Reportに記載されるようになった。</li> </ul>

### 5-5-3 負のインパクト

本プロジェクトにおいては、負のインパクトは殆んど確認されなかったが、環境に対する潜在的

な負のインパクトが 1 つあり、これは地域協働活動であるサモアで報告されたが、結果として、プラスの成果および学びの機会になった。

SRWMA とのパイロットプロジェクトで使用済み油を回収・保管していたところ、老朽化・破損したドラム缶から油が漏れるという事態が発生した。プロジェクト活動が直接の原因ではないが、環境に悪影響を及ぼす可能性があるため、早急に対策を検討し、使用済み油を活用したランドファーミング技術を導入し、汚染土壌の浄化を行った。ランドファーミングの効果を見極めるには、地下水質などの定期的な分析など、研究所での科学的な分析と、高度な調整能力が必要とされる。そこでプロジェクトチームは、MNRE や SRWMA の C/P を巻き込み、こうした事故への対応に必要なノウハウの継承に努めている。

## 5-6 持続性

本プロジェクトの効果の持続性は、対象国が廃棄物管理に予算と人材の投入を継続し、SPREP が対象国の努力を継続的に支援すれば、中程度と評価される。

### 5-6-1 政策・制度面

地域協働：「Cleaner Pacific：大洋州地域廃棄物・汚染管理戦略 2016-2025」は、大洋州地域で唯一の包括的な地域廃棄物・汚染管理戦略である。2020 年に中間レビュー後に、「CP2025 大洋州地域廃棄物・汚染管理戦略実施計画 2021-2025」が策定され、2020 年 7 月に発行された。J-PRISM2 は CP2025 を支援するものであり、政治的・制度的な持続可能性が確保されることが予測される。

表 5-2 持続性 – 政策・制度面

地域・国名	政策・制度面の持続性
パラオ	<p>廃棄物管理を規定する法律や規制には、環境品質保護法 1981-RPPL No.1-58、固体廃棄物管理条例 (2013 年)、リサイクル法 2006-RPPL No.7-24、飲料容器リサイクル条例 (2009 年)、レジ袋使用削減法 2017-RPPL No.10-14 がある。国家固形廃棄物管理戦略 2017-2026 が策定、承認され、以来固形廃棄物管理における参考文書として機能している。</p> <p>国レベルでは、公共インフラ・産業・商業省 (MPIIC) 管轄の公共事業局 (BPW) が一般廃棄物の管理全般を、環境品質保護局 (EQPB) が有害廃棄物の管理を担っている。18 の各州の廃棄物管理業務は、州政府の責任である。BPW は、コロール州にある最終処分場の運営・管理と CDS の監督を担当し、バベルダオブ島の 10 州では民間業者による州間ごみ収集の監督も担当している。</p> <p>以上を踏まえて、廃棄物管理の政策・制度面は持続可能なものと考えられる。</p>
FSM 連邦政府	<p>環境・気候変動・危機管理省 (DECEN) は、国の環境政策の立案と各州の環境部局間の調整を担当している。実際の廃棄物管理は、各州の法規制に基づき、各州の機関が行っている。評価当時、連邦政府は「国家廃棄物管理戦略」を策定中であった。</p> <p>以上を踏まえて、廃棄物管理の政策・制度面は持続可能なものと考えられる。</p>
ヤップ	<p>廃棄物管理に関する主な規制には、リサイクルプログラム条例 (2014 年)、レジ袋禁止条例 (2014 年)、固形廃棄物管理条例 (2015 年)、有害物質条例 (2015 年) がある。ヤップ州固体廃棄物管理戦略 2018-2027 が策定、承認され、以来固形廃棄物管理における参考文書として機能している。</p> <p>廃棄物の収集・運搬・処理の運営管理は、公共事業運輸省 (DPW&amp;T) の監督のもとで民間企業に委託し、環境政策、環境教育、リサイクルはヤップ環境保護庁 (EPA) が担当する。</p> <p>以上を踏まえて、廃棄物管理の政策・制度面は持続可能なものと考えられる。</p>
チューク	<p>固形廃棄物管理に関する主な法律は、チューク州法においてタイトル 21 第 13 章：衛生法、タイトル 22 第 1 章：チューク州環境保護法、タイトル 22 第 3 章：ポイ捨て法、にまとめられている。2018 年に州議会でクリーン環境法が可決され、レジ</p>

	<p>袋の禁止条項が盛り込まれた。チューク州固体廃棄物管理戦略 2019-2028 が策定・承認され、以来固体廃棄物管理における参考資料としての役割を担っている。チューク環境保護庁 (EPA) は環境政策と環境教育を担当し、廃棄物の収集・運搬、処分場の運営・管理は運輸・公共事業局 (DT&amp;PW) が担当している。以上を踏まえて、廃棄物管理の政策・制度面は持続可能なものと考えられる。</p>
ポンペイ	<p>固形廃棄物管理に関連する主な法律は、ポンペイ州法のタイトル 27 第 1 章：ポンペイ州環境保護法、タイトル 27 第 2 章：公共の場及び敷地におけるポイ捨て、タイトル 27 第 3 章：飲料容器のリサイクル、タイトル 27 第 4 章：使い捨てプラスチックバッグの輸入と使用の禁止、にまとめられている。ポンペイ州固体廃棄物管理戦略 2020-2029 が策定・承認され、以来固形廃棄物管理における参考文書としての役割を担っている。ポンペイ環境保護庁 (EPA) が環境政策、環境教育、リサイクルを担当し、交通インフラ局 (T&amp;I) が民間企業による最終処分の運営・管理を監督している。廃棄物の収集・運搬は、各自治体で行われている。以上を踏まえて、廃棄物管理の政策・制度面は持続可能なものと考えられる。</p>
コスラエ	<p>廃棄物管理関連法は、コスラエ州法において、タイトル 19 第 5 章：有害物質と汚染、タイトル 19 第 6 章：廃棄物の管理とリサイクル、およびタイトル 11、第 9 章：プラスチック廃棄物の管理、にまとめられています。コスラエ州固体廃棄物管理戦略 2018-2027 が策定・承認され、以来固体廃棄物管理における参考文書としての役割を担っている。コスラエ島資源管理局 (KIRMA) は環境政策、環境教育、リサイクルを統括し、交通インフラ局 (DT&amp;I) は廃棄物の収集、輸送、処分場の運営を管理している。コスラエでは、飲料容器のデポジット制度が実施されており、KIRMA が委託した民間企業がリサイクル活動を実施している。以上を踏まえて、廃棄物管理の政策・制度面は持続可能なものと考えられる。</p>
RMI	<p>廃棄物管理を規定する主な規制には、国家環境保護法 (1984 年)、固体廃棄物規則 (1989 年)、発泡スチロールカップと皿およびプラスチック製品の禁止と容器デポジット法 (2016 年) があります。マジュロの固体廃棄物管理計画 (2019-2028)、クエゼリン環礁の固体廃棄物管理計画 (2019-2028) が策定され、承認された。国家廃棄物管理戦略は策定されておらず、その妥当性は EPA や SPREP との協議で判断する必要があります。マジュロ環礁とクワジャリン環礁の固体廃棄物管理計画は、固体廃棄物管理における参考文書としての役割を担ってきた。EPA は指定リサイクル業者として CDS を管理しているが、マジュロの MAWC とクワジャリン環礁の KALGOV とがシステムオペレーターとして契約している。マジュロでは、国営企業である MAWC が家庭ごみの収集と CDL を担当し、イバイでは、収集と CDL は地元自治体の KALGOV が担当している。以上を踏まえて、廃棄物管理の政策・制度面は持続可能なものと考えられる。</p>
PNG	<p>C/P は 3R の推進や廃棄物削減など廃棄物管理の重要性を高く認識しており、国家廃棄物管理法も存在している一方で、リサイクルや有害廃棄物の処理などの関連法規制は確立されていない。こういった追加規制を策定する必要性はあるものの、国家廃棄物・化学物質管理政策において廃棄物管理に関する方向性も示されているほか、廃棄物収集サービス提供は地方自治体が担っており、これは今後も体制が変わることはないと考えられる。従って、廃棄物管理の政策的・制度的側面は持続可能であるといえる。</p>
ソロモン	<p>プロジェクト活動実施は困難を極めたが、MECDM と HCC の C/P は、廃棄物管理に関する戦略および計画を策定した。CP2025 とも整合している NWMPCS (2016~2025 年) は、2017 年~2026 年の戦略として承認され、官報に掲載された。終了時評価実施時点において、国家開発計画で優先的に実施されている。州レベル固形廃棄物管理計画：ツラギ (セントラル州) においては SWM 計画の一部を策定し、プロジェクト終了までに完成させる予定であり、Auki (マライタ州)、Kirakira (マキラ州) がこれに続いている。</p>
バヌアツ	<p>NWMPCS (2016-2020) の改訂・更新は済んでいないものの、多くの実践的な計画が検討・策定され (NWMPCS 実施計画、PVCC と SHEFA の固体廃棄物管理計画 2021-2030、国家廃棄物最小化計画)、2021 年 5 月にポートビラ市廃棄物管理法が制定された。組織再編完了後、プロジェクトで実施した廃棄物管理に関する評価結果が NWMPCS の更新・改訂に反映されることが期待されている。</p>

フィジー	上記の「妥当性」で触れたように、廃棄物管理に関する政策は一貫しており、改善すべき重要な分野の一つとして位置づけられている。フィジーの廃棄物管理に関する包括的な政策である「国家廃棄物管理・汚染制御戦略 2018-2028 ( National Waste Management and Pollution Control Strategy 2018-2028)」は確定していないものの、廃棄物管理の重要性は変わっていないといえる。また、DOE は 2022 年 3 月に 7R 政策を打ち出している。従って、廃棄物管理の政策面・制度面において持続可能であると結論づけることができる。
トンガ	廃棄物管理に関する政策は一貫しており、改善すべき重要な分野の一つと位置づけられている。また、トンガには廃棄物管理法 (2005) があり、WAL は同法の下で効果的に廃棄物管理サービスを提供している。従って、廃棄物管理の政策面・制度面は持続可能であるといえる。
サモア	廃棄物管理に関する政策や法的支援は今後も継続していくと考えられる。NWMS2019-2023 は、2019 年に最終決定後、閣議決定された。NWMS の策定は、2010 年廃棄物管理法の中に定められたおり、大洋州地域や世界の廃棄物分野における大きな変化が引き金となったものである。サモアでは、ゴミの収集、処分場の運営、維持管理業務は民間に委託され、MNRE が監督する役割を担っている。そのため、本プロジェクトでは、MNRE がその役割を担い、民間業者を適切に監督・モニタリングするために、ごみ収集モニタリングシステムの確立 (アウトプット 2) が不可欠であった。MNRE は、2023 年に NWMS2019-2023 改訂の準備を始めており、サモアが現行バージョンの有効期限が切れる前に更新された NWMS を導入することが期待されている。

#### 5-6-2 組織面

地域協働活動：廃棄物管理に関する域内協力については、前述の通り、「クリーン・パシフィック・ラウンドテーブル」が設立され、2016 年から定期的に会合を開き、地域の廃棄物管理に関する情報を共有する枠組みを構築している。また、次フェーズの実現により、広域レベルでの一定の持続可能性が期待される。一方、SPREP 側のプロジェクト廃棄物管理担当者は 1 名と限られており、SPREP は、プロジェクトオフィスがなければ J-PRISM2 のプロジェクト活動の支援は難しい。

表 5-3 持続性 – 組織面

地域・国名	組織面の持続性
パラオ	固形廃棄物管理事業の分析、計画、実施に関して、C/P の組織的能力が強化された。プロジェクトのオーナーシップは非常に高い。BPW は廃棄物管理の運営機関として、固形廃棄物管理を推進するための能力とコミットメントを有している。また、部門間の連携や予算獲得の可能性もよい。このことは、既存の処分場から州間収集システムを利用した新しい処分場への移行において、BPW が計画を策定し実行に移したこと、M-dock 埋立地の拡張工事のための独自の資金を調達したことにも表れている。また、短期専門家が現場支援を行えない間も C/P が継続して活動を進めてきた。以上のことから、組織の持続性は高いと考えられる。
FSM 連邦政府 ヤップ チューク ポンペイ コスラエ	プロジェクト期間中に C/P 関係者の異動 (ヤップ、チューク、コスラエ)、主要関係者の長期不在 (ヤップ) などが見られた。コスラエでは、プロジェクト管理体制が必ずしもすべての関係者にとって明確でないことが確認された。技術者の不足、人材の流出 (担当者の退職) も見られる。C/P の組織能力は向上しつつあるが、固形廃棄物管理活動を維持するためには更なる強化が必要である。ヤップ州 DPW&T による埋立地の管理と改善、ポンペイ州 EPA による CDL 機材の調達、コスラエ州による IMCS の適切な管理の継続と最終埋立地の改善などの取り組みに見られるように、プロジェクトのオーナーシップは概して高いと考えられる。以上のことから、組織的側面の持続可能性は中程度であると考えられる。
RMI	C/P の組織的能力は、固形廃棄物管理事業の分析、計画、実施に関して強化されてきた。MAWC と KALGOV のマネジメント層は、固形廃棄物管理の重要性、現在の課題、必要な活動について高い認識を持っており、固形廃棄物管理の改善を進めるための能力とリーダーシップを発揮している。マジュロの最終処分場の改善を

	含む、固形廃棄物管理計画のアクションプランの実施に見られるように、本事業に対するオーナーシップは高い。以上のことから、組織の持続可能性は高いと考えられる。
PNG	組織的な面での持続可能性について特筆すべき問題はない。しかし、CEPAには十分な人的資源がなく、本事業ではC/Pを支援するために現地のアシスタントを雇用している。廃棄物管理に関するULLGの能力強化を支援する上で、CEPAのスタッフの確保は重要であると考えられる。また、NCDCは、都市間協力プログラムを通じて、他のULLGを支援する上で重要な役割を果たすことが期待される。
ソロモン	MECDMのC/Pの中には、海外で廃棄物管理に関する教育を受け、帰国してプロジェクトのリーダー格として活躍している人材が存在する。 HCCのSWM計画に基づき、WMCDが新たに設立され、マネージャーの下、献身的なスタッフが尽力している。 C/Pは、JICA専門家が現地にはいない時にも、廃棄物管理に関して他の州を支援する等、組織的な面での強い持続可能性を示している。
バヌアツ	DEPCの組織面は徐々に強化されており、長い間空席となっていた3正職員ポジションは、プロジェクト期間中に満たされた。終了時評価期間中は、組織再編中となっており、DESPはさらに強化される見込みとなっている（化学・オゾン担当を含む3名の職員が9名に増員、そのうち4名は廃棄物管理担当者）。 C/Pは、JICA専門家が不在の間でも、廃棄物収集や州レベルのSWM計画作成に関して、他州を支援する意向を示している。C/Pの時間的制約はあるものの、全てのC/Pがプロジェクトに熱心に参画しており、PVCCにWM&EH課が設立されたことにより、組織の持続性が高くなることが期待される。
フィジー	DLGと地方自治体はプロジェクトに積極的に参加しており、管理能力も十分にあり、フィジー全土で廃棄物収集サービスを拡大・確立させるためには、各自自治体の役割が非常に重要であるが、プロジェクトの主体性という点において、DLGには廃棄物管理分野の専門家がいなくても関わらず、DLGが自治体や他のステークホルダー間のつなぎ役としてプロジェクトを推進する役割を担っていることは特筆すべきことである。 プロジェクト期間中、DOEとプロジェクト専門家間で緊密かつ頻繁なコミュニケーションは見られなかった。本事業の成果をさらに向上させるためには、3R+リターン政策を含む政策枠組みの最終決定に関して、DOEの関与をより強めることが重要である。
トンガ	組織的な面では、本事業実施の持続可能性について特筆すべき問題はない。MEIDECCとMOHはそれぞれの管轄区域において固形廃棄物管理政策・システムを担当してきた。WALは実施主体としてトンガの固形廃棄物管理全般について積極的に主導している。WALは廃棄物収集サービスを普及させ、3つの主要な島（ババウ、ハアパイ、エウア）に事務所を設立したことは特筆すべきことである。
サモア	技術系C/Pは全員MNREの正職員であり、関連するポジションに配属されている。2017年2月、J-PRISM2が開始されて以来、C/Pの配置に変更はない。また、プロジェクト期間中に、C/Pに上級処分場担当者が追加された。2015年には、C/Pとして認識されているスタッフは4名（主席廃棄物管理官、上級処分場担当官、上級廃棄物計画・政策官、処分場担当官）のみであったが、本プロジェクトにおいては、6名の技術C/Pが追加されてプロジェクトが開始された。今後は、廃棄物管理の外部委託に関する監督・管理、法律の制定・施行、国際会議への出席など、あらゆる重要な要求に対応するためには、さらなる強化が必要となっている。 MNREのコミットメントにより、資格のあるスタッフの数を増やすなど、廃棄物管理の制度・書式面が強化されました。MNREは有能で献身的なカウンターパート組織として、共に活動することが期待されており、組織の持続性は高いと考えられる。

### 5-6-3 財政面

地域協働活動：他の地域機関と同様、SPREPの資金源は、加盟国からの拠出金と開発パートナーからの資金で構成されている。EUはEDF11（2017-2022）下、1,700万ユーロという最大の資金提供を約束しており、2020年末時点でも700万米ドル以上が利用可能となっている。プログラム/ドナーファンドの収入については、廃棄物管理・公害対策は、2,424,287USD（2019年）から3,019,

346USD（2020年）に予算が増えている。これは、このセクターに対するドナーの強い関心を示している。

表 5-4 持続性 – 財政面

地域・国名	財務面の持続性
パラオ	BPW の 廃棄物管理部門の運営費は、CDL デポジットの 25%ですべて賄われており、その枠組みは国家予算から独立している。廃棄物の収集と処理には利用者負担はない。CDL の収入は、CDL 対象品目の輸入量に影響されるが、COVID-19 などの危機により影響を受ける可能性がある。予算は現在の固形廃棄物管理を維持するためには確保されたが、CDL を唯一の予算源として頼るには安定性に欠ける。長期的な財政的持続可能性のためには、予算確保のための追加的な方法を探ることが必要であると思われる。財政的な持続可能性は中程度と考えられる。
FSM	同国の経済は、自由連合協定に基づく米国からの資金援助に大きく依存している。基金の中の小規模セクター助成金（環境）は、各州の廃棄物処理に使用されてきたが、2019 年に小規模セクター助成金における方針が変更され、各州が独自に予算源を見つける必要が生じ、難しい調整が必要となった。州予算を利用することになったが、ヤップの場合、州予算が承認されず、プロジェクト活動に直接的な影響が出た。今後、米国が同国に対して財政支援を続けるかどうかは不明であるが、固形廃棄物管理の分野では持続的な資金調達が求められる。財政的な持続可能性は低いと考えられる。
RMI	MAWC の運営には、政府から高い補助金が出されている。CDS リサイクルシステムは、1 セントの手数料（デポジット額とリファンドの差額）を通じて MAWC に収入をもたらす上、アルミ缶の販売も追加収入を生み出す。CDS リサイクル事業で発生した余剰金は、MAWC の他の廃棄物サービスにも充てられる。MAWC はバトカンのゴミ捨て場でわずかな料金を徴収している他、商業用廃棄物回収にも料金を徴収している。 クワジャリンについては、廃棄物収集と廃棄物処理場は、RMI 政府から補助金を受け、KALGOV によって運営されている。イバイの場合は、CDS のもとでまだ換金所が運営されておらず、廃棄物の収集料金も処分料金も徴収されていないため、廃棄物管理サービスによる収入は得られていない。 米国が自由連合協定に基づき同国への財政支援を続けるかどうかは不明だが、固形廃棄物管理の分野では更なる財政的持続可能性が求められると思われる。廃棄物収集が住民に無料であるという既存のシステムを見直す必要が出てくる可能性もある。財政的な持続可能性は中程度と思われる。
PNG	NCDC による廃棄物管理分野の予算確保は可能であると考えられる。しかしながら、他の自治体の財政状態は脆弱であり、廃棄物管理活動への優先的な予算配分は困難な場合が多い。
ソロモン	WMCD の設立と処分場におけるゴミ処分費用徴収の導入は、プロジェクトの持続可能性に大きく貢献している。しかしながら、徴収された収入は、廃棄物管理専用ではなく、プロジェクト活動の予算確保や処分場の重機不足は依然として大きな課題となっている。 COVID-19 感染拡大により、ソロモンは急激な予算削減（政府全体で 50% の給与カットなど）に直面した。そのため、財政的な持続可能性を確保することは容易でないと予想され、JICA からの継続的な支援が切実に求められている。
バヌアツ	PVCC は常に財政難に直面していたが、プリペイド式ゴミ袋（Yellow Bag）制度の再導入に成功し、ある程度の財政的安定を確保することができた。さらに、市の助役が廃棄物管理に詳しく、力を入れるようになっていく。PVCC および SHEFA の SWM 計画は PVCC によって策定、承認され、廃棄物管理は PVCC のビジネスプランの一部となっている。しかしながら、Yellow Bag スキームやゴミ処理場のゲートフィーからの収入は、廃棄物管理だけに使われるわけではなく、必要不可欠な重機やそのスペアパーツの交換・購入のための資金も引き続き確保されるようにする必要がある。 COVID-19 の発生後、バヌアツは収入不足に陥りましたが、国際国境が観光客に開放されれば、ある程度の財政的持続可能性を確保できる可能性がある。
フィジー	フィジーにおける廃棄物収集サービスの予算は一般的に十分とは言えないものの、政府は毎年固形廃棄物管理に関する予算措置をとっており、今後は十分な予算

	が計上されることが期待される。財政面では深刻な持続可能性の問題はないが、サービスの拡大や全国に適切な処分場を整備する際には、追加的な資金措置が必要となる。
トンガ	廃棄物料金が電気料金の支払いに上乗せされる形で同時に徴収されるようになったことで、WAL は安定的に独立した収入源を手に入れ、業務を円滑に進めることが可能となった。 政府は固形廃棄物管理に関する予算を現在の活動の範囲内で確保する見込みであるものの、新規での廃棄物処分場の開発や廃棄物収集車の新規購入など、追加活動の際には、政府からの追加資金が必要となる。今後、廃棄物管理はサービス範囲の拡大が見込まれるため、この点については綿密に検討する必要がある。
サモア	今後も MNRE は、外部委託している処分場の運営や維持管理、廃棄物収集業務に必要な予算を配分していくと考えられる。しかしながら、廃棄物処理には土地やインフラ、重機、収集車、燃料などが必要であり、決して安いものではない。そのため、MNRE は財政安定のために追加予算の確保が必要であると認識している。 MNRE は、成果3「財務オプション（ユーザーペイシステム）に関するフィージビリティスタディの実施」にあるように、「プリペイドバッグシステム」のようなユーザーペイシステムを構築することを検討している。 サモア政府がユーザーペイシステム導入を進めていく方向性にあるため、プロジェクトの財政的な持続可能性は高いと考えられる。

#### 5-6-4 技術面

地域協働活動： COVID-19 感染拡大時のコミュニケーションギャップにもかかわらず、対象国の C/P の技術力は、COVID-19 以前に習得した知識・技術やプロジェクト専門家の遠隔支援により、SWM、処分場管理、3R+Return に関する知識が徐々に強化されており、一部の国ではプロジェクト活動で移転した知識・技術の大部分が維持されていると考えられる。しかしながら、能力強化されたスタッフの頻繁な離職や異動は、プロジェクトの持続可能性を確保する上で最も深刻な問題の一つであり、交代が起こった際には、新たに採用されたスタッフに対する研修や技術移転の強化が必要である。人材・トレーニング情報のデータベースである PIDOC が SPREP に提出されているため、今後、地域の人材強化に活用されることが期待される。

表 5-5 持続性 – 技術面

地域・国名	技術面の持続性
パラオ	C/P は、特に廃棄物収集・処分の分析、計画、設定、実施の面で技術的な知識と技術を身につけた。多くのタスクが独立して実施できるようになってきていることが確認されたが、国民意識向上のための能力開発を含め、密接な技術的助言と継続的なトレーニングが依然として必要である。技術的な持続可能性は概して高いと考えられる。
FSM	技術的な人材が不足しており、人材の離職（退職など）がみられる。専門家の技術的助言は C/P の能力開発に役立ったが、廃棄物の収集、処理、リサイクル、またコミュニティへの働きかけの分析、計画、実施など、技術専門家による継続的な能力開発が必要である。技術的な持続可能性は中程度と考えられる。
RMI	C/P の技術的能力は、バトカンの最終処分場の改善など実践的な知識の面で強化され、PDM 外の固形廃棄物管理の改善に向けた取り組みができる程になっている。しかし、小規模な運営体制では、せっかく得た技術力が人事異動で簡単に失われてしまうことが懸念される。人事異動時の引き継ぎを確実に行うとともに、得られた知識の定期的な共有が必要である。技術的な持続性は中程度と思われる。
PNG	固形廃棄物管理、処分場管理、廃棄物収集、3R の推進に関する実務面で、C/P の技術能力は着実に向上している。特に、自治体への技術移転の面では、NCDC と 4 つの地方自治体との間で合意された都市間協力プログラムを通じて、NCDC の職員が廃棄物管理に関する移転活動を円滑に実施した。
ソロモン	COVID-19 感染拡大時には、コミュニケーションギャップがあったが、C/P の技術的能力は、SWM、処分場管理、3R+Return に関する知識の面で徐々に強化されてき

	<p>ている。中核となる C/P の中には、すでに自分たちの技術や知識を州職員に普及させる能力を持っているものもある。しかしながら、能力強化されたスタッフの離職や異動はプロジェクトの持続可能性を確保する上で最も深刻な問題の一つであり、さらなる研修と技術移転が必要である。C/P へのインタビューにおいては、今後、C/P がコンセプトを実践する機会となるような、実践的な研修を検討する必要があるという意見・要望が出された。</p>
バヌアツ	<p>COVID-19 感染拡大時には、コミュニケーションギャップが生じたが、C/P の技術力は SWM、処分場管理、3R+Return コンセプトに関する計画や知識において徐々に強化されてきている。しかしながら、能力強化されたスタッフの離職や異動はプロジェクトの持続可能性を確保する上で最も深刻な問題の一つであり、中核となる C/P 数名は既に州職員にスキルと知識を普及させる能力を示しているが、さらなる研修と技術移転が必要である。インタビューに応じた C/P は、今後 C/P がコンセプトを実践する機会となるような、より実践的な演習を含む研修を希望していた。特に、処分場において、新しいセルの作り方や重機の活用・メンテナンス方法など、処分場運営に関する実践的な知識やスキルを高めるための研修が早急に必要となっている。</p>
フィジー	<p>プロジェクト活動を通じて、適時・適切にデータ管理やモニタリングなどの知識・技術が移転されたことが確認された。研修に関しては、フィジー国内での研修会に加え、ミクロネシア地域で開催された廃棄物収集車のメンテナンスに関するオンライントレーニングや廃棄物監査・分析等の研修に参加した自治体もあり、技術的な面での持続可能性という点で大きな問題は見られない。</p>
トンガ	<p>プロジェクトを通じて、多くの知識や技術が C/P に移転していることが確認された。また、WAL は離島での廃棄物管理サービスを積極的に推進しており、廃棄物管理サービスを拡大するための十分な技術力を有していることから、WAL スタッフの技術的側面に関する持続可能性に問題はない。</p>
サモア	<p>NWMS は、廃棄物管理活動を実施する上でスタッフの指針となる文書であり、年間管理計画や作業計画に活動が組み込まれるようになっている。C/P の技術的な能力は、計画、実施、報告などの基本的なスキルだけでなく、ごみ収集モニタリングシステムの革新的な開発に関する知識や理解も強化された。COVID-19 感染拡大時には、C/P は短期専門家の物理的支援を受けられなかったが、専門家の遠隔アドバイスだけでできること／すべきことを継続し、プロジェクト前半で得た技術的知識とスキルにより、活動を実施・継続することができた。</p>



## 6. 結論および提言

### 6-1 結論

本プロジェクトの実績と実施プロセスを精査した結果、全ての対象国が廃棄物管理に予算と人員を投入し続け、SPREP がその努力を支援し続けるならば、本プロジェクトは (1) 依然として妥当であり、(2) 全体の整合性は比較的高く、(3) 有効であり、(4) 正のインパクトが見られ、(5) 持続性は中程度であると判断された。

プロジェクト目標は、プロジェクト終了までにほぼ達成される見込みとなっている。したがって、2023 年 3 月に本プロジェクトを終了することが適当である。

### 6-2 提言<sup>18</sup>

プロジェクトに対する提言 (SPREP およびプロジェクトオフィス専門家)

<上位目標の指標を検証可能にするように変更することを検討する>

地域協働 PDM の上位目標および指標は以下の通り。

上位目標 (共通) :

Cleaner Pacific 2025 に基づき、大洋州地域における自立的な廃棄物管理が強化される。

達成指標:

大洋州地域で域内協力を通じて廃棄物管理の課題が改善される。

この指標を検証可能なものにするためには、「固形廃棄物管理の問題が改善された」とは何かを定義する必要がある。

代替指標の例:

- 対象国の廃棄物管理に関する国家戦略/政策が、X 件以上 (または「すべて」) 改訂または最新になっている。
- (メラネシアおよびポリネシア) 対象国各国において、少なくとも 1 都市について、国の廃棄物管理戦略・政策に基づく廃棄物管理計画が策定されている。
- プロジェクト完了 3 年後においても、XX%以上の能力強化された人材が地域内で廃棄物管理セクターに従事し続けている。
- X 国以上において、プロジェクト活動や実績が、該当組織の年次業務計画報告書に記載されている。

### SPREP に対する提言

<プロジェクト完了後に、より大きなインパクトを生み出すために>

改訂版 PIDOC を有効活用する

大洋州諸島能力開発活動データベース (PIDOC) が見直しされ、改訂版が SPREP に提出された。このツールは、大洋州-大洋州協力を貢献できる大きな可能性を秘めており、SPREP が大洋州地域における様々な廃棄物管理活動に地域の専門家を参加させるために活用することを強く推奨される。

<sup>18</sup> 国別の提言については、ANNEX を参照。

## 7. 教訓

<プロジェクトモニタリング: 品質とフォローアップの重要性>

J-PRISM2 は、9 カ国が参加する 6 年間の複雑なプロジェクトであるが、非公式な内部中間レビューが行われただけで、プロジェクト後半の実施には、あまり影響することがなかったと考えられる。

プロジェクトの進捗を定期的にモニターし、問題点を早期に発見することは非常に重要である。そのため、J-PRISM のような大規模で複雑なプロジェクトについては、プロジェクトの中間地点において、その進捗状況や課題を PDM に反映するために、モニタリングシートを利用した総括的なレビューを実施することが推奨される。

<プロジェクト・デザイン (検証可能な指標) >

本プロジェクトの終了時評価を実施するにあたり、検証することができない指標が散見するなど、問題のある PDM がいくつかあり、プロジェクトの達成度を評価することが非常に困難であった。

- ロジックの確認

いくつかの PDM では、プロジェクト目標の指標が 1 つのアウトプットを達成することで達成できるものがあった。活動とアウトプット、アウトプットとプロジェクト目標の関係は論理的に接続され、その関係が検証可能な指標に反映されている必要がある。

- 客観的に検証可能であり適切な指標の設定

検証可能な指標は、PDM 中、アウトプット、プロジェクトの目的、上位目標の達成度を評価するために設定されており、客観的かつ具体的であること、目標達成のタイミングを含み、(可能な限り) 定量的であることが必要となっている。

- PDM の変更・改訂が必要な場合、ステークホルダーや評価担当者に確認する。

多くの場合、プロジェクト開始時に PDM を状況に合わせて調整・変更する必要がある。変更した場合には、プロジェクトのロジックを再確認・検討し、指標の追加や削除を行う。その際、ステークホルダーや評価担当者 (評価ユニットやコンサルタント) も含め、論理や指標が妥当かどうかを確認することを提案する。

- C/P の能力開発結果を可視化できるような指標を盛り込む。

JICA の技術協力プロジェクトでは人材育成が重視されていることもあり、外部要因に左右されにくい C/P の能力開発を可視化できるような指標を追加することが望ましい。

<プロジェクト実施体制>

ハイブリッド型 (広域活動やプロジェクト運営は、直営の長期専門家、各国活動の実施は、コンサルタント (短期専門家) のグループという組み合わせ) の場合には、プロジェクトの実施体制をどのようにするか、一層の注意を払う必要がある。

プロジェクトオフィスはプロジェクト全体を監督する役割を担っているが、本プロジェクトでは、プロジェクトオフィスと短期専門家グループが並行して活動し、十分なコミュニケーションが取られていない国もあり、広域プロジェクトであることの利点が十分に生かされていなかった。実施体制としては、両者が同じ目標に向かって結束し、プロジェクトオフィスまたは短期専門家の

どちらかが対象国で行った活動が、それぞれの国で認識されるような実施体制にする必要がある。

#### < COVID-19 関連の教訓 >

- 海外渡航禁止もしくは国境封鎖になった場合の対応策を予め盛り込んでおく。  
今後とも、COVID-19 や他の伝染病や自然災害発生、国際情勢の変化により、同様のことが起こる可能性があるため、専門家の長期出張が不可能な場合は、現地で活動を支援、プロジェクトが継続していくことができる人材を含めておく必要がある。
  
- 事務的な目的のオンラインミーティング利用を継続する  
COVID-19 感染拡大以前には、9 カ国（一部の国では州）間の距離が大きな課題の一つであった。しかしながら、オンラインミーティングを利用することで、事務的な集まりや情報共有が容易になった。  
オンライン研修は、対面研修や専門家による OJT ほどの効果的ではないと考えられるが、物理的に距離がある人々を結び付けるという大きな利点があるため、今後も、適用可能である場合には、オンラインミーティングやハイブリッド型（対面ミーティングとオンライン参加者）ミーティングを継続して利用していくことが望ましい。

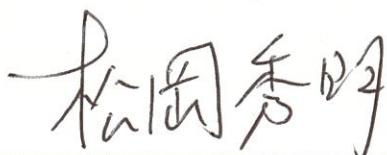
**MINUTES OF MEETINGS  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
SECRETARIAT OF THE PACIFIC REGIONAL ENVIRONMENT PROGRAMME  
ON  
JAPANESE TECHNICAL COOPERATION PROJECT FOR  
PROMOTION OF REGIONAL INITIATIVE ON SOLID WASTE MANAGEMENT  
IN PACIFIC ISLAND COUNTRIES PHASE II (J-PRISM 2)**

The Terminal Evaluation Team (hereinafter referred to as “the Team”), organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) conducted the on-line survey for the terminal evaluation on the Japanese Technical Cooperation Project for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II (J-PRISM 2)” (hereinafter referred to as “the Project”) jointly with Secretariat of the Pacific Regional Environmental Programme (hereinafter referred to as “SPREP”) from May to July, 2022.

During the survey, the Team assessed the achievements of the Project by conducting the intensive study and analysis of the activities, as well as having a series of discussions and interviews with the authorities concerned.

As a result of the discussions, the Team and SPREP agreed upon the matters in the Terminal Evaluation Report attached hereto.

Apia, Samoa, September 16, 2022



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Mr. Hideaki MATSUOKA  
Leader  
Terminal Evaluation Team  
Japan International Cooperation Agency  
(JICA)



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Ms. Easter Chu Shing  
Deputy Director General, Governance and  
Operations  
Secretariat of the Pacific Regional  
Environment Programme (SPREP)

Attachment: Integrated Terminal Evaluation Report

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ATTACHMENT

**INTEGRATED TERMINAL EVALUATION REPORT**

**ON**

**JAPANESE TECHNICAL COOPERATION PROJECT FOR  
PROMOTION OF REGIONAL INITIATIVE ON SOLID WASTE  
MANAGEMENT IN PACIFIC ISLAND COUNTRIES PHASE II  
(J-PRISM2)**

**Apia, July 29, 2022**

**JICA – SPREP Joint Terminal Evaluation Team**

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## Abbreviation / Acronyms

3R	Reduce, Reuse, Recycle
ADB	Asian Development Bank
AFD	Agence Française de Développement
CDL	Container Deposit Legislation Container Deposit Levies
CDS	Container Deposit Scheme
CEO	Chief Executive Officer
COVID-19	COrona VIRUS Disease of 2019
C/P	Counterpart
DWM	Disaster Waste Management
EDF	European Development Fund
EU	European Union
E-waste	Electrical and electronic waste
FSM	Federated States of Micronesia
GEF	Global Environment Facility
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
JOCV	Japan Overseas Cooperation Volunteers
J-PRISM	Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries
MM	Man Month
M/M	Minutes of Meeting
MOU	Minutes of Memorandum
NGOs	Non-Governmental Organizations
NSWMS	National Solid Waste Management Strategy
NWMPCS	National Waste Management and Pollution Control Strategy
NWMP	National Waste Management Plan
ODA	Official Development Assistance
OJT	On the Job Training
O&M	Operation and Maintenance
PALM	Pacific Islands' Leaders Meeting
PDCA	Plan, Do, Check, Action
PDM	Project Design Matrix
PET	Polyethylene terephthalate
PIC	Pacific Island Countries
PNG	Independent State of Papua New Guinea
PO	Plan of Operation

POLP	Pacific Ocean Litter Project
POPs	Persistent Organic Pollutants
PRIF	Pacific Regional Infrastructure Facility
PWP	Pacific Waste Plus
R/D	Record of Discussions
RMI	Republic of the Marshall Islands
SPREP	The Secretariat of the Pacific Regional Environment Programme
SWM	Solid Waste Management
TOR	Terms of Reference
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
USAID	US Agency for International Development
USD	United States Dollar
WB	World Bank
WG	Working Group

#### Palau

BPW	Bureau of Public Works
BPW-SWM	Bureau of Public Works – Solid Waste Management
EQPB	Environmental Quality Protection Board
ICETT	International Center for Environmental Technology Transfer
KSG	Koror State Government
KSG-SWM	Koror State Government – Solid Waste Management
MPIIC	Ministry of Public Infrastructure, Industries and Commerce

#### Federated States of Micronesia (FSM)

DECEM	Department of Environment, Climate Change and Emergency Management
DPW&T	Department of Public Works and Transportation
DT&I	Department of Transportation and Infrastructure
DTPW	Department of Transportation and Public Works
EPA	Environmental Protection Agency
FSM	Federated States of Micronesia
IMCS	Inter-Municipal Collection System
KIRMA	Kosrae Island Resource Management Agency
KTG	Kolonia Town Government
OEEM	Office of Environment & Emergency Management
OIA	Office of Insular Affairs
PWMS	Pohnpei Waste Management Service

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SSWMS State Solid Waste Management Strategy  
T&I Office of Transportation and Infrastructure

Republic of the Marshall Islands (RMI)

EPA Environmental Protection Authority  
KALGOV Kwajalein Atoll Local Government  
MAWC Majuro Atoll Waste Company  
MWIU Ministry of Works, Infrastructure and Utilities (MWIU) Ministry of Public Works  
NWMS National Waste Management Strategy  
OEPPC Office of Environmental Planning and Policy Coordination  
RMI Republic of the Marshall Islands  
SWMP Solid Waste Management Plan

Independent State of Papua New Guinea (PNG)

CEPA Conservation and Environment Protection Agency  
NCD National Capital District  
NCDC National Capital District Commission  
PGK Kina (Papua New Guinea currency)  
PNG Independent State of Papua New Guinea  
ULLG Urban Local Level Government  
UNEP United Nations Environment Programme

Solomon Islands (Solomon)

HCC Honiara City Council  
GTC Gizo Town Council  
LEAF Learning and Ecological Activities Foundation for Children  
MECDM Ministry of Environment, Climate Change, Disaster Management and Meteorology  
MHMS Ministry of Health and Medical Services  
NDS National Development Strategy  
NWMPCS National Waste Management and Pollution Control Strategy  
SBD Solomon Dollar (Solomon Islands currency)  
SOPE State of Public Emergency  
WMCD Waste Management and Control Division

Republic of Vanuatu (Vanuatu)

DEPC Department of Environmental Protection and Conservation  
DSPPAC Department of Strategic Policy, Planning & Aid Coordination  
IUCN International Union for Conservation of Nature  
LMC Luganville Municipal Council



NWMPCS	National Waste Management and Pollution Control Strategy
PVCC	Port Vila City Council
SLO	State Law Office
UNDP	United Nations Development Programme
VUV	Vatu (Vanuatu currency)
WM&EH	Waste Management & Environmental Health Division

#### Republic of Fiji (Fiji)

7R	Reduce, Reuse, Recycle, Refuse, Repair, Regenerate, Return
DLG	Department of Local Government
DOE	Department of Environment
LCC	Lautoka City Council
NTC	Nadi Town Council
NWMPCS	National Waste Management and Pollution Control Strategy

#### Kingdom of Tonga (Tonga)

MOH	Ministry of Health
MEIDECC	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications
NUDSP	Nuku'alofan Urban Development Sector Project
TOP	Pa'anga (Tonga Currency)
TSDF	Tonga Strategic Development Framework
WAL	Waste Authority Limited

#### Independent State of Samoa (Samoa)

CEO	Chief Executive Officer
DEC	Division of Environment and Conservation
MNRE	Ministry of Natural Resource and Environment
MWCSD	Ministry of Women, Community and Social Development
NSWMS	National Solid Waste Management Strategy
NWMS	National Waste Management Strategy
SRWMA	Samoa Recycling and Waste Management Association

*[Handwritten signature]*



## 1. Introduction

### 1-1 Background of the Project

Over several decades, waste has become one of the major concerns for small island countries in the Pacific region because of severe challenges in coping with the increasing volume and changing characteristics of urban and industrial wastes. Improper waste management has potential to pose a significant negative impact on public health, water and food supply, ecosystems, tourism and trade, resources, and even climate change, which threaten sustainable development in this region. Such unique constraints as geographical isolation, limited resources and small economic scale, and dependence on foreign aid and imported goods have made management of solid waste more difficult for Pacific Island Countries (PICs).

JICA has been assisting PICs in terms of solid waste management in collaboration with the Secretariat of the Pacific Regional Environment Programme (SPREP). Regarding the previous J-PRISM project, successive technical cooperation programmes contributed to raising capacity of local counterparts. They even became essential resource persons not only in their respective countries but also in the surrounding countries in the region, as experts or trainers. Also, a “3R + Return” concept has been promoted during the J-PRISM project.

Followed by J-PRISM, under the Pacific Regional Waste and Pollution Management Strategy (2016-2025) as Cleaner Pacific 2025, JICA has commenced “Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management, Phase II (J-PRISM2)” in partnership with the responsible agencies of the waste management of nine target countries (Palau, FSM, RMI, PNG, Solomon Islands, Fiji, Vanuatu, Tonga and Samoa) and SPREP. Human resource exchange programmes under J-PRISM2 are expected to create a more effective and efficient regional system to promote regional and south-south cooperation in waste management and to contribute to realizing the “3R+Return” concept, proper organic waste treatment, effective/efficient resource recycling, and appropriate disposal within and across the countries.

### 1-2 Outline of the Project

The Overall Goal, the Project Purpose and the Outputs written in the current Region-Wide PDM are as follows:

#### <Overall Goal>

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

#### <Project Purpose>

Integrated Project Purpose: The human and institutional capacity base for sustainable Solid



Waste Management in the Pacific Region is strengthened through the implementation of the "Cleaner Pacific 2025".

<Project Period>

February 2017 - March 2023

The original project period was five years from February 2017 to February 2022, but it was extended till September 2022 for each country and March 2023 for regional activities due to the delays caused by the outbreak of COVID-19.

1-3 Members and Schedule of the Terminal Evaluation

The Terminal Evaluation Team (hereinafter called "the Team") consists of the following members:

<Pacific Side>

Name	Role/Responsibility	Position/Affiliation	In charge of country/region
Mr. Anthony TALOULI	Leader	Director, Waste Management and Pollution Control Programme, SPREP	Overall and all countries
Mr. Joshua SAM	Evaluation Analysis	Hazardous Waste Management Adviser, Waste Management and Pollution Control Programme, SPREP	All target countries

<Japanese Side>

Name	Role/Responsibility	Position/Affiliation	In charge of country/region
Hideaki MATSUOKA	Leader	Director, Environmental Management Team 1, Environmental Management Group, Global Environment Department, JICA	Overall and SPREP
Shiro AMANO	Waste Management	Senior Advisor, Environmental Management Group, Global Environment Department, JICA	Overall and SPREP
Koji MAESHIMA	Cooperation Planning	Deputy Director, Environmental Management Team 1, Environmental Management Group, Global Environment Department, JICA	Fiji, Samoa, Tonga
Yutaka FUKASE	Cooperation Planning	Senior Assistant Director, Environmental Management Team 2, Environmental Management Group, Global Environment Department, JICA	PNG, Solomon, Vanuatu
Noriko YAMADA	Cooperation Planning	Technical Advisor, Office for Climate Change, Environmental Management Group, Global Environment Department, JICA	FSM, Palau, RMI
Atsuko ORIMOTO	Evaluation Analysis	Senior Consultant, Consulting Division, Japan Development Service Co., Lt d.	Overall, SPREP, Samoa, Solomon, Vanuatu
Keisuke NISHIKAWA	Evaluation Analysis	Senior Manager, QUNIE CORPORATION	PNG, Fiji, Tonga
Sugumi	Evaluation	Consultant, Japan Development Service Co.,	FSM, Palau, RMI

TANAKA	Analysis	Ltd.	
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The evaluation study was conducted as following schedule:

<Schedule>

Date	Contents
11 <sup>th</sup> May	Kick-off meeting in the evaluation team
16 <sup>th</sup> May to late May	Distribution and collection of questionnaires to related organizations
16 <sup>th</sup> May to early June	Interviews with Related organizations, collection of necessary data and follow-up on questionnaire responses
Middle of June	Completion of first draft of each country's version of the report (in English) and taking feedback comments
Early July	Completion of each country's version of the report (in English)
Early July	Completion of first draft of joint evaluation report (in English) and taking feedback comments
Middle to late July	Completion of joint evaluation report (in English and Japanese)

## 2. Objectives and methods of the evaluation

### 2-1 Objectives of the evaluation

The main objectives of the terminal evaluation were to:

- examine the status of results achieved and the project implementation process;
- assess if the project is likely to achieve the project purposes before the end of the project implementation period;
- evaluate the progress and accomplishment in accordance with the six evaluation criteria (relevance, coherence, effectiveness, efficiency, impact and sustainability);
- identify promoting factors and inhibiting factors that affected the project implementation; and
- extract lessons learned that may inform future programs.

The Team reviewed individual country PDMs and regional collaboration activities. The evaluation of the country PDMs is annexed to this report, which outlines the achievement, challenges and good practices of the country PDMs. The analysis of the country PDMs and regional collaboration activities together gave light to the assessment of the achievement level of the regional project goal “sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025)”.

This project has been implemented with an integrated approach with other cooperation projects by Japanese government, such as subject-specific training, grassroots technical cooperation, grassroots grant aid. In addition, various new actors such as other development partners and private companies were involved in the waste management sector in Pacific Island Countries in recent years. As such, the collaboration and cooperation with other projects, schemes and actors were assessed in terms of efficiency (the use of external resources) and coherence (synergy and complementarity).

JICA has a long history of supporting the waste management in Pacific Island Countries, which has contributed to the mainstreaming of waste management as an important development issue. The Team reviewed the role played and contribution made by J-PRISM2 as a regional project, and extracted lessons learned that may inform future programs.

In addition to the basic areas of waste management, such as waste collection, transportation and final disposal, J-PRISM2 has also supported recycling and creation of a circular economy. The evaluation was also made to assess the achievement level in 3R + Return in Pacific Island Countries that are typically characterized by remoteness, isolation, and limited land mass.

The project was also implemented in the backdrop of COVID-19 in the second half of the implementation period. The evaluation therefore includes the review of the impact of COVID-





19 on the project progress and achievement, as well as innovations propelled by the travel restriction.

## 2-2 Methods of the evaluation

### 2-2-1 Examination of the project performance and implementation process

The evaluation was conducted jointly by JICA and SPREP. Documents analysed included the latest Project Design Matrix (PDM), the Plan of Operation (PO), monitoring sheets, progress reports, and different thematic and training reports. The Team undertook online interviews with key personnel of the counterparts and relevant actors. Actual inputs, activities and the implementation process were reviewed and the achievement levels of outputs and project purposes were assessed against the indicators of the latest PDM and the PO. The results achieved were evaluated against 6 evaluation criteria (relevance, coherence, effectiveness, efficiency, impact and sustainability).

There was no formal mid-term review of the project. As such, the terminal evaluation reviewed the project performance in the entire project duration.

### 2-2-2 Six Evaluation Criteria

The six evaluation criteria is listed in the following table.

**Table 2-1 Six Evaluation Criteria**

Items	Definitions
Relevance	The extent to which the intervention objectives and design respond to beneficiaries, global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change.
Coherence	The compatibility of the intervention with other interventions in a country, sector or institution.
Effectiveness	The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups.
Efficiency	The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way.
Impacts	The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.
Sustainability	The extent to which the net benefits of the intervention continue, or are likely to continue.

(Source: <https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>)

## 2-3 Limitation of the Survey

The evaluation was conducted solely through remote surveys, based on the information provided by C/Ps, short-term experts, JICA oversea offices/branches, Project Office, headquarters, and interviews with relevant actors. As such, the quantity and quality of the information obtained varied from country to country, and it was difficult to maintain uniformity

among the country reports. The evaluation team also wished to make the best use of information obtained from each country rather than trying to make homogenous country reports.

Despite significant effort made to set up interviews and collect questionnaires, the responses were limited in some countries. Poor internet connection was a barrier to conducting interviews in some countries. Lacking information from some actors and stakeholders, the overview of the project achievement and process in this evaluation may not have captured the entirety of the project implementation process and the results obtained. To compensate the lack of on-site survey, the Team made efforts to verify the information obtained from multiple sources wherever possible.

The project experienced high turnover both at the project office and at the headquarters. Only one Samoan assistant chief advisor was involved in the project for the entire six years. As such, there were very few holders of historic information available. It is possible that some information on the situation in the early state of the project may not have been sufficiently captured, especially regarding the Region-Wide Activities.

A handwritten signature in black ink, followed by a blue circular stamp or mark.

### 3. The Project Performance

#### 3-1 Input

The Team reviewed the accomplishments of the Project in accordance with the plan described in the R/D (including the PDM and the PO) for each target country.

#### 3-1-1 Japanese side

##### (1) Experts

<In country>

As of April 2022, total of 317 man-month (M/M) of JICA experts have been dispatched for the project as shown in Table 3-1 and Table 3-2.

**Table 3-1 Dispatch of the JICA Experts in Each Country**

	Country Name	Short-term experts	Long-term experts (Sub regional coordinator <sup>1</sup> )	Remarks
G1	Palau	52.64M/M for the 3 countries of Micronesia region	24 M/M (based in Palau)	7 Short-term Experts including 1 expert on CDL and 1 expert of vehicle and heavy machinery maintenance
	FSM			
	RMI			
G2	PNG	22.42 M/M	24 M/M (based in Solomon)	
	Solomon	18.31 M/M		
	Vanuatu	22.75 M/M		
	Fiji	16.07 M/M	24 M/M (Training/ Project Coordinator, based at the Project Office, Samoa)	
	Tonga	14.78 M/M		
	Samoa	24.26 M/M <sup>2</sup>		
Sub-Total		171.23 M/M	72 M/M	

**Table 3-2 Dispatch of the JICA Project Office Experts**

No.		Dispatched period	Remarks
1	1 Chief Advisor	43 M/M	4 Chief Advisors' total.
2	1 Solid Waste Management/ Monitoring	22 M/M	
3	1 3R+Return	12 M/M	
4	1 Monitoring/3R+Return	23 M/M	Successor of Monitoring (No.2) and 3R+Return expert (No.4)
5	1 Project Coordinator	12 M/M	
6	1 Regional Coordination/ Project Coordinator	34 M/M	Successor of Project Coordinator (No.5) and Training/Project Coordinator (Table 3-1)
(7)	(1 Assistant Chief Advisor <sup>3</sup> )	(26 M/M)	(Approximate figure, calculated based on the materials and interview.)
Sub-Total		146 (+26) M/M	

<sup>1</sup> Only first two years of the project.

<sup>2</sup> Including 1.27 M/M contribution by Kokusai Kogyo Co., Ltd.

<sup>3</sup> National Expert, therefore, the cost included in Local Cost.

<Remote work>

As of April 2022, total of 144.12 M/M of JICA experts have worked remotely for the project as follows:

Short-term experts for Group 1: 34.40 M/M for FSM, Palau and RMI

Short-term experts for Group 2: 50.72 M/M for PNG, Solomon, Vanuatu, Fiji, Samoa and Tonga

Project Office experts: 59 (+32<sup>4</sup>) M/M

## (2) Training in Japan

Trainings in Japan were held before the border closure due to the COVID-19 pandemic in 2020.

**Table 3-3 List of Trainings in Japan<sup>5</sup>**

	Title of the training	Number of C/Ps	Remarks
1	Comprehensive Waste Management (D)	4	Solomon (1), PNG (3)
2	Enhancement of Solid Waste Management Capacity (Advance, Planning & Policy) (A)	6	Solomon (1), Vanuatu (1), Samoa (2), PNG (2)
3	Enhancement of Solid Waste Management Capacity (Advance, Planning & Policy) (B)	1	PNG (1)
4	Design and Maintenance of Semi Aerobic Landfill Site (Fukuoka Method)	3	PNG (3)
5	Advancement of Solid Waste Management Technologies (Advance, Technique) (B)	1	PNG (1)
6	Improvement of Solid Waste Management Technologies (Basic Technique) (A)	3	PNG (3)
7	Collection, Analysis and Dissemination of Data regarding Solid Waste Management	1	PNG (1)
8	Urban Solid Waste Management (Emphasis on Collection, Transportation and Final Disposal) (C)	1	PNG (1)
9	Sustainable Solid Waste Management in Islands Areas(A)	6	PNG (6)

## (3) Provision of Equipment

Equipment and machinery, equivalent to approximately US\$ 796,300<sup>6</sup>, have been provided to some countries as well as for Region-wide Activities. The large items provided were an excavator (approx. USD 397,600, Vanuatu), a weighbridge (approx. USD 186,300, PNG) and a crushing machine and an extruder machine (approx. USD 111,300, pilot project, Samoa), and other equipment including disaster waste related equipment (chainsaws, tablets, PPE, etc.), drones, large monitors, etc. for the project activities. Office equipment such as photocopier, computers, laser printers, projector, etc., have been also provided to facilitate the development of waste management related

<sup>4</sup> National Expert, working remotely from New Zealand. Cost is included in the Local Cost.

<sup>5</sup> It may not include all the training information, since this is only created by the survey team with the information submitted by the project experts and C/Ps

<sup>6</sup> Converted with JICA's official exchange rate in the end of each fiscal year (1USD=106.787JPY(FY2017), 109.341JPY(FY2018), 109.485JPY(FY2019), 105.743JPY(FY2020), 115.555JPY(FY2021))



materials and reports.

#### (4) Local Cost Support

In order to carry out the project activities, total amount of approximately US\$ 2,103,589 was disbursed directly via short-term experts by the end of March 2022. The cost breakdown by each target country is shown in Table 3-4. Major cost items include the transportation cost (especially rental cars and airfare), hiring local consultants and project assistants, communication, consumable goods, etc. The airfare was dramatically dropped after April 2020; on the other hand, the amount spent on hiring consultants and project assistants had significant increase, since the JICA experts needed supports in-country to continue project activities, where possible.

**Table 3-4 Local Cost (disbursed via short-term experts by country)**

	Country	Amount in JPY	Equivalent to the US Dollars <sup>7</sup>	Major expenses, remarks
1	Palau	15,351,632	132,850	For FSM, RMI and Palau. - Consultants (53,366USD) - Rental cars (36,190USD) - Domestic travelling (23,580USD)
2	FSM			
3	RMI			
4	PNG	52,164,000	451,400	- Commission Fee (Weigh-bridge installation) : 187,100USD - Local expert: 67,350USD - Rental cars: 56,650USD - Domestic travelling: 71,150USD - Conference/Meeting: 53,900USD
5	Solomon	2,396,335	20,750	
6	Vanuatu	15,811,000	136,850	Local expert: 91,900 USD
7	Fiji	7,297,000	63,150	
8	Tonga	2,227,776	19,300	
9	Samoa	5,873,000	50,800	Study tour: 20,450USD
	Multiple countries	6,664,000	57,650	- Experts on CDL for Solomon and Vanuatu: 49,850USD 1 drone, survey tools, etc.
	Total	107,784,743	932,750	

(source: created by survey team with the data provided by short-term experts)

**Table 3-5 Local Cost (categorized under Region-Wide Activities)**

	Overhead	Amount in JPY	Equivalent to the US Dollars <sup>8</sup>	Major expenses, remarks
1	Travelling (Airfare)	37,148,744	321,481	Feb. 2017 – Mar. 2020
2	Travelling (Other than airfare)	26,975,523	233,443	Feb. 2017 – Mar. 2020

<sup>7</sup> Converted with JICA's official exchange rate in the end of Fiscal Year 2021 (1USD=115.555JPY)

<sup>8</sup> Converted with JICA's official exchange rate in the end of Fiscal Year 2021 (1USD=115.555JPY)

3	Commission	32,619,380	282,284	Mostly commission fee for local consultant
4	Salary	8,419,328	72,859	Mostly project assistant
5	Communication/ Transportation	3,473,341	30,057	
6	Rental/Lease	25,278,698	218,759	- 51,142USD: Solomon, 2017 - 43,031USD: Fiji, 2020
7	Others	1,381,658	11,956	
Total		133,915,014	1,170,839	

(source: created by survey team with the data provided by the Project Office)

### 3-1-2 Pacific side

#### (1) Counterparts

In the process of implementation, some C/Ps were additionally assigned to carry out the project activities or to replace those retired or transferred. At the time of the Terminal Evaluation, the total number of Management and Technical C/Ps assigned is shown in Table 3-6.

**Table 3-6 Number of C/Ps**

	Country	Number
1	Palau	6
2	FSM	21
3	RMI	11
4	PNG	32
5	Solomon	28
6	Vanuatu	27
7	Fiji	12
8	Tonga	17
9	Samoa	9
Total		163

(source: created by survey team with the data provided by short-term experts)

#### (2) Local Cost Support

Most countries could not provide the amount of their contribution towards the project activities. However; in accordance with the short-term experts and/or C/Ps, the target countries bore appropriate local costs throughout the project period to ensure smooth implementation of the activities while experts were dispatched

The followings are some remarkable examples of contribution (direct or indirect) towards waste management.

**Table 3-7 Remarkable Contribution (direct/indirect)**

Country	Remarkable contribution
Palau	Extension works at the M-dock disposal site

FSM	Improvement of the disposal site in Kosrae: a change of the entrance location and the construction of embankment. Improvement of the disposal site in Yap: vertical extension of the landfill gas venting pipes; and raising the access road to expand the disposal capacity.
RMI	Improvement of the Batkan final disposal site
PNG	Construction of access road and ramp fence with introduction of weighbridge: 599,454 PGK Installation of drainage and wiring surrounding weighbridge: 339,423 PGK
Vanuatu	2 Workshops on waste collection facilitated by Dept. of Urban Affairs
Samoa	Tafaigata Weighbridge Technical Assessment: 6,038.00 WST (approx. 2,255 USD)

### 3-2 Outputs

The project design was similar to the J-PRISM Phase I project, and each target country had individual Project Design Matrix (PDM), to tackle country specific issues, which are linked with priority items of the CP 2025 as in the following table.

**Table 3-8 Concept of Project Design**

Overall Goal		Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).									
Integrated Project Purpose		Human and institutional capacity base for sustainable Solid Waste management in the Pacific Region is strengthened through implementation of the "Cleaner Pacific 2025".									
Region-Wide / Country Project Purpose		(See 3-3 Project Purpose)									
Strategic Action CP 2025 <sup>9</sup>		Region-Wide	Samoa	Tonga	Palau	FSM	RMI	Fiji	PNG	Solomon	Vanuatu
A	Strengthen institutional capacity	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
B	Promote public-private partnership	○	○		○					○	○
C	Implement sustainable best practices in WCP management	Resource Recovery Programme	⊙		⊙			○	○	⊙	⊙
		Supporting improvement of infrastructure and sustainable operation and maintenance.			⊙	⊙	⊙	⊙	⊙		
D	Develop human capacity	⊙	○	○	○	○	○	○	○	○	○
E	Improve dissemination of outcomes and experiences in WCP management	⊙	○	○	○	○	○	○	○	○	○
F	Promote regional and national cooperation	⊙			⊙	⊙	⊙	○	⊙	⊙	○

(source: translated table from Japanese Basic Planning Survey Report for J-PRISM2)

Legend: ⊙:Outputs of the project directly contribute to the strategic action, ○: Indirectly contribute)

The achievement level of the Outputs of Region-Wide Activities and each country was assessed by the verifiable indicators, and the results was summarized in Table 3-9 and 3-10. It

<sup>9</sup> Chosen from 15 Strategic Actions of Cleaner Pacific2025, to which project activities could contribute to achieve directly or indirectly.

should be noted that this table shows the achievement of what was planned in each country, not relative judgment across the region. Overall, some progress has been made in almost all countries, and 29 out of the total 43 Outputs had been fully or mostly achieved or were likely to be achieved by the end of the Project despite the disruption caused by the COVID-19 pandemic.

### 3-2-1 Outputs of Region-wide Activities

**Table 3-9 Outputs of Region-wide Activities**

Output 1	Output 2	Output 3	Output 4
Monitoring mechanism for solid waste management in line with Cleaner Pacific 2025 is strengthened.	Regional cooperation within the Pacific is organized and promoted by utilizing regional human resource and sharing lessons learnt in the region.	Regional capacity of disaster waste management is strengthened.	Practical and sustainable 3R+Return system is enhanced.
Partially Achieved	Achieved	Achieved	Mostly Achieved

#### <Output 1>

Under the Output 1, the project experts identified the necessary data and/or indicators to monitor the situation of solid waste management in line with CP 2025 and J-PRISM2, and then developed a monitoring system in the target countries including the formats necessary for the monitoring and assessing the project implementation, followed by the necessary trainings to the C/Ps of the target countries. These activities were reported to be completed in September 2019.

The 1st monitoring was conducted in February 2020, and 3 countries submitted the forms; however, due to difficulties in communication under the COVID-19 pandemic, it became extremely difficult to conduct the monitoring activities in the target countries, and seemed not to be able to collect more monitoring results in order to analyze the trend and/or provide timely advice.

The report was issued in January 2022 (<https://www.sprep.org/j-prism-2/regional-monitoring>); and both Project Office and SPREP consider that the Output 1 was attained. However, not all target countries submitted the monitoring sheets and it will be necessary to examine in the future if target countries will restart using the monitoring mechanism, when the situation is normalized.

#### <Output 2>

The original verifiable indicators of Output 2 had greater emphasis on “utilizing regional human resource”, then shifted to training delivery and strengthening human resources in general, since they had to adjust to the function of the SPREP.

Many case studies and lessons learnt were collected and analyzed under this Output, and the



idea of “Pacific-to-Pacific cooperation” is still alive. Not only the PIDOC, which is very highly appreciated by the SPREP, but many useful materials and information are available for not only target countries but other PICs and development partners working under the waste management sector.

Although all indicators under Output 2 need more clarification to be verifiable, there are substantial achievements under Output 2, therefore, the indicators of Output 2 are assessed as being fulfilled.

#### <Output 3>

The original verifiable indicators of Output 3 were more about making a guideline, conducting trainings and taking any counter-measures from the guideline. Current indicators are aiming higher than the goals set by the original indicators and well-thought regarding what “strengthening regional capacity of disaster waste management” actually meant to assess its level of achievement.

It is extremely difficult to involve official endorsement and establishment of national disaster waste management plans in some countries, which the project team does not have control over to.

All activities have been implemented. Although there was delay attaining indicator 3-1, both indicators of Output 3 are fulfilled.

#### <Output 4>

The activities under Output 4 were originally to conduct various surveys on recycling practice, recyclable flow and monitor detailed study on 3R+ Return systems, and the output had not included actual activities to enhance 3R+Return System in the Region-Wide PDM. Since there had been very limited scope of actual work planned in the original PDM for each country, the output was thoroughly reviewed. As a result, it was decided that the survey would be separately conducted/arranged by JICA HQ, and new activities and verifiable indicators were introduced in early 2020. Unfortunately, due to the COVID-19 followed by the border closure, the location of the pilot project had to shift from the Solomon Islands to Samoa; however, the pilot project went well, and all associations established try to follow suit.

Lessons learnt on the role of the recycling association in the Pacific, examples of 3R+Return good practices for promoting recycling activities by private sector are uploaded on the following SPREP website. <https://www.sprep.org/j-prism-2/lessons-learnt/>

Both indicators needed more clarifications to be verifiable (e.g. how it determines “promoted” and “enhanced”). However, the project made substantial progresses despite all the setbacks in such a short time, intentions of new indicators of Output 4 can be assessed as fulfilled.



### 3-2-2 Outputs of Individual Project in Each Target Country

**Table 3-10 Summary of the Outputs**

	Output 1	Output 2	Output 3	Output 4
Palau	Formation and submission for approval of National Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Improvement in waste collection in 10 states of Babeldaob Island and in Koror	Transition from M-dock landfill to a new landfill
Results	Achieved	Mostly achieved	Achieved	Mostly achieved
FSM (Federal government)	Support to each state in the formulation of SSWMS	Promotion of good practices on SWM and 3R + Return		
Results	Achieved	Achieved		
Yap	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Improvement of waste collection	
Results	Achieved	Mostly achieved	Unable to evaluate	
Chuuk	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Exploration of effective CDL implementation mechanism	
Results	Achieved	Mostly achieved	Expected to be mostly achieved	
Pohnpei	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Exploration of effective CDL implementation mechanism	
Results	Achieved	Mostly achieved	Expected to be mostly achieved	
Kosrae	Development of State Solid Waste Management Strategy	Promotion of good practices on SWM and 3R + Return	Improvement of waste collection	
Results	Achieved	Mostly achieved	Achieved	
RMI	Formulation and submission of (Solid) Waste Management Strategies to relevant authorities	Promotion of good practices of SWM and 3R + Return	Exploration of CDL mechanisms suitable to RMI	
Results	Mostly achieved	Mostly achieved	Achieved	
PNG	Enhancement of institutional capacity through the development of national policy, strategy and implementation plan	Enhancement of ULLGs' capacities to tackle the SWM issues	Sustainable implementation of NCD's waste management plan	
Results	Mostly achieved	Partially achieved	Partially achieved	
Solomon	Strengthening SWM capacity of HCC	Promotion of lessons learnt from the SWM obtained in Honiara and Gizo to other areas.	Specifying economic measures for sustainable SWM in the SI.	
Results	Mostly achieved	Partially achieved.	(On-going) <sup>10</sup>	
Vanuatu	Enhancement of institutional capacity of DEPC to implement NWMPCS	Improvement of existing waste disposal sites	Initiation on an economic incentive scheme for promotion of 3R + Return	
Results	Achieved	Mostly achieved	Mostly achieved	

<sup>10</sup> Expected to be achieved before the completion of the project.

	Output 1	Output 2	Output 3	Output 4
Fiji	Promotion of evidence-based policies based on the 3R concept	Implementation of a pilot study for regional 3R + Return program		
Results	Mostly achieved	Partially achieved		
Tonga	Formulation of WAL's 5-year business plan for the expansion of waste management services	Strengthening of WAL's capacity in implementing sustainable SWM in outer islands	Formulation of SWM action plans in Ha'apai and 'Eua	Capacity development in implementing sustainable SWM in Ha'apai and 'Eua
Results	Achieved	Achieved	Achieved	Partially achieved
Samoa	Development of NSWMS	Establishment of rubbish collection monitoring system	Implementation of feasibility study on financial options	
Results	Achieved	Achieved	Partially Achieved <sup>11</sup>	

(source: created by survey team with the data provided by short-term experts)

### (1) Highlights of Outputs

#### [Strengthen institutional capacity]

- Palau, FSM and RMI (Output 1): technical and quantitative analysis was conducted at the outset of the project as a foundation to formulate Solid Waste Management Strategies/Plans. Through this analysis, challenges and priorities became clear to the C/Ps and relevant actors, and helped to formulate strategies/plans that were concrete and action-oriented, which also directed the implementation of activities under Output 3 and 4.
- Samoa (Output 1&2): Output 1 originally aimed to develop the NSWMS. However, as requested by the Ministry of Natural Resources and Environment (MNRE), chemical and hazardous waste management was also integrated into the strategy, in collaboration with the chemical and hazardous waste management section and relevant SPREP officials. The strategy was approved in January 2019 as the "National Waste Management Strategy 2019-2023" (NWMS 2019-2023). After the NWMS was developed, it is in the implementation phase. As a part of the NWMS, the monitoring system of rubbish collection was established under Output 2, and the MNRE has fully taken responsibility and continued its implementation.
- Solomon (Output 1): Honiara City Council had developed the Solid Waste Management Plan and it was approved in 2019. After confirming the SWM Plan, the HCC successfully established a division, the Waste Management and Control Division (WMCD), which is dedicated to solid waste management. Another priority action under the SWM Plan, the tipping fee system had also started in September 2020. The WMCD supported by the MECDM, has been implementing various activities in accordance with the action plan of the SWM plan, such as improving landfill management and collection services and creating performance reports).

<sup>11</sup> Ditto.

- Vanuatu (Output 1 & 2): the Department of Environment and Pollution Control (DEPC) has started implementing the National Waste Management and Pollution Control Strategy (NWMPCS). Having and implementing SWM plans in Municipal Councils are a very important priority in the NWMPCS, and development of the SWM plan by the Port Vila City Council (PVCC) was a significant achievement.
- Fiji (Output 1): J-PRISM2 has been supporting the development of waste management plans in each of all 13 municipalities in Fiji. No such plans existed before J-PRISM2 except Suva, and they are expected to be finalized by the end of the project period.
- PNG (Output 2): this output has been only partially achieved. Out of the 4 ULLGs, the waste management improvement plans are under preparation in 3 ULLGs mainly due to land issues, which needs to be solved as soon as possible among the stakeholders of this project. This kind of issue is expected to be encountered in many other ULLGs when the activities are expanded to other areas of the country. Finding adequate land sections for landfills or collection points could be a time-consuming process in PNG and in other countries. Therefore, a well-prepared consultation process with local communities need to be taken into account when formulating waste management plans.

[Implement sustainable best practices in Waste, Chemical and Pollution (WCP) management]

(Resource Recovery Programme / Supporting improvement of infrastructure and sustainable operation and maintenance)

- Samoa (Output 3): to learn and examine examples of user pay system in other PICs, a study tour was carried out. The C/Ps of MNRE attended the study tour to Tonga, Vanuatu and Fiji, expressed the usefulness of learning prepaid bag system of Vanuatu and joint billing of waste fee with the electricity bill in Tonga, and as a result, the prepaid bag system is considered to be introduced.
- Tonga (Output 2): this output has been fully achieved after the waste management services by WAL were introduced in Vava'u through scheduled collection services and management of the landfill based on the O&M manual. These operations have been monitored by utilizing the monitoring sheet developed. All these activities have been financially underpinned by the high collection rate of waste fees. The waste fees are collected together with electricity bills and the local residents have been regularly paying for them, understanding the importance of such fees to enable appropriate collection services.

[Promote regional and national cooperation]

- PNG (Outputs 1&2): A City-to-City cooperation agreement were signed as MOU between NCDC and Goroka ULLG (GULLG), and NCDC and Kokopo-Vunamami ULLG (KVULLG), respectively, witnessed by JICA and CEPA. This resulted in closer

cooperation between NCDC and the local governments, which smoothly led to a waste audit in Goroka, the development of a rehabilitation plan for the Kokopo landfill, etc.

- Vanuatu (Output 1 & 2): the DEPC has started implementing the NWMPCS through assisting other urban and/or semi-urban areas of the country. With the facilitation of Department of Urban affairs, the PVCC has provided training to the Luganville Municipal Council (LMC) and the SHEFA province regarding waste collection and landfill management, and conducted workshops to exchange ideas, weakness, etc.

## (2) Promoting Factors

- Region-Wide: the Project Office is based at the SPREP which facilitates access to the information of other development partners at the regional level, since many of their projects are based at SPREP premises.
- Region-Wide: an established relationship with 9 target countries as a regional project has a great advantage. For example, the prompt response to post disaster assistance became possible to the countries affected by the large-scale natural disasters (e.g. cyclone and flood in Samoa, cyclone in Vanuatu and volcano eruption near Tonga).
- Common: the project could effectively make use of other scheme of the Japanese government, such as grant aids, the Grant Assistance for Grassroots Human Security Projects and provision of equipment from the embassy, to promote the achievement of the project outputs.
- Palau, FSM and RMI: good partnership between JICA expert and C/Ps helped smooth implementation of the project. The short-term experts were highly responsive to the request of C/Ps for technical guidance, within and outside of the PDM.
- RMI: there was very few stakeholder for initiating the CDL, as few industry and commerce existed in the country that may have been affected by the CDL. As such, there was virtually no opposing party for its implementation.
- PNG: Effective coordination among the Japanese Embassy, JICA PNG Office and the project experts led to a successful exhibition of this project at Baruni landfill<sup>12</sup> inspection tour to the counterpart agencies and the Governors. This resulted in some additional budget from NCDC for procurement of a generator to operate the weighbridge continuously.
- Fiji: Cooperation between DLG and municipalities has been favourable in the project, which contributed to the achievement of the Outputs and the Project Purpose. In addition, the local staff hired in the middle of the project, who was a former officer of DOE, highly contributed to the achievement through her dedication to the activities such as following-up on project activities during the absence of short-term experts

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<sup>12</sup> Baruni Landfill in Port Moresby, which started operation in the late 1990s, has a semi-aerobic landfill system using the Fukuoka Method. Most landfill operation and management training was conducted in the landfill site.



(supervision of implementation of outsourced waste surveys, etc.).

- Samoa: the main short-term expert in Samoa had relatively longer assignment period and conducted comprehensive review on the PDM with the C/Ps in the early stage of the project, to make the PDM to what C/Ps really needed and wanted as well as implementable. It helped the project implementation easier, and boosted C/P's confidence and ownership towards the project. Trust among concerned party and a strong sense of ownership helped the C/Ps commitment to the project, even when the expert was unable to travel to Samoa for a long time.
- Solomon: The Permanent Secretary of MECDM has shown strong commitment towards Waste Management and sent his staff members (C/Ps) to overseas to become specialists in the sector. The number of capable C/Ps has increased since they have assigned more personnel for project activities.

### (3) Inhibiting Factors

- Common: COVID-19 pandemic restricted the experts support to project activities and there was delay in some activities, including timely revision of the PDM.
- Common: Project personnel changes in not only SPREP/Pacific side, but Japanese side, including Project Office experts, officers of JICA HQ and overseas offices, seemed to negatively influence the progress of the project.
- FSM: Frequent personnel change (e.g. in Pohnpei EPA) and long absence of key personnel (e.g. in Yap) created obstacles for the project implementation.
- FSM: the economy is highly dependent on financial support from US compact of free association. The Small Sector Grant (Environment) in the fund had been used for waste management in each state, but the policy in Small Sector Grant was changed in 2019, which necessitated each state to find its own budget source, requiring difficult adjustments. In Yap, the cut-back of the fund directly affected the project implementation (Output 3, improvement in waste collection).
- Vanuatu and Solomon: Loss on the technical personnel and lack of reliable heavy equipment for the landfill had affected the operation and the management of landfill (Vanuatu obtained essential heavy equipment in 2022). Landfill supervisors and operators have not received training under the project and need to enhance their technical capacity in managing the landfill sites physically.
- Vanuatu and Solomon: Budget cuts affected the implementation of the project. Due to the COVID-19 pandemic most of the budget was reallocated towards measures to keep the country safe, and there was not enough budget left to carry out project activities. Moreover, some C/Ps left their positions due to the radical salary cut (50%).

### 3-3 Project Purpose

The prospects of achieving the Project Purpose have been assessed by indicators for the



regional level and country specific indicator(s) for the national level, integrated project purpose.

Overall, it is likely that the Project Purpose will be mostly achieved by the end of the Project, considering the current achievement level of the indicators, the majority of which have already been fully or mostly achieved, and the ongoing progress of attainment of the Outputs. The prospects for achievement of the Project Purpose for the individual country projects are summarized in Table 3-11.

**Table 3-11 Prospects for Achievement of the Project Purpose**

	Project Purpose	Results
Region-Wide	Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored and supported based on Pacific-to-Pacific cooperation.	<b><u>Mostly achieved</u></b> It was because of the great achievements made in the latter part of the Project Purpose, although the indicator 1 was assessed to be only partially achieved. Whenever there were great changes on inputs and/or activities, indicators should have been examined and altered accordingly to reflect the real picture of the project.
Palau	With a view to commencement of a new landfill site, an appropriate solid waste management system is created	<b><u>Mostly achieved</u></b> All indicators of Project Purpose were met. However, due to the remaining question on the sustainable financing, the Project Purpose is considered to have been mostly achieved
FSM Fed.Gov.	Support to creation of solid waste management system in each four state is provided	<b><u>Mostly achieved</u></b> Opportunities for sharing and learning among the four states were created by the federal government
Yap	Creation of solid waste management system is promoted	<b><u>Mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The Output 1 and 2 have been largely achieved, but it was not possible to evaluate the Output 3 due to external factors inhibiting the project implementation. As such, the Project Purpose is considered to have been mostly achieved.
Chuuk	Creation of solid waste management system is promoted	<b><u>Expected to be mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The Output 1 and 2 have been largely achieved, but the Output 3 is expected to be mostly achieved if necessary documents are drafted before the end of engagement of experts in September 2022. As such, the Project Purpose is considered to have been mostly achieved.
Pohnpei	Creation of solid waste management system is promoted	<b><u>Expected to be mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The Output 1 and 2 have been largely achieved, but the Output 3 is expected to be mostly achieved if necessary documents are drafted before the end of engagement of experts in September 2022. As such, the Project Purpose is considered to have been mostly achieved.
Kosrae	Creation of solid waste management system is	<b><u>Mostly achieved</u></b> All indicators of the Project Purpose have been achieved, as

	promoted	challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. The three Outputs were largely achieved. As such, the Project Purpose is considered to have been mostly achieved.
RMI	Creation of solid waste management system is promoted	<b>Mostly achieved</b> All indicators of the Project Purpose have been achieved, as challenges were identified and measures to tackle the challenges were proposed based on quantitative and technical analysis. As there was some pending issue (clarification regarding NWMP), the Project Purpose is considered to have been mostly achieved.
PNG	Strengthening the institutional framework and project implementation capacity of SWM	<b>Mostly achieved</b> and the remaining work needs to be completed by the end of the project period. The roles and responsibilities of the ULLG are not stipulated in the waste plans but have been understood in substance through several workshops, and a monitoring system for the ULLG has been also established.
Solomon	Institutional capacity for SWM is strengthened at the national and provincial centers' levels.	<b>Partially achieved</b> (Potentially Mostly achieved or Achieved by the end of the project) Potentially, the project purpose could be assessed as "Mostly achieved" by the end of the project, if, at least, all verifiable indicators of Output 2 are achieved in a second provincial center.
Vanuatu	A foundation of implementing and monitoring SWM activities in line with the Vanuatu National Waste Management and Pollution Control Strategy (NWMPCS) is built.	<b>Mostly achieved</b> However, the indicators of the Project Purpose have largely been achieved through Output 1. Since there were meaningful outputs and activities added/modified, indicators should have been changed accordingly to reflect the reality of the project.
Fiji	Implementation of SWM based on Fiji's national strategy	(Can be said) <b>mostly achieved</b> The Project Purpose can be said to have been mostly achieved. It is important to ensure that the local government waste management plan will be finalised in all 13 councils, including the procedure for monitoring and reporting of the indicators as well as the roadmap to cover rural areas.
Tonga	Establishment of foundation of SWM in outer islands	<b>Achieved</b> The service of waste management by WAL has disseminated in outer islands in Tonga and it could be considered that the waste management system including waste fee collection has been established.
Samoa	Solid waste is appropriately managed based on the National Waste Management Strategy (NWMS).	<b>Mostly achieved</b> (Potentially Mostly achieved or Achieved by the end of the project) Despite the challenge, great achievements were observed under the project. At the time of terminal evaluation, it has been assessed that the Country Project Purpose of Samoa was "Mostly Achieved"; however, it seems that all indicators will most-likely be achieved before the completion of the project.

### 3-4 Overall Goal

Overall goal and the indicator of the Region-Wide PDM as follows:

Overall Goal (Common):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific



Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

However, the indicator above is not verifiable, and therefore, it is not possible to examine the level of achievement of the overall goal at the time of the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for the Region-Wide.

The overall goals should be able to be achieved naturally (after three years of the completion of the project in JICA's practice), if the project purpose is achieved and the important assumption(s) of the project purpose level are fulfilled.

In this terminal evaluation survey, it will not be possible to assess the prospective to achieve the overall goal by 2025, and it is necessary to set overall goal(s), if the impact of the project will be evaluated in the future.

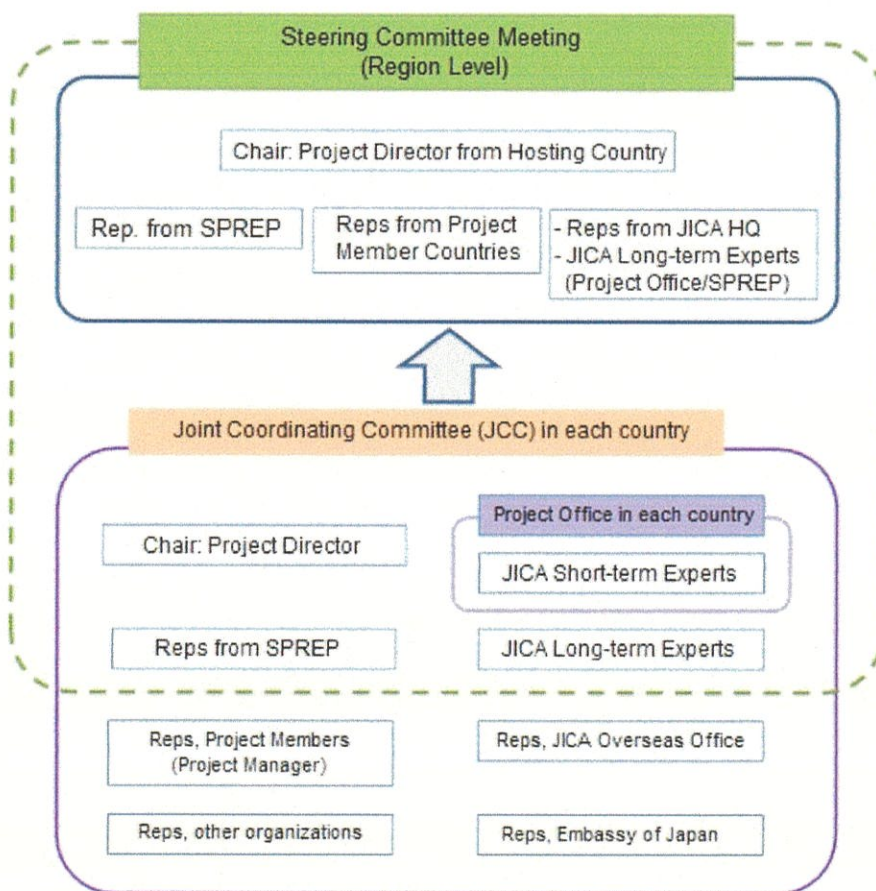


#### 4. The Implementation Process

Unlike each country, the SPREP is not an implementing organization but a hosting partner for a regional project, J-PRISM2. Therefore, instead of Joint Coordinating Committee (JCC) in each country, there is Steering Committee, and the Project Office is a function to implement the regional project components to support the SPREP to achieve CP 2025.

The figure 4-1 shows the relationship between the JCC in each country and the Project Office/SPREP.

The JCCs in each country are the decision-making bodies for the project operation in each country. The Steering Committee Meeting also has valuable functions, such as, generating ideas through the exchange of information /lessons learnt and boosting motivation.



**Figure 4-1 Implementation System<sup>13</sup>**

This change created closer ties between JICA Short-term Experts and respective JICA Overseas Office, which made possible for the experts to attend issues faster and to concentrate on the matters in their assigned country and its PDM. On the other hand, in some countries, the communication gap between long-term experts and short-term experts/JICA Overseas Offices widened, therefore, one-ness and its dynamic as a regional project have weakened in

<sup>13</sup> The Figure is a translated version from *Detailed Planning Survey Report on J-PRISM2*, JICA.

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## J-PRISM2.

### 4-1 Implementation System in Each Country

- Five short-term experts supported the three countries in Micronesia region (Palau, FSM and RMI). Each expert assisted in different thematic area, horizontally across the three countries. This team set-up, together with the good coordination within the team, made it possible to broaden the scope of support provided by the expert team as a whole. This set-up and sub-regional approach worked particularly well in the case of the Micronesia region, where there was a similarity across the three countries in terms of its small size of the territory and population, and of project activities, as it facilitated opportunities for mutually stimulating exchange and learning. Additionally, one (1) CDL expert and one (1) expert on vehicle and heavy machinery maintenance supported the project. The collaboration with the PO was more evident under the Output 2 as it requires collaboration by design, but it was less clear in other outputs.
- Since 2021, JCC meetings were held virtually, and jointly among three countries of the Micronesia region (Palau, RMI and FSM), due to the limitations of movement caused by the COVID-19. These three-country joint JCCs offered opportunities for experience sharing and learning that were mutually stimulating among the three countries. At the same time, seven projects covering three countries, four states and two atolls had to be explained at a JCC meeting, which made the meeting long with many presentations and with many participants. For this reason, it was difficult to discuss individual countries in depth, for example, when needing to modify the PDM.

### 4-2 Project Management

As it was stated above, the Steering Committee works as gaining ideas through information exchange and lessons learnt, and boosting motivation.

Regarding the JCC set up in each country, it is recognized to be a part of decision-making process, and most countries had held their first three JCC meetings annually until the outbreak of the COVID-19. There was not much progress on the project activities in 2020 and early 2021, and were four JCC meetings held in total in five and an extended half years in countries of Melanesia and Polynesia regions, while five JCCs were held in the three countries of Micronesia region, of which, the last two were organized jointly for the three countries. In the JCC meeting, progress of the past year is reported, and, although the regular JCC meetings were disrupted due to the COVID-19, JCC meetings held were seen effective in giving overall guidance and direction of the Project.

Both Region-Wide and country specific PDMs and POs seemed mostly fully utilized, and modified when it was necessary until early 2020. Due to the COVID-19 pandemic, the PDMs and the POs were not updated in a timely manner, and the last revisions were



conducted in 2022.

The formal mid-term review of the project was not conducted, and some indicators, which had needed to be reviewed, remained unverifiable.

One of the biggest problems in Region-Wide and each country's PDMs is the lack of the linkage between each other. Generally speaking, the Region-Wide PDM is more comprehensive and include indicators of higher level; however, there are several activities which involve direct involvement with C/Ps and/or related organization of target countries. In these cases, the activities and its C/Ps working with the Project Office in Samoa were not recognized in the country's PDM, and that could have caused confusions. In many Group 2<sup>14</sup> countries, because Region-Wide activities are not recognized in the country-specific PDM, the short-term experts concentrated on the exclusive activities, and there is a tendency that anything outside of the PDM, such as activities conducted by other development partners and even the Project Office, could get overlooked.

[SPREP Side]

SPREP has been a reliable partner to JICA for a long time. As it was stated earlier, the SPREP is not an implementing organization but a hosting partner for the project, and, like many multi-lateral organizations, it is difficult for the SPREP to implement and/or monitor the progress of CP2025 with their own budget, unless the funding is available.

However; the SPREP recognizes the long-term commitment, dedication, and contribution of JICA on Waste Management in the region. The work of JICA experts were greatly appreciated by the Director and staff members of the Waste Management and Pollution Control Division (WMPCD). The main Coordinator for J-PRISM2 changed twice during the project period; however, the SPREP always make sure of allocating Coordinator (s) to support the Project as much as possible.

[Target Countries]

It was confirmed that most C/Ps remained in the same positions, or some changed but replaced reasonably quickly, throughout the project period in three countries in Micronesia and Samoa. The records of changes of C/Ps in other countries are incomplete, and the Team could not obtain appropriate data analyze the whole picture of the assignments of the C/Ps.

However, generally speaking, many countries increased the number of the C/Ps or confirmed the assignment by the time of the terminal evaluation.

The work of JICA experts was highly thought of and appreciated by most C/Ps.

[JICA Side]

One of the biggest setbacks for the project management was that JICA experts were not

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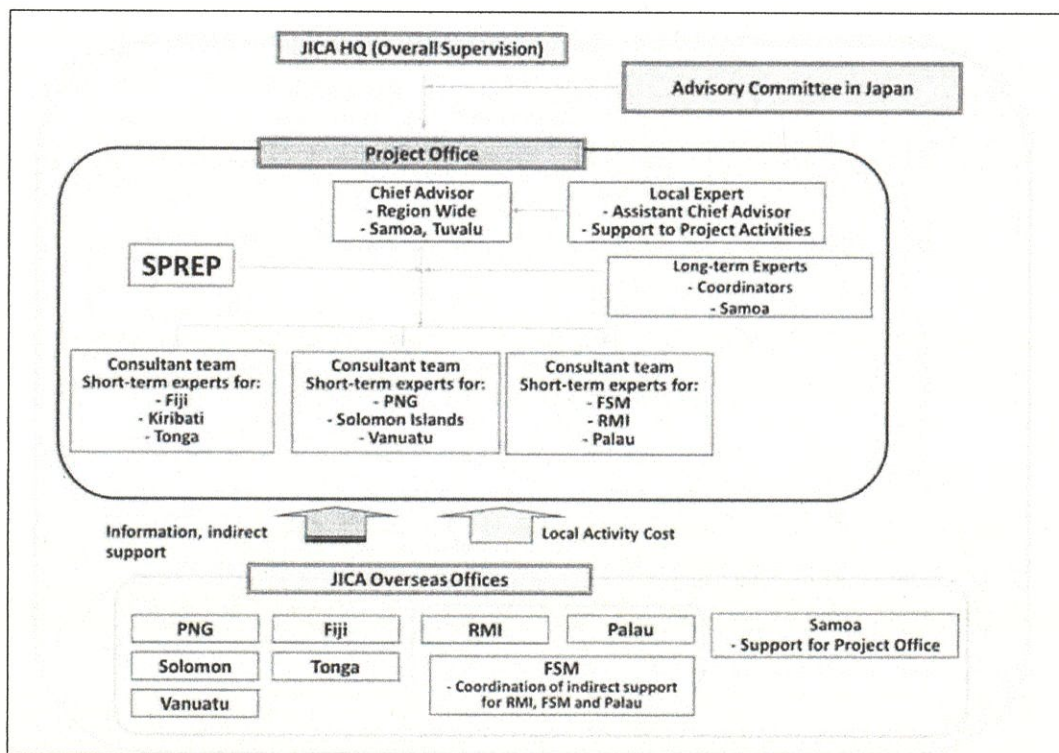
<sup>14</sup> There are two contracts to implement the project and Group 1 countries mean FSM, RMI and Palau and Group 2 includes PNG, Solomon, Vanuatu, Fiji, Samoa and Tonga.



able to timely come back and/or visit the respective countries. It was caused by the COVID-19 pandemic, since the international borders were closed for over two years in many countries, and it greatly affected the project management.

Another challenge is the turnover of the project personnel on the JICA side, including the Chief Advisor (CA) and person in charge in JICA Headquarters (HQ). Changes of the CA and the person in the HQ set back the project implementation and weaken the functionality of the Project Office. There have been four Chief Advisors (CAs) including one Acting CA, and the positions of three Sub-Regional Coordinators, who were expected to be the keys in each sub-region, discontinued and the function seemed to be lost without clear handing over.

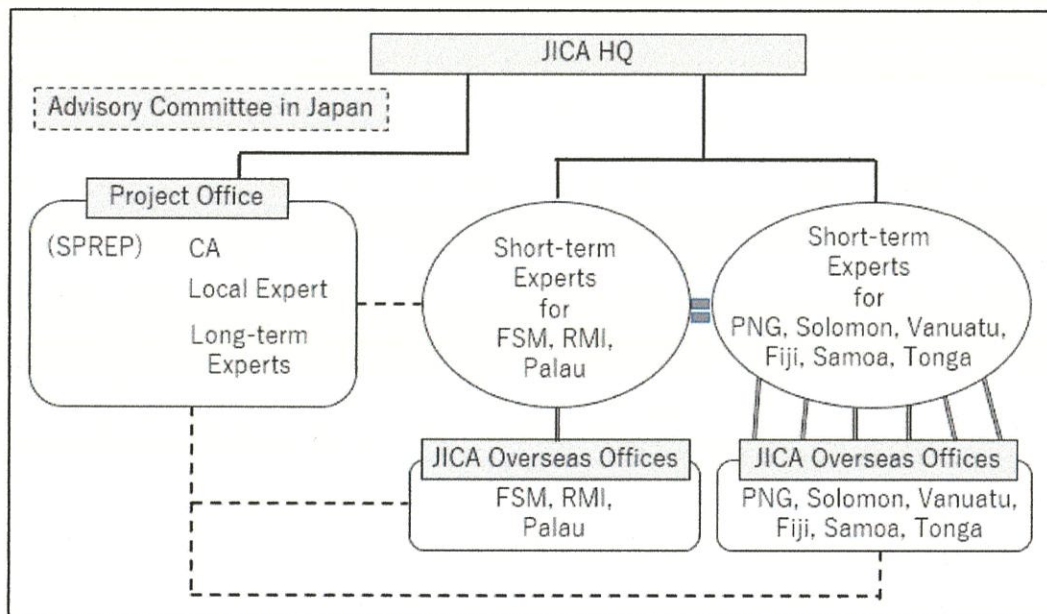
Furthermore, there is a challenge derived from the design of the project. The following is the project structure of JICA side.



(Source: The Integrated Terminal Evaluation Report on Japanese Technical Cooperation Project for J-PRISM Phase I Project)

**Figure 4-2 Implementation system of the Japanese side - J-PRISM Phase I –**

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(Source: Prepared by Terminal Evaluation Team based on interview results)

**Figure 4-3 Current Project Report-line of Japanese Side**

Compared with the Phase I Project, the distance between the short-term experts and the Project Office was obvious, although Group 1 (Micronesia) worked with the Project Office more closely. The reasons the Group 1 worked closely with the Project Office were; a) a regional component, “Good practices of solid waste management /3R are promoted in the country and the region”, was included in their activities/outputs, and; 2) the team of short-term experts is working as one team to support the sub-region and there has been an expert who acts as sub-regional coordinator, which made the team work with the Project Office. On the other hand, some short-term experts assigned for the Group 2 tend to concentrate on the issues in their target country and, without the regional components in the respective PDMs, they did not find the incentives nor the mandates to engage with the Project Office.

#### 4-3 Method of Technical Transfer

JICA training has been taking place both in Japan and in third countries such as Samoa, as well as in the form of OJT and on-line workshops. Advice given by JICA experts in these settings, has played a major part in technical transfers. Some of the C/Ps interviewed expressed that future training needs to be more hands on, with practical exercises that provide an opportunity for the C/Ps to put into practice newly learnt concepts.

Both C/Ps and short-term experts expressed the difficulties to communicate each other after April 2020, and the Solomon C/Ps expressed their preference to have full time expert or expert(s) with longer assignment period.

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#### 4-4 Communications

The communication has been very difficult, in particular, after the outbreak of the COVID-19. The positive part of the COVID-19 is that it actually made easier to arrange/hold meetings beyond border and physical distance (See 5-4 Efficiency).

There is very good communication between SPREP and the Project Office. However, communication between the Project Office and Short-term experts seemed to vary depending on the personnel. It may be because the obligation of short-term experts is to report to the JICA Overseas Offices and the HQ and not to the Project Office (see 4-2 Project Management).

Although many JICA overseas offices seem to have close relationship with short-term experts, some seem to have minimal communication with the Project Office. It is also noticeable that the change of personnel in charge of the project at some JICA overseas offices had great impacts on the level of commitment to the regional project activities.

Unlike Phase I project, many C/Ps do not have direct contact with long-term experts in the Project Office and the SPREP except when regional activities/inputs were directly conducted such as regional trainings, disaster waste, and recycle associations.

#### 4-5 Region-wide Activities of J-PRISM

One of the strengths as a regional project is to be able to provide activities beyond the border. Trainings involving more than one country have provided the C/Ps with various learning opportunities in the form of study tour, trainer dispatch, etc., not only as trainees but also as trainers. (For details in each country, see ANNEX).

The following is the list of the trainings/workshops directly involved by the Project Office. Eight out of 15 trainings were held on site before the COVID-19 outbreak restricted movement, and no trainings were held between March 2020 and July 2021. The first training after the COVID-19 outbreak, the on-line training on “daily maintenance of machinery in Micronesia”, was held in July 2021 followed by six on-line trainings/workshops.

**Table 4-1 Regional Training/Workshops (Region-Wide Activities)**

	Year/Month	Training/Workshop (Participating countries)	Host Country	Remarks
1	2017/10-11	Melanesia Landfill Operation and Management Training (PNG)	PNG	Co-hosted by SPREP Trainers from Vanuatu and Solomon
2	2017/11	Trainer Dispatch for Ranadi Rehabilitation Work	Solomon	Trainer from Vanuatu
3	2018/02	Sanitary Landfill Design and Operation by Fukuoka Method (Palau, FSM and RMI)	Palau	

4	2018/03	Disaster Waste Management and Tafaigata Waste Disposal Site Risk Assessment Review	Samoa	
5	2018/10	Regional Disaster Waste Management Guideline Development Consultation Workshop (Fiji, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu)	Samoa	Co-hosted by SPREP
6	2019/02	Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, FSM and RMI)	Palau	Co-hosted by SPREP
7	2019/11	Disaster Waste Management Workshop, Trainers Training	Vanuatu	Co-hosted by SPREP
8	2020/03	Disaster Waste Management Workshop, DWM Contingency Plans Vanuatu	Vanuatu	Co-hosted by SPREP
9	2021/10	Kobotool Training for Disaster Waste Management	Vanuatu	On-line
10	2021/07 – 2021/10	Online Training on Daily Inspection (Pre-& Post-Operation Inspection) of Waste Collection Vehicles and Heavy Machinery *	FSM, Palau	On-line
11	2021/12	Kobotool Training for Disaster Waste Management (Fiji, Samoa and Kiribati)	Samoa	On-line
12	2022/02	Regional Workshop on Waste Collection Vehicles and Heavy Machinery*	FSM, Palau and RMI (Virtual)	On-line
13	2022/02	Consultation on Periodic Maintenance of Waste Collection Vehicles and Heavy Machinery *	FSM, Palau and RMI (Virtual)	On-line
14	2022/03	Regional Workshop on Waste Collection Vehicles and Heavy Machinery (Fiji, FSM, Palau, Solomon Islands and RMI)*	FSM, Palau and RMI (Virtual)	On-line
15	2022/03	Regional Workshop on Waste Collection Vehicles and Heavy Machinery*	RMI (Virtual)	On-line
16	2022/03	Kobotool Training for Disaster Waste Management	Tonga	On-line
17	2022/06	Solomon Islands Kobotoolbox Training for Disaster Waste Management	Solomon	On-line
-	2019/09	Study tour by Samoan C/Ps (case study from Vanuatu (Prepaid Bag) and Tonga (Electricity Bill))	Vanuatu, Tonga	Organized by short-term experts as a part of country specific activities involving the region.

\* In cooperation with short-term experts

#### 4-6 Coordination with Other Japanese and International Schemes/Activities

Before the outbreak of COVID-19, there was active coordination with other Japanese and international schemes; however, many activities have been halt, postponed and/or scaled down, and made difficult to coordinate with other schemes and/or activities after the



outbreak.

Since there are so many stakeholders and many development partners started to support waste management in the Pacific region, more alignment with others is essential. Many development partners are working under SPREP, and to maximize the benefits of donors' contribution, SPREP is expected to have stronger grip on aid coordination. However, since there are not many permanent staff members in the SPREP, it is a very challenging situation. Since most programs/activities are regional and having the Project Office in the SPREP compound, helps easy information exchange among development partners.

The followings are the list of other development partners' activities that the Project Office is coordinating activities.

**Table 4-2 Coordination with Other Development Partners**

Development Partners	Type of coordination
PacWaste Plus (PWP)/SPREP	Demarcation in target countries and advice on disaster waste management sector. Implementation of Moana Taka Partnership (MTP), first initiated by J-PRISM2. Collaboration in Container Deposit Scheme in Vanuatu <sup>15</sup> .
International Organization for Migration (IOM)	Information exchange with J-PRISM2. IOM is assisting disaster waste management in Vanuatu through UNEP.
French Development Agency (AFD)	Potential collaboration in some target area Used oil / Marine Debris (Cleanups) / Sustainable financing / Disaster waste management
Asian Development Bank (ADB)	Information exchange Potential involvement in Luganville landfill, Vanuatu Waste management in Honiara and Munda, the Solomon Islands
United Nations Development Programme (UNDP)	Cooperation via Circular Economy for the Waste Recovery of Waste Programme (CERO Waste) Plastic and glass recycling in Samoa and Tokelau. Coordination necessary for Samoa.
Global Environment Facility (GEF)/ISLAND	Information exchange on the over-wrapping target countries 14 target countries. Assisting to set-up hazardous waste management strategies.

<sup>15</sup> The PacWastePlus Project funded by the EU and implemented by SPREP is supporting the development of a Container Deposit Scheme following recommendations of the Pre-Feasibility Study undertaken by J-PRISM2

	E-waste (Vanuatu, Solomon), Used oil (FSM, RMI), Chemical waste (Palau), POPs (PNG), Improving landfill (Tonga), Community waste (Fiji), Residual waste (Samoa)
International Union for Conservation of Nature and Natural Resources (IUCN)	The workshop to present the final report on Plastic Waste Free Islands Project (PWFI) in October 2021.

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## 5. Evaluation results in accordance with the Six Evaluation Criteria

### 5-1 Relevance

The Project is evaluated to be still relevant in terms of necessity and priority.

#### 5-1-1 Necessity

Although there were improvements in waste collection in some areas of each country after the completion of the J-PRISM Phase I project, the amount of waste in each country was increasing with economic development, urbanization, and modernization of lifestyles. There were some issues found to be common to all countries: the inability to provide similar services in various areas, including rural areas and remote islands; issues related to coping with the increase in waste due to population growth and economic activity and the development of final disposal sites; and low recycling rates. Moreover, technicians and specialist who are engaged in waste management in small island countries are not many, and local authorities rely on a handful officers, whose skills are often limited. Therefore, the waste management needed to be further strengthened.

#### 5-1-2 Consistency with the development policies and strategies

Waste Management is stated in development strategies as one of the priority issues to be improved in respective country. Project is highly relevant with the Development Policies of all PICs which set out the governments' continuous commitment and support to strengthening SWM (For details, see ANNEX). And, the Project has been aligned with the single regional sector strategy, Cleaner Pacific 2025, which is a comprehensive long-term strategy for integrated and sustainable waste management and pollution prevention and control in the Pacific islands region from 2016 to 2025.

### 5-2 Coherence

The coherence of the project is high in terms of the consistency with Japanese ODA policy, other Japanese schemes and other development partners, although many collaboration did not progress as planned during the COVID-19 pandemic.

#### 5-2-1 Consistency with Japanese ODA Policy

The Project is consistent with the Japanese ODA policy. In the Seventh Pacific Islands Leaders Meeting (PALM 7) Fukushima 'Iwaki' Declaration in May 2015, followed by PALM 8 in 2018, in which reaffirmed the importance of sustainable development, management and conservation of environment. The leaders expressed their commitment to comprehensive and integrated efforts to address environmental issues, including promotion of environmentally sound waste management and 3R (reduce, reuse and recycle) policies. It also noted the value of the Japanese Technical Cooperation Project for Promotion of

Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM). The Japan's Country Development Cooperation Policies for the Pacific Islands Countries were updated in 2019 in a more uniformed way. The "Basic Policy of Assistance" is "Support for sustainable economic development and improving a living standard through the assistance for the economic and the social sectors", and one of the priority areas is "Environmental conservation". In the latest Country Development Cooperation Policy, they are slightly different from each other (For details, see ANNEX); however, J-PRISM2 is recognized in the country development cooperation policy of all target countries under the environment sector.

## 5-2-2 Coherence with Japanese other schemes and other development partners

### (1) Coherence with Japanese other schemes

Before the outbreak of the COVID-19, the project had good collaboration with volunteer programs. Senior Volunteers and Japan Overseas Cooperation Volunteers used to be sent in the field of environmental administration, solid waste management and environmental education before the outbreak of the COVID-19, and they had been good assets for complementing the project activities.

The collaboration with the Grant Assistance for the Grassroots and Human Security Project under Japanese Embassies are proved to be effective. The Japanese Embassies are looking for effective projects to fund and, through its funding, it often creates a synergy effect with the activities conducted by the technical cooperation projects and JICA volunteers. Examples of the equipment or facilities provided under the Grant Assistance for the Grassroots and Human Security Project are as follows:

- Recycle Center for Samoa Recycle Waste Management Association (Samoa)
- Provision of the bull-dozer (Vanuatu)

### (2) Coherence with other development partners

Twenty years ago, there were few interests assisting waste management for the PICs and JICA did not need to facilitate aid coordination. With JICA and SPREP's promotion effort, the waste management has successfully been mainstreamed in the region and many development partners started to work in this field.

As it was stated earlier, most programs/activities are regional and having the Project Office in SPREP premises helps easy communication among donors.

The followings are the list of major programs and/or activities in the region.

- PacWastePlus (PWP) funded by European Union (EU)
- Sustainable Waste Actions in the Pacific (SWAP) funded by French Development Agency (AFD)
- The Implementing Sustainable Low and Non-Chemical Development in Small-Island

Developing States (ISLANDS) (2021-2026) funded by Global Environmental Facility (GEF) & United Nations Environment Programme (UNEP)

- Pacific Ocean Litter Project (POLP) funded by Australian Aid
- Regional Recycling Network Scoping Study conducted by Pacific Regional Pacific Regional Infrastructure Framework (PRIF)
- “The Majuro Integrated Urban Services Improvement (IUSI) Project” and “Ebeye Solid Waste Management Project” for RMI and “Preparing the Honiara Sustainable Solid Waste Management Project (Project Readiness Financing)” for the Solomon Islands funded by Asian Development Bank (ADB)
- Circular Economy for the Waste Recovery of Waste Programme (CERO Waste) funded by United Nations Development Programme (UNDP)
- Plastic waste-free islands concept solutions funded by International Union Conservation of Nature (IUCN)
- The Centre for Environment, Fisheries, and Aquaculture Science (CEFAS) supported by United Kingdom (UK)
- Strongim Bisnis for the Solomon Islands funded by Australian Aid

### 5-3 Effectiveness

The Project is evaluated to be relatively effective considering the prospects for achievement of the Project Purpose and contribution of the Outputs to the achievement, though there were substantial delay at the middle of the project due to the COVID-19.

#### 5-3-1 Achievement of Project Purpose (For details, see ANNEX)

There was no formal mid-term review nor many activities conducted on the project during the height of COVID-19 pandemic, therefore, the review of the PDMs and its endorsement by respective JCCs delayed. However, the final adjustments of the PDMs have taken place to reflect the difficulties caused by the pandemic, and, as explained in “3-3 Project Purpose”, the Project Purpose will be mostly achieved before the completion of the project, considering the current achievement level of attainment of outputs. The majority of the valid indicators have already been fully or mostly achieved, and most experts and C/Ps interviewed and/or answered the questionnaire were confident to be able to achieve the Project Purposes.

However, some indicators were not verifiable to assess the achievement of the Project Purpose, and the levels of achievements were assessed in a more comprehensive way (weigh more on other indicators, add conditions, etc.).



### 5-3-2 Contribution of the Outputs to the Project Purpose

Within each PDM, logical relations between outputs and the project purpose were confirmed and the outputs have contributed to the achievement of the project purpose. However, in some PDMs, the indicators of the Project Purpose were achieved by only a part of Outputs, and it seemed that, during the process on the PDM reviews, indicators were not modified and/or added adequately.

The Project consists of 9 country specific PDMs and the Region-wide Activities'. While Region-wide Activities covered issues beyond the border, only 3 Micronesian countries contain the regional linked outputs and other 6 countries in Melanesia and Polynesia separately tackle country specific issues under the respective outputs, which are, directly or indirectly, linked with CP 2025.

### 5-3-3 Other Promoting and Inhibiting Factors

As individual 10 PDMs, specific factors have not been identified. However, as a regional project, the linkage between Region-Wide project and country specific PDMs (Melanesian and Polynesian) was weak because the components to connect the individual countries to region had not been included in the PDMs.

### 5-4 Efficiency

Due to the extraordinary situation with COVID-19 pandemic, the degree of "Efficiency" was not determined in this survey, although the production level of the Outputs, appropriateness of the Inputs in producing the Outputs, and the utilization of the Region-wide Activities were examined.

#### 5-4-1 Production of Outputs

Overall, the Outputs have been mostly achieved as described in "3-2 Outputs".

#### 5-4-2 Appropriateness of Inputs (See details. 3-1 Inputs)

Inputs by both Japanese and SPREP/Pacific sides have been fairly appropriate in producing Outputs; however, all parties concerned in the project had to face and adjust many changes and irregularity of inputs, which occurred after the outbreak of the COVID-19.

#### (1) Japanese Side

JICA Experts: In terms of timing and quantity, dispatch of JICA Experts was more or less appropriate before the pandemic. However, several changes of the Project Office Experts in the early stage of the project could have affected the smooth implementation of the project.

In regards to quality, the vast majority of JICA Experts, both short-term and long-term, are

highly regarded by the SPREP and C/Ps.

Equipment: Equipment provided under the project has been very appreciated and utilized for the project activities, although some equipment had not been in the plan.

Trainings: Trainings in Japan were only available before the COVID-19 pandemic, and, when the project activities resumed in 2021, most of the trainings were held on-line.

The Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries for FSM, RMI and Palau (See Annex-3 Country Reports) were conducted online due to COVID-19 related travel restriction. An innovative approach was made, using the combination of video (filming how the maintenance work was done by on-site personnel) and online sessions, and the training evaluation received highly positive feedback.

Local cost: One of the biggest differences in expenses from the planned local cost was hiring local personnel. Other than the planned personnel with the Project Office, the cost of hiring in-country local personnel had not been included in the original plan, but it helped alleviate the negative effects of the absence of JICA Experts on site due to COVID-19. Instead, the expenses regarding the airfare and travelling cost, which normally is very high, decreased dramatically.

## (2) SPREP/Pacific Side

Assignment of Personnel: In most of the countries, the personnel with the relevant background and experiences have been assigned to the Project; however, in some countries, on the other hand, some C/Ps did not have previous experiences in waste management. Long time vacancy and frequent turnover are problems in Melanesian countries, however, the number of the C/Ps increased in total and several urban or semi-urban authorities started to look into the establishment of independent waste management divisions to tackle the challenges on waste issues.

Provision of Facilities: Office space and utilities necessary for JICA experts have been provided in SPREP and the majority of the implementing organizations.

Local Cost: Sufficient evidence and data were not provided; however, both JICA Experts and C/Ps agreed that the necessary budget has been allocated.

### 5-4-3 Utilization of external resources

As it was noted under “Coherence”, after the COVID-19 pandemic, the assistance of development partners and the aid coordination paced down. However, there are many development partners in the region, and the collaboration with several donors such as EU, GEF, UN agencies, AFD, ADB is essential and has generated positive outcomes with the programs such as PWP, GEF7/ISLAND, SWAP, CERO waste etc.

There had been provision of a number of equipment and buildings directly related to the project, funded by the Embassies of Japan under the Grant Assistance for the Grassroots and Human Security Project.



#### 5-4-4 Other Promoting and Inhibiting Factors

##### (1) Promoting factors

- Project Office under SPREP: Since many partners are based at SPREP, it is easy to access information on other regional projects.
- One of the outputs is about disaster waste, and, as a regional project with 9 target countries, the prompt post disaster assistance became possible for the target countries, the large-scale natural disaster occurred (e.g. cyclone and flood in Samoa, cyclone in Vanuatu and volcano eruption near Tonga).
- Due to the travel restrictions, which was mainly categorized as an inhibiting factor, remote meetings are promoted and, as long as there is internet connection, it became easier and cheaper to gather many stakeholders from different locations at one time.

##### (2) Inhibiting factors

- COVID-19 pandemic prohibited the experts support to the project activities and there is delay in some activities, including timely revision on the PDM.
- The short-term experts' report-line is to the JICA Overseas Offices and Headquarters, but not to the Project Office / SPREP. It could have been a caused of insufficient communications between some short-term experts and Project Office experts/SPREP C/Ps, and hence not fully taking the advantage of having a regional project.
- Some of the Region-Wide activities, which directly influenced and/or implemented in the country level, are not included in the country PDMs. Hence, these activities with the responsible organizations are not recognized in the respective countries officially, and some C/Ps seem not to be aware the Region-Wide activities nor less enthusiastic about engaging in the activities.
- The Project personnel changes in not only SPREP/Pacific side, but Japanese side, including Project Office experts, officers of JICA HQ and overseas office, seemed to have negatively influenced the progress of the project.
- There are not many specialists who gained their skills and knowledge under JICA's cooperation in each country; and the management system can collapse and must start all-over again from scratch, whenever the main specialists and/or technicians leave the workforce. The frequent turnover of main C/Ps and lacking proper handing over in some countries could set back the progress of the project.

#### 5-5 Impact

The indicator of the Overall Goal was not verifiable in the Region-Wide PDM and no indicators filled in country PDMs; therefore, it is necessary to set up verifiable indicator(s). Various positive impacts have been observed. Negative impacts caused by the implementation of the Project have not been observed.





### 5-5-1 Prospective to achieve the Overall Goal of the Project

Overall goal and the indicator of the Region-Wide PDM is as follows:

<p><b>Overall Goal (Common):</b> Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).</p>
<p><b>Verifiable Indicator:</b> Solid waste management issues are improved through collaborative assistance in the Pacific region.</p>

However, the indicator above is not verifiable, and it is therefore not possible to examine the possibility of achieving the overall goal at the time of the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for the Region-Wide.

The verifiable indicators of Overall Goal were not filled in the country PDMs. This does not necessarily need to be the same as the Region-Wide, since the project purposes are not the same. Overall goal is supposed to achieve several years (three years in JICA's evaluation system) after the completion of the project, if the project purpose is achieved and the important assumptions are fulfilled. Therefore, it is recommendable to have discussions between short-term experts and C/Ps to set appropriate indicator(s) before the completion of the project.

### 5-5-2 Other Positive Impacts

Various positive impacts have been observed already as shown in Table 5-1. More positive impacts are foreseen. (For details, see ANNEX)

**Table 5-1 Other Positive Impacts**

Area/Country	Positive Impacts
Region-Wide	<ul style="list-style-type: none"> <li>▪ The Moana Taka Partnership (MTP) was a joint effort by SPREP and J-PRISM2, which was initiated by the 1st 3R+Return expert in J-PRISM2. Fiji, Samoa, PNG and RMI have already started to use MTP.</li> <li>▪ The project could assist promptly Samoa, Vanuatu and Tonga after major natural disaster hit those countries. Moreover, the project strengthened ties closely with National Disaster Management Offices, in particular, Vanuatu, the Solomon Islands and Tonga, which are the top 3 high risk countries in disaster risk index in the world.</li> <li>▪ Project led Tonga's Disaster Waste Recovery Plan, which provided the basis for the government budget support for the follow up of Disaster Waste recovery operations. Samoa's inclusion of Disaster Waste under the Environment Sector in the National Disaster Management Plan 2017-2020 provided the basis for government budget support for Disaster Waste recovery operations during the Cyclone Gita 2018 and the Flooding in 2020.</li> <li>▪ Establishment of recycle associations were not in the original scope of the project; however, four Recycle and Waste Management Associations were established in Samoa, Vanuatu, Solomon and PNG, and Tonga to join. This activity has boosted the 3R+Return mood in target countries.</li> </ul>
Palau	<ul style="list-style-type: none"> <li>▪ Improved capacity of C/P in the technical areas of waste management, including analysis, planning, setting-up and implementation of waste collection systems and management of waste disposal site.</li> <li>▪ Positive environmental impact of closing state disposal sites which was an open dumping site</li> <li>▪ More efficient waste collection despite longer distance of transport from some areas, which was made possible by the successful introduction of an Inter-State Collection System with a centralized disposal site</li> </ul>

<p>FSM Fed.Gov. Yap Chuuk Pohnpei Kosrae</p>	<ul style="list-style-type: none"> <li>• There has been improvement in terms of waste management strategies with the development of the SSWMS in each state was developed, clarifying the challenges, priorities and measures to be taken</li> <li>• Knowledge of the waste operators was improved, including data collection, which was used to visualize improvements.</li> <li>• The project brought opportunities for the C/P to discuss with communities on their responsibilities for SWM through community outreach. Communities gained awareness and they are much more mindful and concerned about better disposal of waste (Yap).</li> <li>• Due to the weekly collection by the inter-municipal collection system, the collection rate was improved (according to the collection data of the first week of the operation), and it was observed that the littering in the communities has been reduced (Kosrae)</li> </ul>
<p>RMI</p>	<ul style="list-style-type: none"> <li>• Raised awareness and political commitment to continue improving solid waste management, exemplified in the improvement of the final disposal site.</li> <li>• Improved technical capacity in waste management (on the CDL operations and improvement of the final disposal site)</li> <li>• Reduced littering through the introduction of CDL system</li> <li>• Environmental protection through preventing water pollution due to the expansion of the disposal sites to the inland sea</li> </ul>
<p>PNG</p>	<ul style="list-style-type: none"> <li>• In the case of Kokopo municipality, the importance of collecting and analysing waste information at the landfill site has become more recognized than before. It was observed that 50% of waste in Kokopo was of organic origin, and the waste composting activity in Kokopo was smoothly promoted and the soil manure has been produced and used in the gardens in Kokopo for beautification.</li> <li>• There has been lots of improvements in terms of waste management policies and strategies. Moreover, the project also has elevated a standard of living for the communities especially around the landfill sites. In terms of positive impact to social aspect, according to the comment from NCDC, the linkages and collaboration with schools such as “3R Eco School Project” has been able to change the culture from “Waste ignorant Society” to “Waste Conscious Society”.</li> </ul>
<p>Solomon</p>	<ul style="list-style-type: none"> <li>• Formulation of the Waste Management and Control Division of HCC.</li> <li>• Tipping fee system has been established under HCC, although the revenue is used for not only waste management but also other purposes.</li> <li>• Not only the target provinces, but other provinces have started to gain awareness of the importance of waste management.</li> </ul>
<p>Vanuatu</p>	<ul style="list-style-type: none"> <li>• The establishment of the Waste Management and Environmental Health Division in the PVCC.</li> <li>• The restructuring of the DEPC for further enhancement.</li> <li>• A collection system utilizing GPS saves fuel and allows better control over the movement of collection vehicles.</li> <li>• Starting to assist other parts of the country.</li> <li>• The Final Draft of the National Waste Minimization Plan (2021-2025) has been formulated.</li> <li>• Lesson guidance for environmental education has been formulated (in partnership with the Ministry of Education).</li> <li>• The technical capacity of disaster waste management and assisting the National Disaster Management Office has been strengthened.</li> <li>• More aid coordination in waste management (Dialogue among the DEPC, the PWP and J-PRISM2 regarding the Container Deposit System (CDS) was held in October 2021 to decide demarcations).</li> </ul>
<p>Fiji</p>	<ul style="list-style-type: none"> <li>• Draft waste management plans of all targeted municipalities have been developed and continuously monitored since then. This has resulted in the DLG being able to set a foundation for appropriate policies, such as the expansion of waste collection services in rural areas.</li> </ul>
<p>Tonga</p>	<ul style="list-style-type: none"> <li>• The project has observed that the awareness on waste management has been raised among the local residents in Vava'u by establishing the waste collection system which had never existed before, and is represented by the high rate of waste fees paid to WAL. The same procedure is being established in other outer islands of Ha'apai and 'Eua, and it is expected that the awareness among the residents will be raised as well.</li> </ul>
<p>Samoa</p>	<ul style="list-style-type: none"> <li>• Collection services are improved (number of complaints: 100 to 15 per month, collection coverage 63% to 75%, approximate time to solve a complaint 2-7days to immediate-2days, etc.)</li> </ul> <p>It is an extraordinary impact at the time of the terminal evaluation, since positive impacts on end users normally only emerge many years after the project implementation.</p> <ul style="list-style-type: none"> <li>• Endorsement and enforcing of the Waste (Plastic Bag) Management Regulations 2018 in which the</li> </ul>

	<p>effective date (30 January 2019) of banning single use plastic shopping bags, plastic packing bags and plastic straws.</p> <ul style="list-style-type: none"> <li>Numbers of achievement on Waste Management are listed in the Annual Report of the MNRE.</li> </ul>
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### 5-5-3 Negative Impacts

There were no negative impacts observed in the scope of 9 target countries; however, there is one potential negative impact on the environment, which turned into a positive outcome and learning opportunities, reported under the Region-Wide Activities, Samoa.

- Used oil was collected and stored under the pilot project with SRWMA, and oil leaked from a damaged drum. Although the project activity did not cause the leakage, it could negatively affect the environment, and the measures against the problem was promptly identified and the land farming technology with utilizing used oil was introduced to purify contaminated soil. Ascertaining the effect of the land farming method requires scientific analysis in laboratories, such as periodical analysis of ground water quality, etc., and a high level of coordination skills. Therefore, the project team has been involved C/Ps from MNRE and SRWMA to pass on the knowhow required to deal with such an incident.

### 5-6 Sustainability

Sustainability of effects of this Project is evaluated to be fair, if all target countries continue committing their budget and personnel towards waste management, and SPREP continues supporting the countries' effort.

#### 5-6-2 Policy and institutional aspects

Region-Wide: Cleaner Pacific 2025 (Pacific Regional Waste and Pollution Management Strategy 2016-2025) is the only comprehensive regional waste and pollution management strategy in the Pacific Region. Midterm review was conducted in 2020, and "CP 2025 Pacific Regional Waste and Pollution Management Strategy Implementation Plan 2021–2025" was developed and issued on the 31<sup>st</sup> of July 2020. J-PRISM2 is to support CP 2025, and political and institutional sustainability is likely to be secured.

**Table 5-2 Sustainability – Policy/Institutional aspects**

Area/Country	Policy/Institution
Palau	<p>Laws and regulations governing waste management include: Environment Quality Protection Act 1981 - RPPL No. 1-58; Solid Waste Management Regulations 2013; Recycling Act 2006 - RPPL No. 7-24; Beverage Container Recycling Regulation 2009; and Plastic Bag Use Reduction Act 2017 - RPPL No. 10-14. National Solid Waste Management Strategy 2017-2026 was developed and approved. It has been serving as a reference document in solid waste management.</p> <p>At the national level, the Bureau of Public Works (BPW) under the Ministry of Public Infrastructure, Industries and Commerce (MPIIC) is responsible for the overall management of municipal waste while Environmental Quality Protection Board (EQPB) is responsible for hazardous waste. The waste management operations in each of the 18 states are the responsibility of the state government. BPW is responsible for the operations and management of the final disposal site located in Koror State and the supervision of the CDS, as well as oversight of the inter-state waste collection in the 10 states of Babeldaob island by a private contractor.</p> <p>Based on the above, policy and institutional aspects of waste management will be sustainable.</p>

FSM Fed.Gov.	<p>Department of Environment, Climate Change and Emergency Management (DECCEM) is responsible for drafting national environmental policies and coordinating among state environmental departments. Actual waste management is carried out by the state agencies in each state based on the state laws and regulations. The federal government was in the process of creating a National Waste Management Strategy at the time of the evaluation.</p> <p>Based on the above, policy and institutional aspects of waste management will be sustainable.</p>
Yap	<p>Major regulations governing waste management include: Recycling Program Regulations 2014; Plastic Bag Prohibition Regulations 2014; Solid Waste Management Regulations 2015; and Hazardous Substance Regulations 2015. Yap State Solid Waste Management Strategy 2018-2027 was developed and approved. It has been serving as a reference document in solid waste management.</p> <p>The operation and management of waste collection, transportation, and disposal are outsourced to a private company under the supervision of the Department of Public Works and Transportation (DPW&amp;T), while Yap Environmental Protection Agency (EPA) is in charge of environmental policy, environmental education, and recycling.</p> <p>Based on the above, policy and institutional aspects of waste management will be sustainable.</p>
Chuuk	<p>Major laws governing solid waste management are compiled in the Chuuk State Code in: Title 21, Chapter 13: Sanitation Act; Title 22, Chapter 1: Chuuk State Environmental Protection Act; and Title 22, Chapter 3: Littering Act. The Clean Environmental Act was passed at the state legislature in 2018, which included the clause prohibiting plastic shopping bags. Chuuk State Solid Waste Management Strategy 2019-2028 was developed and approved, and it has been serving as a reference document in solid waste management.</p> <p>Chuuk Environmental Protection Agency (EPA) is in charge of environmental policy and environmental education, while waste collection and transportation, and operation and management of disposal site is the responsibility of the Department of Transportation and Public Works (DT&amp;PW).</p> <p>Based on the above, policy and institutional aspects of waste management will be sustainable.</p>
Pohnpei	<p>Major laws related to solid waste management are compiled in the Pohnpei State Code in: Title 27, Chapter 1: Pohnpei State Environmental Protection Act; Title 27, Chapter 2: Littering in public places and premises; Title 27, Chapter 3: Beverage Container Recycling; and Title 27, Chapter 4: Prohibition of Importation and Use of Single-Use Plastic Bags. Pohnpei State Solid Waste Management Strategy 2020-2029 was developed and approved. It has been serving as a reference document in solid waste management.</p> <p>Pohnpei environmental protection agency (EPA) is responsible for environmental policies, environmental education and recycling, while the Office of Transportation and Infrastructure (T&amp;I) oversees the operation and management of the final disposal by a private company.</p> <p>Waste collection and transportation is carried out by each municipality. Based on the above, policy and institutional aspects of waste management will be sustainable.</p>
Kosrae	<p>Related laws are compiled in the Kosrae State Code<sup>16</sup> in: Title 19, Chapter 5: Hazardous Substances and Pollution; Title 19, Chapter 6: Waste Management and Recycling; and Title 11, Chapter 9: Control of Plastic Wastes. Kosrae State Solid Waste Management Strategy 2018-2027 was developed and approved, and it has been serving as a reference document in solid waste management.</p> <p>Kosrae Island Resource Management Authority (KIRMA) oversees environmental policy, environmental education and recycling, while the Department of Transport and Infrastructure (DT&amp;I) manages the waste collection, transportation and operation of disposal sites. In Kosrae, a beverage container deposit system is in place. A private company commissioned by KIRMA is carrying out the recycling activities.</p> <p>Based on the above, policy and institutional aspects of waste management will be sustainable.</p>
RMI	<p>Major regulations governing waste management include: National Environmental Protection Act 1984; Solid Waste Regulation 1989; and Styrofoam Cups and Plates and Plastic Products Prohibition and Container Deposit Act 2016. Solid Waste Management Plan for Majuro (2019-2028) and Kwajalein Atoll Solid Waste Management Plan (2019-2028) were developed and approved. National Waste Management Strategy was not developed, and its pertinence needs to be determined in discussion with the EPA and SPREP. The Solid Waste Management Plans for Majuro and Kwajalein atoll have been serving as a reference document in solid waste management.</p> <p>The EPA administers the CDS as the designated Recycling Agent, but contracts MAWC in Majuro</p>

<sup>16</sup> <http://fsmLaw.org/kosrae/index.htm>

	<p>and KALGOV in Kwajalein atoll as system operators. In Majuro, the MAWC, a state-owned enterprise, is in charge of household waste collection and CDL. In Ebeye, collection and CDL are handled by the local government, KALGOV.</p> <p>Based on the above, policy and institutional aspects of waste management will be sustainable.</p>
PNG	<p>Although the National Waste Management Act exists, related legal regulation such as treatment of recycling and hazardous waste has not been established. C/Ps have highly recognized the importance of waste management such as the promotion of 3R and waste reduction, etc. Despite the additional need to formulate some regulations as mentioned above, there is a National Waste and Chemical Management Policy in place and the local governments are responsible for the provision of waste collection services, which has remained and will remain unchanged. Therefore, it can be concluded that the policy and institutional aspects of waste management will be sustainable.</p>
Solomon	<p>Despite the difficulties in carrying out project activities, C/Ps of the MECDM and the HCC have set a strategy and plan.</p> <p>The NWMPCS (2016-2025) was endorsed and gazette for the year (2017- 2026). The strategy has now been approved and is being implemented and prioritized in national development plans which is also aligned with the Cleaner Pacific 2025; Pacific regional waste and pollution management strategy 2016-2025 for a cleaner Pacific.</p> <p>Solid Waste Management Plan in provincial centers: Tulagi (Central Province) Provincial Centre developed part of a SWM plan and is expected to complete it before the completion of the project. Auki (Malaita Province) and Kirakira (Makira Province) are following suit.</p>
Vanuatu	<p>Although there is no revised or updated version of the NWMPCS (2016-2020), many working and practical plans have been reviewed and developed (Implementation Plan of NWMPCS, PVCC and SHEFA's Solid Waste Management Plan 2021-2030 and the National Waste Minimization Plan), and the Port Vila City Waste Management Act was enacted in May 2021.</p> <p>It is expected that after the organizational restructure is confirmed, results of the evaluation will be reflected to the updated/revised NWMPCS.</p>
Fiji	<p>The policies pertinent to waste management, as seen in the section of 'Relevance' above, has been consistent and positioned as one of the key areas to be improved.</p> <p>While it should be noted that the National Waste Management and Pollution Control Strategy 2018-2028, the overarching policy on waste management in Fiji, has not been finalised, the importance of waste management has remained unchanged. Also, DOE has launched a 7R policy in March 2022 (rethinking, refusing, reducing, repur-posing, reusing, recycling and recovering). Therefore, it can be concluded that the policy and institutional aspects of waste management will be sustainable.</p>
Tonga	<p>The policies pertinent to waste management has been consistent and positioned as one of the key areas to be improved. Also, Tonga has Waste Management Act 2005 and WAL has been effectively providing waste management services under the Act. Therefore, it can be concluded that the policy and institutional aspects of waste management will be sustainable.</p>
Samoa	<p>Policies and legal support for waste management are likely to continue.</p> <p>The NWMS 2019-2023 was finalized and approved by the Cabinet in 2019. The formulation of the NWMS is one of mandates under the Waste Management Act 2010, and was also triggered by significant changes in the waste sector, in the Pacific Region and globally.</p> <p>In Samoa, rubbish collection, landfill operations and maintenance services are outsourced to the private sector and the MNRE takes a management role. In this project, establishing a rubbish collection monitoring system (Output 2) was essential for the MNRE to take on its role, and manage and monitor private contractors properly.</p> <p>The MNRE has started to prepare to update the NWMS 2019-2023 in 2023, and hopes that Samoa will be able to have the updated NWMS in place before the prior version expires.</p>

### 5-6-2 Organizational aspects

Region-Wide: In terms of regional cooperation on waste management, as mentioned above, the Clean Pacific Roundtable was established and has been meeting regularly since 2016 to develop a framework for sharing information on waste management in the region. In addition, a certain level of sustainability at the regional level is expected through the realization of the next phase. On the other hand, the number of personnel in charge of waste management (the

counterpart of this project) is limited to one, and the SPREP would have struggle to support the project activities of J-PRISM2 without the Project Office.

**Table 5-3 Sustainability – Organizational aspects**

Area/Country	Organization
Palau	The organizational capacity of the C/Ps has been enhanced on analysis, planning and implementation of SWM operations. The national ownership of the project is very high. BPW as an operating agency of waste management has capacity and commitment to advance in the SWM. There was also good cooperation between departments and possibility of obtaining budget. This is exemplified in the planning and implementation of the transition from existing disposal sites to a new centralized disposal site with the inter-state collection system, where BPW developed a plan and put it into action, internally securing funding for the construction works for the extension of M-dock landfill. C/Ps continued to advance on activities while short-term experts were not able to provide on-site support. Based on the above, the organizational sustainability is expected to be high.
FSM Fed.Gov. Yap Chuuk Pohnpei Kosrae	There have been some changes in the C/P officials (in Yap, Chuuk, Kosrae) as well as long absence of some key personnel (in Yap). In Kosrae, it was observed that the project management structure was not necessarily clear to all actors. There is a shortage of technical personnel, as well as outflow of human resources (retirement of the person in charge). The organizational capacity of C/Ps have been developing but still need to be strengthened further to sustain the SWM activities. The ownership of the project is considered to be generally high, as exemplified in initiatives such as: landfill management and improvement by Yap DPW&T; initiative-taking to for the procurement of equipment for CDL by Pohnpei EPA; and Kosrae continuing with proper management of IMCS as well as taking initiative to improve the final landfill site. Based on the above, the sustainability of the organizational aspect is considered to be medium.
RMI	The organizational capacity of the C/Ps has been enhanced on analysis, planning and implementation of SWM operations. The management level of the MAWC and KALGOV have high awareness on the importance of SWM, current challenges, and actions needed, and demonstrated competencies and leadership in advancing the improvement in the SWM. There is a high ownership of the project, as seen in the implementation of the action plans of the SWMPs, including the improvement of the final disposal site in Majuro. Based on the above, the organizational sustainability is expected to be high.
PNG	There is no notable problem on the sustainability of the implementation of the project in terms of organizational aspects. However, CEPA does not have enough human resources and employed local assistants to support the C/Ps in this project. It will be important to secure the staff at CEPA in supporting ULLGs to enhance their capacities on waste management. NCDC is also expected to play a vital role in supporting other ULLGs through the city-to-city cooperation programme.
Solomon	Some C/Ps of MECDM have received education overseas regarding waste management and returned to take leading roles in the project. In accordance with the SWM plan of the HCC, the WMCD was newly established and committed officers are working under the Director. C/Ps are assisting other provinces in regards to waste management, even when the JICA experts are not in the country, which shows strong sustainability on the organizational aspects.
Vanuatu	The DEPC's organizational aspects have been gradually strengthening, and three permanent positions that were long vacant, have filled during the project period. It is under restructure, and the Environmental Protection, Waste Management & Pollution Control is expected to be enhanced further (from 3 officers including the chemical and ozone officer, to 9 officers of which, there are 4 waste management officers). C/Ps are willing to assist other provinces in regard to waste collection and the creation of a SWM plan in the provincial level, even during the absence of JICA experts. Although there are constraints to the C/Ps' time, all C/Ps are committed to the project, and with the establishment of the WMEH Division in the PVCC, the organizational sustainability is expected to be high.
Fiji	DLG and municipal councils have positively participated in the project and have enough ability to manage it. In terms of ownership of the project, it should be well noted that DLG has played a role as the hub among municipalities and other stakeholders to promote the project although there is no expert officer on solid waste management in DLG. To expand and establish waste collection services

	<p>in all of Fiji, the role of each council will be of great importance.</p> <p>During the project, close and frequent communication between DOE and the project experts was not observed and it is important to have greater involvement of DOE in terms of finalizing the policy framework including the 3R+Return policy to further improve the outcomes of this project.</p>
Tonga	<p>There is no notable problem on the sustainability of the implementation of the project in terms of organizational aspects. MEIDECC and MOH have mainly handled the solid waste management policy/system in their jurisdictions. WAL has been positively taken the initiative on the overall solid waste management in Tonga as an implementation authority. It should be noted that WAL has spread their waste collection services and recently established their offices in three main islands (Vava'u, Ha'apaiai and 'Eua).</p>
Samoa	<p>All technical C/Ps are permanent staff members of the MNRE, and they are assigned to relevant positions. Since the J-PRISM 2 commenced in February 2017, there has been no change in the C/P's assignment. During the project period, a senior landfill officer was added to the list of C/Ps. In 2015, there were only 4 staff members (Principal Waste Management Officer, Senior Landfill Officer, Senior Waste Planning &amp; Policy Officer, and Landfill Officer) recognized as C/Ps; however, this phase started with 6 technical C/Ps and an additional position to be filled. There needs to be further enhancement, in order to meet all important demands, such as supervising/managing outsourced waste management, enacting and implementing legislations and attending international conferences.</p> <p>As it had been committed by the MNRE, it enhanced the institutional set-up of waste management, including increase of the number of qualified staff. The MNRE is seen as a capable and committed counterpart organization to work alongside. Therefore, the organizational sustainability is expected to be high.</p>

### 5-6-3 Financial Aspects

Region-Wide: Like other regional organization, the SPREP's revenue comprise of contributions from member countries and funding from development partners. EU had pledged the largest funding, 17 million EUR, under EDF 11 (2017-2022), and over 7 mil USD was still available in the end of year 2020. Regarding program/donor fund income, Waste Management and Pollution Control increase it expenses from 2,424, 287USD (2019) to 3,019,346USD (2020). It shows strong interests among donors in this sector.

**Table 5-4 Sustainability – Financial Aspects**

Area/Country	Financial Aspects
Palau	<p>The operational costs of waste management section of BPW are entirely covered by 25 % of the CDL deposit, therefore its framework is independent from the national budget. There are no user fees for waste collection and disposal. CDL revenues are influenced by the number of import of target items for CDL, which can be impacted by the crisis such as COVID-19. While budget was secured to maintain the current SWM interventions, it is not stable enough to rely on as a sole budget source. To find additional ways to secure budget may be required for financial sustainability in the long run. The financial sustainability is considered to be medium.</p>
FSM Fed.Gov. Yap Chuuk Pohnpei Kosrae	<p>The country's economy is highly dependent on financial support under the Compact of Free Association. The Small Sector Grant (Environment) in the fund had been used for waste management in each state. However, the policy in Small Sector Grant was changed in 2019, which necessitated each state to find its own budget source, requiring difficult adjustments. The state fund was to be used, but in case of Yap, the state budget had not been approved, which directly impacted the project activities. While it is unclear whether the United States will continue to provide financial support to the national government, the sustainable financing will be required in the field of SWM. The financial sustainability is considered to be low.</p>
RMI	<p>MAWC operations are highly subsidized by the government. The CDS recycling system provides income to MAWC through the 1 cent handling fee (the difference between the deposit and the refund), and the sale of aluminum cans also generates an additional revenue. MAWC uses the surplus generated through the CDS recycling operation to support other waste services of MAWC. MAWC</p>

	<p>charges nominal gate fees at the Batkan dumpsite, and also charges for commercial dumpster waste collections.</p> <p>For Kwajalein, the waste collections and dumpsite are operated by the local government, KALGOV, which receives a subsidy from the RMI government. No income has been raised from waste management services in Ebeye, since the redemption center has not been operated yet under the CDS, and neither collection fee nor disposal fee for waste has been collected.</p> <p>While it is unclear whether the United States will continue to provide financial support to the national government based on the Compact of Free Association, the financial sustainability will be required in the field of SWM. The existing arrangements whereby waste collection is free to residents may need to be reviewed. The financial sustainability is considered to be medium.</p>
PNG	<p>It can be considered that NCDC will be able to secure the budget for the waste management project. However, other local governments have difficulties in the financial aspect and setting the priority of financial allocation for waste management activities is often a challenge.</p>
Solomon	<p>The establishment of the WMCD and introducing tipping fees will contribute to the sustainability of the project greatly. However, the revenue from the tipping fee is not exclusive for waste management, and securing budgets for project activities and the lack of heavy equipment for the landfill is still a major issue.</p> <p>Due to the outbreak of COVID-19, Solomon faced radical budget cut (50% of salary cut across the government, etc.). Therefore, it is expected that securing financial sustainability will not be easily achieved. Meaning the cause, desperately needs continuous assistance from JICA.</p>
Vanuatu	<p>The PVCC had always faced financial difficulties; however, with the successful re-introduction of the pre-paid garbage bag scheme (Yellow Bag), the PVCC has secured some level of the financial security. Moreover, the Town Clerk has committed to waste management. With the SWM Plan formulated and endorsed by the PVCC, waste management has become a part of the Business Plan of the PVCC. However, the revenue from the Yellow Bag scheme and gate fees at the landfill are not exclusively spent for waste management, and the fund for replacing and/or purchasing essential heavy equipment and its spare parts should continue to be set aside.</p> <p>Following the outbreak of COVID-19, Vanuatu experienced a shortage of revenue; however, it is possible for Vanuatu to be able to secure some financial sustainability, once the international border open to tourists.</p>
Fiji	<p>While the budget for waste collection services in Fiji is not generally sufficient, the Government also takes the budgetary measures on solid waste management each year and it is expected that the budget will be allocated in the future. There are no serious sustainability issues in terms of the financial aspects, but additional funding is needed for expanding the services and developing adequate landfills throughout the country.</p>
Tonga	<p>As the waste fees are now collected together with electricity bills, WAL has an independent means of financial income to enable their operations to proceed smoothly. The Government will also secure the budget on solid waste management within current activities. If additional activities such as the development of a new landfill or purchase of new waste collection trucks are needed, additional funding from the government will be required. As the service coverage is planned to be expanded, this issue needs to be closely considered and discussed.</p>
Samoa	<p>It is likely that the MNRE will continue to allocate the necessary budget to landfill operation, maintenance and waste collection services, which are outsourced. However, waste management is not cheap, as it requires land, infrastructure, heavy machines, collection vehicles, fuel and more. Therefore, the MNRE recognizes that it must secure additional budgets for financial stability. As stated in Output 3 a "feasibility study on financial option (user pay system) is implemented", the MNRE hopes to set up a user pay system, such as the "Prepaid Bag System".</p> <p>With the Samoan Government committing to install a user pay system, the financial sustainability of the project will most likely be high.</p>

#### 5-6-4 Technical Aspects

Region-Wide: Despite the communication gap during the COVID-19 pandemic, the technical capacity of C/Ps in the target countries has gradually been enhanced in terms of knowledge regarding SWM, landfill management, and 3R+Return by applying the knowledge and skills acquired through the previous period and a remote support by the project experts, and in some



countries, most of the knowledge and technologies transferred through the project activities is very likely to be maintained. However, staff turn-over is one of the most serious issues in securing sustainability of the project and more training and technical transfer is necessary for newly recruit staff members. Database of human resources and training information, PIDOC was submitted to the SPREP, and expected to be utilized to keep enhancing human resources in the region.

**Table 5-5 Sustainability – Technical Aspects**

Area/Country	Technical Aspects
Palau	C/Ps gained technical knowledge and skills, especially in terms of analysis, planning, setting-up and implementation of waste collection and disposal. It was identified that an increasing number of tasks can be implemented independently, though close technical advice and continued training are still required, including in capacity development for public awareness raising. Technical sustainability is considered to be generally high.
FSM Fed.Gov. Yap Chuuk Pohnpei Kosrae	There was shortage of technical personnel, with personnel leaving the positions (retirement, etc.). Technical advice of the experts helped develop the capacity of the C/P, but there was still a need for continued technical capacity development by the technical experts, including in analyzing, planning and implementation of waste collection, disposal, recycling as well as community outreach. Technical sustainability is considered to be medium.
RMI	Technical capacity of the C/Ps was enhanced in terms of practical knowledge regarding to the extent that the C/Ps were able to take initiatives to improve solid waste management outside of the PDM, such as the improvement of the final disposal site at Batkan. There was a concern that technical capacity gained can be easily lost with personnel change in the small operational structure. It will be necessary to ensure the handover at the time of personnel turnover as well as regular sharing of knowledge gained. The technical sustainability is considered to be medium.
PNG	Technical capacity of the C/Ps has been gradually enhanced in terms of practical knowledge for solid waste management, landfill management, waste collection, and promotion of 3R. Especially, in the aspect of technical transfer to local municipalities, the staff members of NCDC smoothly implemented their transferring activities on waste management through the city-to-city cooperation program agreed between NCDC and four Urban Local Level Governments.
Solomon	Despite the communication gap during the COVID-19 pandemic, the technical capacity of C/Ps has gradually been enhanced in terms of knowledge regarding SWM, landfill management, and 3R+Return. Some core C/Ps already possess the capacity to disseminate their skills and knowledge to provincial officers. However, staff turn-over is one of the most serious issues in securing sustainability of the project and more training and technical transfer is necessary. C/Ps interviewed express there will need to consider hands on, practical exercises that will provide an opportunity for the C/Ps to put concepts into practice in the future.
Vanuatu	The technical capacity of the C/Ps has gradually been enhanced in terms of planning and knowledge regarding SWM, landfill management, and the 3R+Return concept, despite the communication gap during the COVID-19 pandemic. Staff turn-over is one of the most serious problems in securing sustainability of the project, and although several core C/Ps have already shown the competency to disseminate their skills and knowledge to provincial officers, more training and technical transfer is necessary. C/Ps interviewed express more needs in training sessions, which include more hands-on practical exercises, that will provide an opportunity for C/Ps to put concepts into practice in the future. In particular, training to enhance practical knowledge and skills regarding landfill operations, such as how to create new cells and utilize and maintain heavy equipment is urgently needed.
Fiji	It is confirmed that most of the knowledge and technologies transferred such as data management and monitoring through the project activities are appropriate and timely in the context of Fiji. In terms of training, some municipalities participated in the training such as web training on the maintenance of garbage trucks held in the Micronesia region or the waste audit survey, in addition to the training workshop within Fiji. There are no major issues in terms of the sustainability of the technical aspects.
Tonga	It is confirmed that a lot of knowledge and technologies have been transferred to C/Ps through the project. WAL has been actively promoting the waste management services in outer islands and they

	have sufficient technical skills for expanding the waste management services. There are no sustainability issues in terms of the technical aspects of the WAL staff.
Samoa	The NWMS is a working document, that guides the staff members in implementing of waste management activities and thus mainstreams the activities into the Annual Management Plan and the work plan. The technical capacity of C/Ps has been enhanced, not just in basic skills such as planning, implementing and reporting, but also as knowledge and understanding regarding the innovative development of the Rubbish Collection Monitoring System. Despite the C/Ps not getting physical support from the short-term experts during the COVID-19 pandemic, the C/Ps were able to continue what they could/should do with just with remote advice from the experts, and, with the technical knowledge and skills obtained during the first half of the project, the activities were still carried out.

## 6. Conclusions and Recommendations

### 6-1 Conclusions

After careful examination of the Project Performance and the Project Implementation Process, (1) the Project is still relevant, (2) the overall coherence is relatively high, (3) it is effective, (4) positive impacts are observed and (5) sustainability is fair, if all target countries continue committing their budget and personnel towards waste management, and the SPREP continue supporting the countries' effort.

The Project Purpose is expected to be mostly achieved before the completion of the project. Therefore, it is appropriate to terminate the Project in March 2023.

### 6-2 Recommendations<sup>17</sup>

**To the Project** (SPREP and Project Office experts)

<Considering to alter verifiable indicator of Overall Goal>

The Overall Goal and the indicator of Region-wide PDM are as follows:

Overall Goal (Region-wide):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

To make the indicator verifiable, it would be necessary to define what "solid waste management issues are improved".

Examples of alternative indicators

- X or more (or "All") national waste management strategies/policies of target countries are revised or up-to-date.
- Waste management plan (s) for at least one city of each country based on the national waste management strategies/policy is developed and/or up-to-date.
- More than XX% of trained personnel remains working in the waste management sector in the region.
- Project activities/implementation is included in the organizational annual work plan report.

**To SPREP**

<To create greater impacts after the completion of the project >

To utilise revised PIDOC effectively

Pacific Islands Database of Capacity Development Activities (PIDOC), has been reviewed and

<sup>17</sup> See Annex for country specific recommendations.



submitted to SPREP. It has a great potential to be able to contribute towards the Pacific-to-Pacific cooperation and it is highly recommendable for SPREP to utilise the tool to engage the regional experts to various waste management activities in the Pacific region.

### 6-3 Lessons Learnt

#### <Project Monitoring: Importance of the quality and following up the findings>

J-PRISM2 is a six year and complex project, which involves nine countries. There was only unofficial internal mid-term review, and it did not seem to have made impacts on the implementation on the latter half of the project.

It is very important to monitor the progress of the project regularly, and detect any problems in the early stage. Therefore, it is recommendable to conduct comprehensive review with utilizing the monitoring sheets at the middle of the project to reflect its progress and challenges to the PDM on large-scale project such as J-PRISM.

#### < Project Design (Verifiable Indicators)>

There are several PDMs, which have problems regarding the verifiable indicators, and it made very difficult to assess the level of the achievement of the project.

- Logical relations have to be confirmed

In some PDMs, the indicators of the Project Purpose have been achieved through only one output. Logical relations between activities and outputs, and output and project purpose should be logically connected and that relations should be reflected to the verifiable indicators.

- To decide appropriate objectively verifiable indicators.

The verifiable indicators are to assess the level of achievement on outputs, project purpose and overall goal in PDMs. They should be objective and specific. They also need to include the timing to achieve its goal and be quantitative if it is applicable.

- To alter/revise PDMs with close consultation among stakeholders, when it is necessary.

In most cases, it is necessary to alter the PDMs in the beginning of the project to suit the situation. When it is changed, the logical relationship should be re-examined and add or delete the indicators. It will be recommendable to involve evaluation personnel (either someone from evaluation unit or consultant) to check if it's logic and indicators are valid.

- To include indicators to be able to visualize the capacity development of the C/Ps.

There is emphasis on human resource development on JICA's Technical Cooperation projects; therefore, it will be preferable to include additional indicators to be able to visualize the capacity development of the C/Ps, which are not influenced by outside factors easily.



### < Project Implementation Structure >

It is important to pay greater attention to implementation structure of the project, if the project is “hybrid-type” (combination of long-term experts for regional activities and project administration, and groups of consultants (short-term experts) to implement each country’s activities).

The Project Office was supposed to supervise overall implementation of the project, however, in this project, the Project Office and groups of short-term experts were working parallel without great communication, hence not fully taking the advantage of having a regional project. The implementation structure should aim to unite the both parties to achieve the same goal, and all activities conducted by either Project Office or short-term experts in target countries should be recognized in the respective countries.

### < COVID-19 Related Lessons >

- To include measures in case of international travelling ban.

It will be possible to have outbreak of COVID-19 and/or other diseases again. Therefore, it will be necessary to include personnel who can assist the project activities on site, when the experts cannot travel prolonged period of time.

- To continue on-line meeting for administrative purposes.

The distance among nine countries (states within some countries) are one of the problems to meet each other before the outbreak of COVID-19. It has limited capacity on training, however, gathering for the administrative purposes and sharing information in the form of meeting become much easier through on-line meeting.

Although on-line trainings might not be as effective as physical training and/or OJT by experts, it has great advantage to connect people who are physically be in distance. It will be recommendable to continue using on-line meetings or hybrid (physical meeting with on-line participants), where it is applicable.

A handwritten signature in blue ink, followed by a small blue circular stamp or mark.

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

**Region-wide Activities**

**I. Project Outline**

<b>Background</b>	<p>The increasing volume and changing characteristics of urban and industrial waste, has made waste a major concern for small island countries in the Pacific region. Improper waste management has the potential to pose a significant negative impact on public health, the water and food supply, ecosystems, tourism and trade, resources and climate change, threatening sustainable development in the region.</p> <p>Unique constraints such as, geographical isolation, limited resources, economic scale and dependence on foreign aid and imported goods have made the management of solid waste more difficult for Pacific Island Countries (PICs).</p> <p>JICA started assisting PICs in terms of solid waste management in collaboration with SPREP. Under the Pacific Regional Solid Waste Management Strategy’s (2016-2025) Cleaner Pacific 2025, JICA has commenced the “Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management, Phase II (J-PRISM II)” in partnership with SPREP and the agencies responsible for waste management in the nine target countries.</p> <p>Part of J-PRISM II, the human resource exchange program, is expected to create a more effective and efficient regional system. It will promote regional and south-south cooperation in waste management and contribute to the realization of the “3R+Return” concept, as well as, encourage proper organic waste treatment, effective/efficient resource recycling and appropriate waste disposal in PICs .</p>
<b>Summary of the Project</b>	See Attachment 1 (PDM) and 2 (PO) for details
Overall Goal	Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).
Regional Project Purpose	Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored and supported based on Pacific to Pacific cooperation.
Outputs	<p>Output 1. Monitoring mechanism for solid waste management in line with Cleaner Pacific 2025 is strengthened.</p> <p>Output 2. Regional cooperation within the Pacific is organized and promoted by utilizing regional human resource and sharing lessons learnt in the region.</p> <p>Output 3. Regional capacity of disaster waste management is strengthened.</p> <p>Output 4. Practical and sustainable 3R+Return system is enhanced.</p>
Implementing Agency Target Group	<p>SPREP and nine (9) Pacific Island Countries (PICs): the Republic of Fiji (Fiji), the Independent State of Papua New Guinea (PNG), the Solomon Islands (Solomon), the Republic of Vanuatu (Vanuatu), the Federal States of Micronesia (FSM), the Republic of Marshall Island (RMI), Palau, the Independent State of Samoa (Samoa) and the Kingdom of Tonga</p> <p>Target Group: the above nine countries</p>
Project Duration	February 2017 – March 2023 (six years)
Target Area/ Target Population	Nine (9) PICs (FSM, Palau, RMI, PNG, Solomon, Vanuatu, Fiji, Samoa, Tonga) / 167 C/Ps with a total population of approximately 1,712,900 *For specific target area and target population for each PIC, see Terminal Evaluation Reports of individual project.

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of April 2022)</b>	
<p>Japanese Side</p> <p>1) Project Personnel (MM)</p> <p>- 1 Chief Advisor: 62M/M in total of 4 CAs</p>	<p>SPREP/9 PICs Side</p> <p>1) Allocation of counterparts:</p> <p>Solid Waste Management Advisor is the direct</p>

<p>including 1 Acting CA<sup>1</sup></p> <ul style="list-style-type: none"> <li>- 1 Solid Waste Management Training / Monitoring: 36M/M<sup>2</sup></li> <li>- 1 Monitoring/3R+Return: 47M/M<sup>3</sup> in total of 2 3R+Return Experts</li> <li>- 1 Regional Cooperation/Project Coordinator: 45M/M<sup>4</sup></li> </ul> <p>Sub-Regional Coordinators * included in each country</p> <ul style="list-style-type: none"> <li>- 1 Training / Project Coordinator (Polynesia): 24M/M</li> <li>- 1 Coordinator/3R+Return Micronesia): 24M/M</li> <li>- 1 Coordinator/3R+Return Melanesia): 24M/M</li> </ul> <p>Local Expert and Project Assistant (Costs included in “Local cost support”)</p> <ul style="list-style-type: none"> <li>- 1 Assistant Chief Advisor (Local Expert): 57M/M<sup>5</sup></li> <li>- 1 Local Project Assistant: 44M/M in total of 3 Project Assistants</li> </ul> <p>2) Trainings (number of trainees) Various types of regional trainings were conducted.</p> <p>3) Provision of Equipment: Approximately, 19,074,000 JPY (approx. 165,000 USD<sup>6</sup>) was spent on the equipment of Region-Wide Activities as of April 2022.</p> <ul style="list-style-type: none"> <li>- 1 Crushing machine, 1 extruder machine and spare parts (Pilot project, Samoa): approx. 10.3mil JPY (approx. 89,000USD)</li> <li>- 4 Tablets for data collection and analysis (Disaster Response, Tonga)</li> <li>- 1 PC in the Project Office</li> <li>- Chainsaws (Disaster Response, Samoa)</li> <li>- 5 Chainsaws and Tablets each and Personal Protection Equipment (PPE) (Disaster Response, Vanuatu)</li> <li>- 4 Tablets for data collection and analysis (Disaster Response, Tonga)</li> <li>- Security Camera, Video recorder (Pilot project, Samoa),</li> </ul> <p>4) Local cost support Approximately, 142,809,000 JPY (approx. 1,235,900 USD<sup>7</sup>) was spent as local cost support on Region-Wide Activities as of April 2022. Main expenses include:</p> <ul style="list-style-type: none"> <li>- Local consultant fees and salary: approx. 40mil</li> </ul>	<p>project coordinator. The Director for Waste Management and Pollution Control (WMPC) and Pollution Control Advisor of SPREP also work closely with the J-PRISM2 team. The personnel has changed several times; however, the Director WMPC has made sure someone from the division support the project, when the position is vacant.</p> <p>2) Project Management Cost: Approximately for US\$210,000 for manpower cost for activities provided by SPREP and in-kind contribution to regional activities</p>
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<sup>1</sup> Including 19 M/M working remotely from Japan.

<sup>2</sup> Including 15 M/M working remotely from Japan.

<sup>3</sup> Including 13 M/M working remotely from Japan.

<sup>4</sup> Including 9 M/M working remotely from Japan.

<sup>5</sup> Including 13 M/M working remotely from Japan.

<sup>6</sup> Converted with JICA's official exchange rate in the end of Fiscal Year 2021 (1USD=115.555JPY)

<sup>7</sup> Converted with JICA's official exchange rate in the end of Fiscal Year 2022 (1USD=115.555JPY)

JPY (approx. 346,200USD) - Travelling cost (Air fare, allowance): approx. 64.1mil JPY (approx. 554,700USD) - Rental/Service expenses: 25.3mil JPY (approx. 219,000USD)	
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**(2) Outputs**

Output 1: Monitoring mechanism for solid waste management in line with Cleaner Pacific 2025 is strengthened.	Degree of Achievement: Partially Achieved.
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Indicator	Results
1-1 Systematic flow of progress monitoring on solid waste management system in the target countries is set up by mid 2020.	<p><u>Status: Unable to assess the attainment.</u></p> <p>Monitoring form was formulated to measure the progress of solid waste management (SWM) data collection and utilization, and was distributed to all target countries in February 2020. Submissions have been made from three countries, Palau, FSM and Samoa.</p> <p>A report of the 1st Monitoring was published, as well as a report of the Waste Audit summary created by J-PRISM2. However, this indicator is not verifiable because the definition of “setting up the systematic flow” is not clear. Therefore, it is very difficult to assess the level of achievement.</p>
1-2 Performance of solid waste management is assessed through national reporting.	<p><u>Status: Achieved</u></p> <p>Due to COVID 19, the indicator was modified to omit the timing of completion in March 2022. (The former indicator 1-2: <i>Performance of solid waste management is assessed through national reporting annually starting 2020.</i>)</p> <p>Based on the results of the monitoring sheets submitted by the three countries, a report "Results of the Regional SWM Monitoring" was issued in January 2022. It did not contain the assessments of where they were nor what the respondents should do to improve performance. However, the project team published a report "J-PRISM Waste Audit in Waste Management Planning and Policy Making", which is the basis of waste management monitoring carried out in Output 1,</p>

Under Output 1, project experts identified the necessary data and/or indicators to monitor the SWM situation in line with CP 2025 and J-PRISM II. A monitoring system was developed in the target countries, including the formats necessary for monitoring and assessing project implementation. This was followed by necessary training sessions for the C/Ps of the target countries. These activities were completed in September 2019.

The 1<sup>st</sup> monitoring was conducted in February 2020, and 3 countries submitted the forms. However, due to difficulties in communication under the COVID-19 pandemic, it became extremely difficult to conduct monitoring activities in the target countries and collect more results to analyze trends and/or provide timely advice.

**<Overall>**

The report was issued in January 2022 (<https://www.sprep.org/j-prism-2/regional-monitoring>); and the indicators of Output 1 were reported fulfilled. Both Project Office and SPREP consider the Output 1 was attained; however, not all target countries submitted the monitoring sheets and it will be necessary to reexamine if target countries restart using the monitoring mechanism, when the situation is normalized.

Output 2: Regional cooperation within the Pacific is organized and promoted by utilizing regional human resource and sharing lessons learnt in the region.	Degree of Achievement: Achieved.
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Indicator	Results
2-1 Training is promoted through regional trainings and human resource	<p><u>Status: Achieved</u></p> <p>&lt;Training&gt;</p> <p>Training implemented in Phase I was reviewed and draft training protocol was developed.</p>



exchanges.	<p>36 Trainings<sup>8</sup> have been organized/co-organized by the project. The information regarding the training is available on the Pacific Island Database of Capacity Development Activities (PIDOC).</p> <p>&lt;Exchange&gt;  Sub-regional training on Waste Landfill Management was conducted in PNG in 2017. for PNG, Solomon Islands and Vanuatu. 1 local counterpart from Vanuatu, 1 from Solomon and 1 from PNG helped support the training session based on their past involvement in JPRISM I.</p> <p>Sub-regional training regarding Disaster Waste Management(DWM) was held in Samoa in Oct 2018 and in Palau in Feb 2019. A local counterpart from Fiji (Lautoka City Council) was used as a resource personnel.</p>
2-2 A sustainable training delivery practice in the Pacific is promoted.	<p><u>Status: Achieved</u>  &lt;PIDOC&gt;  The PIDOC was developed for SPREP to guide future training in PICs. The PIDOC was re-developed in 2019, enhanced in 2020 and handed over to the WMPC in 2022.</p> <p>&lt;Training Materials&gt;</p> <ul style="list-style-type: none"> <li>- The learning materials used for the Trainings on the Proper Preventive Maintenance of Garbage Collection Vehicle and Heavy Machinery are available at <a href="https://www.sprep.org/j-prism-2/report-and-materials">https://www.sprep.org/j-prism-2/report-and-materials</a></li> <li>- In 2019, the Regional Disaster Waste Management Training Manual was developed for future training purposes, in collaboration with SPREP.</li> <li>- In Nov. 2019, the Regional Training Manual was tested and used for a training in Vanuatu.</li> <li>- There has been collaboration with other regional waste programme/projects like SWAP regarding DWM training.</li> </ul>
2-3 Good practice of Solid Waste Management in the target countries is disseminated.	<p><u>Status: Achieved</u>  Country Activities' good practice is being compiled. <a href="https://www.sprep.org/j-prism-2/lessons-learnt/">https://www.sprep.org/j-prism-2/lessons-learnt/</a> (Lessons learnt from CDS are included in Chapter 3 of CDS the Guide. <a href="https://www.sprep.org/j-prism-2/report-and-materials">https://www.sprep.org/j-prism-2/report-and-materials</a>)</p> <p>The PIDOC system was analyzed and redesigned for identifying potential trainers and lessons learnt in the region.</p> <ul style="list-style-type: none"> <li>- The Regional Solid Waste Guidebook 2018 compiles good SWM practices for PICs.</li> <li>- The Regional Disaster Waste Management Guideline 2022 compiles good international practices on DWM for PICs.</li> <li>- The Regional CDL Guideline 2022 compiles good CDL practices for PICs.</li> </ul>
<p>The original verifiable indicators of Output 2 had a great emphasis on “utilizing regional human resource(s)”. Since adjusting to the functions of SPREP, the indicators have shifted to emphasizing training and strengthening human resources in general.</p> <p>Many study cases and lessons learnt have been collected and analyzed under this Output, and the idea of “Pacific-to-Pacific cooperation” is still relevant. Not only the PIDOC, which is highly appreciated by SPREP, but many other useful materials and information are available for, not only target countries but also, other PICs and development partners working in the waste management sector.</p> <p>&lt;Overall&gt;  Although all indicators under Output 2 need more clarification to be verifiable, there are substantial achievements. Therefore, the indicators of Output 2 are assessed as fulfilled.</p>	
<p>Output 3: Regional capacity of disaster waste management is strengthened. Degree of Achievement Achieved.</p>	
Indicator	Results

<sup>8</sup> 18 by Project Office, 2 by Group 1, and 16 by Group 2. 8 out of 36 are regional training where more than 2 countries participated. (7 by Project Office, 1 by Group 2)

3-1 Disaster waste management guideline is disseminated through SPREP to member countries by mid 2020.	<p><u>Status: Achieved</u></p> <p>Many lessons and experiences were learnt from post operations supported by J-PRISM in Samoa during Cyclone Gita in 2018, and Vanuatu and Fiji for the management of the waste generated by the Tropical Cyclone Harold in April 2020.</p> <p>The guideline was officially disseminated to member countries through SPREP in March this year, after endorsement by the SPREP Director and going through the SPREP publication process.</p>
3-2 Disaster Waste Management is included in the national disaster management plan in 2 countries by the end of the project.	<p><u>Status: Achieved</u></p> <p>DWM Contingency Plans for Vanuatu was drafted in 2020, Samoa in 2021, Tonga and Solomon Islands in 2022., Tonga has integrated DW under the NDMO WASH Cluster in 2018. Samoa has integrated DW under the Environment Sector of the National Disaster Management Plan 2017 - 2020.</p> <ul style="list-style-type: none"> <li>- Tonga's inclusion of DW under the WASH Cluster provided the basis for the government support for the follow up DW recovery operations during the Cyclone Gita in 2018 and Volcano-Tsunami in 2022. Samoa's inclusion of DW in the Environment Sector of the National Disaster Management Plan 2017-2020, provided a basis for government budget support for DW recovery operations during Cyclone Gita 2018 and the Flooding in 2020.</li> <li>- Vanuatu is considering a proposal submitted during Cyclone Harold in 2020, to setup an Environment Cluster, which includes DW as a sub-cluster. However, this is yet to be realized.</li> </ul>

The original verifiable indicators of Output 3 were about making a guideline, conducting training and taking countermeasures from the guideline. Current indicators aim higher than the original indicators and have considered what “strengthening regional capacity of disaster waste management” actually means, to assess the level of achievement.

It is extremely difficult to encourage official endorsement and the establishment of national DWM plans in some countries, as the project team does not have control over them.

(Issues: Although Tonga has integrated DW in its National Disaster Response Plans 2018 and 2022, it only covers post operations, with no information on preparedness and reconstruction. The situation is the same in Samoa)

Budget support would be beyond what the project intended, and it should be noted as a positive impact (see Impacts).

**<Overall>**

All activities have been implemented. Although there was a delay in attaining indicator 3-1, both of the indicators of Output 3 have been fulfilled.

Output 4: Practical and sustainable 3R+Return system is enhanced.	Degree of Achievement Mostly Achieved
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Indicator	Results
4-1 Establishment of recycling associations in the Pacific is promoted by 2022.	<p>Status: Achieved.</p> <p>Four (4) Recycle and Waste Management Associations were established before the terminal evaluation survey in Samoa, Vanuatu, Solomon and PNG. Tonga is preparing to establish an association.</p>
4-2 Practical and sustainable 3R+Return system is enhanced through the implementation of a pilot project with a recycling	<p>Status: On-going (Expected to be achieved before the completion of the project.).</p> <p>To understand the current status of and the issues regarding, a practical and sustainable 3R+Return system in the Pacific, JPRISM has been verifying the system, since 2020, through the plastic and waste oil pilot project, with the Samoa Recycling Association. A crushing machine and an extruder for the pilot project was procured in Japan and delivered to Samoa in January 2022.</p>

association by 2022.

The verifiable indicators were modified as below (only the timings changed from PDM 1 to 2):

Output 4 - Objectively Verifiable Indicators		
PDM 0	PDM 2	PDM 3
4-1 Regional recycling practices in the target countries are assessed	4-1 Regional recycling practices in the target countries are assessed by late 2020	4-1 Establishment of recycling associations in the Pacific is promoted by 2022
4-2 Recyclable flow in the Pacific region is made.	4-2 Feasible recyclable flow in the Pacific region is proposed in the report by late 2020.	4-2 Practical and sustainable 3R+Return system is enhanced through the implementation of a pilot project with a recycling association by 2022
4.3 Results of the study on 3R+Return is published.	4-3 Study report on 3R+Return is disseminated and promoted to stakeholders including countries through SPREP by early 2021.	

The activities under Output 4 were originally about conducting various surveys on recycling practices, the recycling flow and monitoring a detailed study on the 3R+ Return system. The output did not include activities to enhance the 3R+Return System in the Region-Wide PDM.

Since there had been very limited scope of actual work planned in the original PDM for each country, the output was thoroughly reviewed. As the result, it was decided that the surveys would be conducted/arranged by JICA HQ, and new activities and verifiable indicators would be introduced in early 2020. Unfortunately, COVID-19, followed by the border closure, meant the location of the pilot project had to shift from the Solomon Islands to Samoa. However, the pilot project went well, and all associations established, have since been following in suit.

Lessons learnt about the role of the recycling association in the Pacific and examples of 3R+Return practices to promote recycling activities by private sector, are uploaded on the SPREP website. <https://www.sprep.org/j-prism-2/lessons-learnt/>

<Overall>

Both indicators need to be clearer, to be verifiable (e.g. how “promoted” and “enhanced” are determined). However, the project team made substantial progresses, despite all the setbacks in such a short time, and the intentions of the new indicators of Output 4, are assessed as being fulfilled.

**(3) Regional Project Purpose:** Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored and supported based on Pacific to Pacific cooperation.

Degree of Achievement: Mostly Achieved

Indicator	Results
1. The contents and monitoring mechanism of the next implementation plan of CP2025 is improved based on the progress monitoring and assessment of performance of SWM.	Status: <u>Partially achieved.</u> Cleaner Pacific 2025 midterm review was done in June 2020, and the Implementation Plan 2021-2025 was endorsed in September 2020 at the SPREP Executive Board meeting. The midterm review of CP 2025 was conducted (funded by the UNEP), and the review’s results were incorporated into the Implementation Plan 2021 – 2025. The information/data used in the review results were mostly from J-PRISM II countries, and the project contributed greatly to the contents; however, it was still unclear how it was contributed improving the monitoring mechanism of the next implementation plan of CP2025.
2. Lesson learnt in	Status: <u>Achieved.</u>

<p>other countries in the Pacific region are promoted at least 8 cases* by the end of the project *Training/workshop conducted by the Project Office and the trainees adapt the cases to fit with their situation.</p>	<p>“Container Deposit Schemes in the Pacific Islands Countries – A Guide for Policy Makers” was finalized in March 2022, and will continue to promote lessons learnt in other Pacific countries. Apart from the above “CDS Guide”, more than 8 cases of lessons learnt/good practices have already been promoted in the Pacific region.</p> <ul style="list-style-type: none"> <li>- Use of the Kobotoolbox application, which improves the gathering of DW information for planning purposes, has been promoted in Solomon, Vanuatu and Samoa, based on the lessons learnt from the Tonga DW project. (3 cases)</li> <li>- DWM support was implemented in Vanuatu and Fiji in 2020 and Tonga in 2022, based on the lessons learnt from past similar support given to Samoa in 2018 and from the disaster waste support given during JPRISM I. (3 cases)</li> <li>- The establishment of Tonga’s disaster waste sub-cluster and Samoa’s similar arrangement for disaster waste under the Environment Sector are being promoted in Vanuatu and Solomon. (2 cases)</li> <li>- The CDL lessons learnt in Kiribati and Palau have been promoted in RMI and FSM and the introduction of CDL initiatives in Vanuatu is ongoing. (2 cases)</li> <li>- The Recyclers and Waste Association established in Samoa was promoted in Solomon, Vanuatu, PNG and Tonga. (4 cases)</li> <li>- The lessons learnt from the existing user pay systems in Tonga and Vanuatu are being promoted in Samoa. (1 case)</li> <li>- Based on the lessons learnt from Samoa, waste collection was improved in the rural areas of Palau and Tonga. (2 cases)</li> </ul>
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The verifiable indicators were modified as below.

PDM 0	PDM 1, 2, 3
Project Purpose - Objectively Verifiable Indicators	
<p>(Integrated Project Purpose) Achievement level of project purpose in the target countries.</p> <p>(Regional Project Purpose) 1. Performance of solid waste management are assessed through national reporting of the target countries. 2. Regional training system in the Pacific region are set up. 3. Good practices in the Pacific region are promoted.</p>	<p>(Integrated Project Purpose) Achievement level of project purpose in the target countries.</p> <p>(Regional Project Purpose) 1. The contents and monitoring mechanism of the next implementation plan of CP2025 is improved based on the progress monitoring and assessment of performance of SWM. 2. Lesson learnt in other countries in the Pacific region are promoted at least 8 cases* by the end of the project. * Training/workshop conducted by the Project Office and the trainees adapt the cases to fit with their situation.</p>

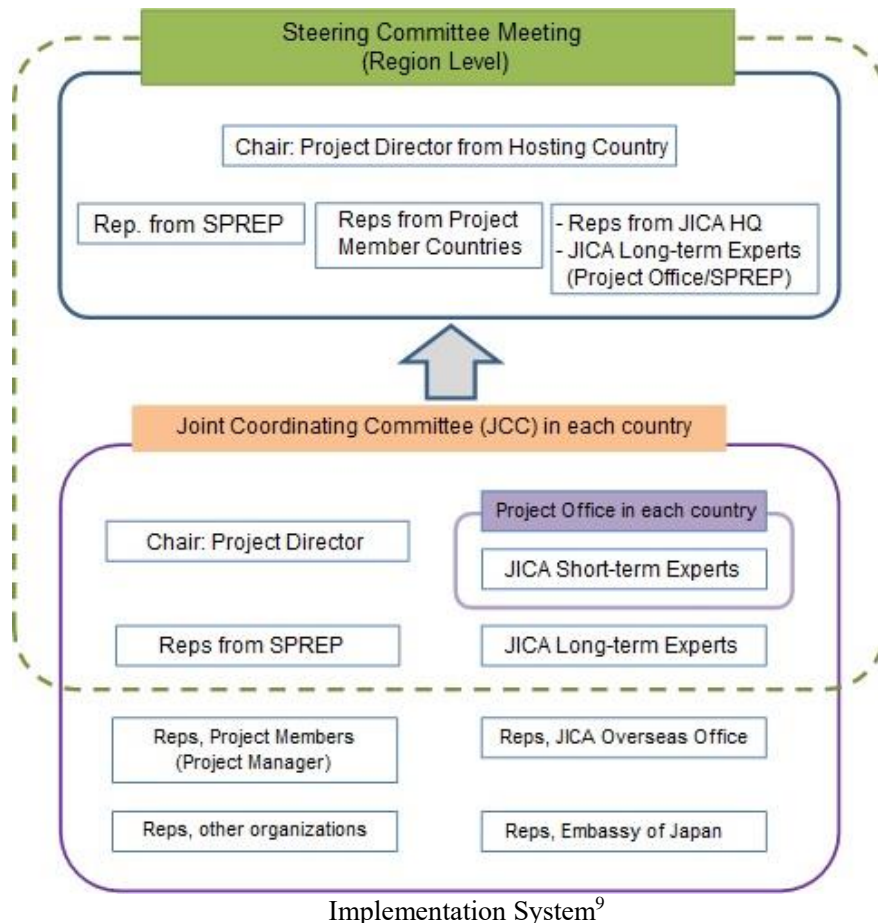
As there were no directly related outputs/activities, the original indicator 2 was discarded. While the original indicator 1 was clearly focused on monitoring, the current indicator 1 is vague and needs more clarification to be verifiable. As Output 4 changed dramatically, another indicator could have been added to assess the effects achieved by the establishment of a Recycle Association in target countries. At the time of the terminal evaluation, although indicator 1 was assessed as only partially achieved, great achievements were made in the latter part of the Project Purpose. Therefore the Region-Wide Project Purpose was assessed as having been “Mostly Achieved”. Whenever large changes are made to inputs or activities, indicators should be examined and altered accordingly, to reflect the reality of the project.

<b>(4) Project Implementation Process</b>
<p>(a) Implementation System and Project Management After the J-PRISM I project’s mid-term review, the implementation system was reformed, contracting out three groups of consultant teams to cover sub-regions: Melanesia, Polynesia and Micronesia instead of</p>

contracted independent experts the Project Office to conduct technical transfer in each country. This system was adopted in J-PRISM II, and three sub-regional project coordinators were assigned to Solomon, Samoa and Palau to monitor and support the consultant teams. However, the system did not work as anticipated, and the sub-regional project coordinators' positions were discontinued.

Unlike the individual countries, SPREP is not an implementing organization but a hosting partner for J-PRISM II. Therefore, there is no Joint Coordinating Committee (JCC) and the Project Office's function is to implement regional project components to support SPREP in achieving CP 2025.

The chart below shows the relationship between the JCC in each country and the Project Office/SPREP.



The JCCs in each country are the decision making bodies for the project operation in each country. The Steering Committee Meeting also has valuable functions, such as, generating ideas through the exchange of information /lessons learnt and boosting motivation.

also have valuable functions, such as, generating ideas through the exchange of information /lessons learnt. The C/Ps from the Solomon and Vanuatu were insistent that they needed full-time long-term experts in their countries to strengthen human resources and tackle waste management issues (See details for Terminal Evaluation Reports of Solomon and Vanuatu).

[SPREP Side]

SPREP has been a reliable partner to JICA for a long time. As stated earlier, SPREP is not an implementing organization, but a hosting partner for the project. Like many multi-lateral organizations, unless funding is available, it is difficult for SPREP to implement and/or monitor the progress of CP2025.

SPREP recognizes the long-term commitment, dedication, and contribution of JICA to Waste Management in the region. The work of JICA experts has been greatly appreciated by the Director and staff members of the Waste Management and Pollution Control Programme (WMPCP). The main C/P changed twice during the project period; however, SPREP has always provided C/P(s) to support the Project Office as much as

<sup>9</sup> The Figure is a translated version from *Detailed Planning Survey Report on J-PRISM2*, JICA.

possible.

[JICA Side]

One of the challenges has been the turnover of JICA personnel, including the Chief Advisor (CA) and the person in charge of the project in JICA Headquarters (HQ). There have been four Chief Advisors (CAs), including one Acting CA, and each time the CA or the main personnel of HQ changed, the project experts had to adjust their work accordingly. The three Sub-Regional Coordinators, who had been expected to be keys to make strong linkage between the Project Office with SPREP and each country, were discontinued without alternative solutions being introduced.

With the changes in personnel, COVID-19 made it extremely difficult to continue activities. As the current Project Office experts started to settle in 2020, and had been working from home in Japan while the international travel ban was in place, they had to wait until it was lifted in 2021 to enter the country.

(b) Method of Technical Transfer

JICA training sessions have been taking place in both Japan and countries within the region. SPREP is not the subject of technical transfer, therefore the following are regarding the individual countries.

Some C/Ps commented in the questionnaire, that most of the work seemed to be done by the experts, and that they believed that the project's mode of delivery should be reviewed and improved. While the technical experts make a lot of progress on activities when they are in the country, once they leave, the momentum dies and local C/Ps become disengaged. The project should consider bringing on full time experts to work alongside local C/Ps. This would ensure that project activities are executed efficiently and that the capacity of local C/Ps is also enhanced, as the more time spend with an expert, the more learnt and the more competence built.

(c) Communication

There is very good communication between SPREP and the Project Office. However, communication between the Project Office and Short-term experts seemed to vary depending on the country. This may be because the short-term experts' report lines are to the JICA Overseas Offices and the HQ, rather than the Project Office.

Although many JICA overseas offices seem to have a close relationship with the short-term experts, some have minimal communication with the Project Office. Many staffs of JICA overseas offices are only interested in the country specific activities, in other words, there is few officers, who are interested in the regional aspects of the project. If the person in charge of the project is interested in the whole picture of the project, the region-wide activities tend to go smoothly, since there is more communication and less misunderstandings.

Unlike the 1<sup>st</sup> Phase project, many C/Ps didn't have direct contact with long-term experts in the Project Office. However, during the pandemic, some C/Ps commented that they received more support from the long-term experts in the Project Office than the short-term experts, and ended up implementing more regional activities than national.

(d) Region-Wide Activities of J-PRISM2

	Year/Month	Training/Workshop (participating countries)	Host Country	Remarks
1	2017/10-11	Melanesia Landfill Operation and Management Training (PNG)	PNG	Co-hosted by SPREP Trainers from Vanuatu and Solomon
2	2017/11	Trainer Dispatch for Ranadi Rehabilitation Work	Solomon Is.	Trainer from Vanuatu
3	2018/02	Sanitary Landfill Design and Operation by Fukuoka Method (Palau, FSM and RMI)	Palau	Mainly organized by JICA Kyushu Center, and J-PRISM2 beard the travel cost to invite FSM and RMI's participants.
4	2018/03	Disaster Waste Management and	Samoa	Co-hosted by SPREP

		Tafaigata Waste Disposal Site Risk Assessment Review		
5	2018/10	Regional Disaster Waste Management Guideline Development Consultation Workshop (Fiji, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu)	Samoa	Co-hosted by SPREP
6	2019/02	Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, FSM and RMI)	Palau	Co-hosted by SPREP
7	2019/11	Disaster Waste Management Workshop, Trainers Training	Vanuatu	Co-hosted by SPREP
8	2020/03	Disaster Waste Management Workshop, DWM Contingency Plans Vanuatu	Vanuatu	Co-hosted by SPREP
9	2021/10	Kobotool Training for Disaster Waste Management	Vanuatu	On-line
10	2021/12	Kobotool Training for Disaster Waste Management (Fiji, Samoa and Kiribati)	Samoa	On-line
11	2021/07 – 2021/10	Online Training on Daily Inspection (Pre- & Post- Operation Inspection) of Waste Collection Vehicles and Heavy Machinery	FSM, Palau	On-line
12	2022/02	Regional Workshop on Waste Collection Vehicles and Heavy Machinery	FSM, Palau and RMI (Virtual)	On-line
13	2022/02	Consultation on Periodic Maintenance of Waste Collection Vehicles and Heavy Machinery	FSM, Palau and RMI (Virtual)	On-line
14	2022/03	Regional Workshop on Waste Collection Vehicles and Heavy Machinery (Fiji, FSM, Palau, Solomon Islands and RMI)	FSM, Palau and RMI (Virtual)	On-line
15	2022/3	Regional Workshop on Waste Collection Vehicles and Heavy Machinery	RMI (Virtual)	On-line
16	2022/3	Kobotool Training for Disaster Waste Management	Tonga	On-line
17	2022/6	Solomon Islands Kobotoolbox Training for Disaster Waste Management	Solomon	On-line

(e) Coordination with Other Japanese and International Projects/Partners

The following are other Development Partners that the Project Office has some level of coordination with.

Development Partners	Type of coordination
PacWastePlus (PWP)/SPREP	Demarcation in target countries and advice to the DWM sector. Implementation of the Moana Taka Partnership (MTP), first initiated by J-PRISM2. Collaboration in Container Deposit Scheme in Vanuatu.
International Organization for Migration (IOM)	Information exchange with J-PRISM2. IOM has been assisting disaster waste management in Vanuatu through UNEP.
Agence Francaise de Development (AFD)	Potential to collaborate in some target area Used oil / Marine Debris (Cleanups) / Sustainable financing / Disaster waste management

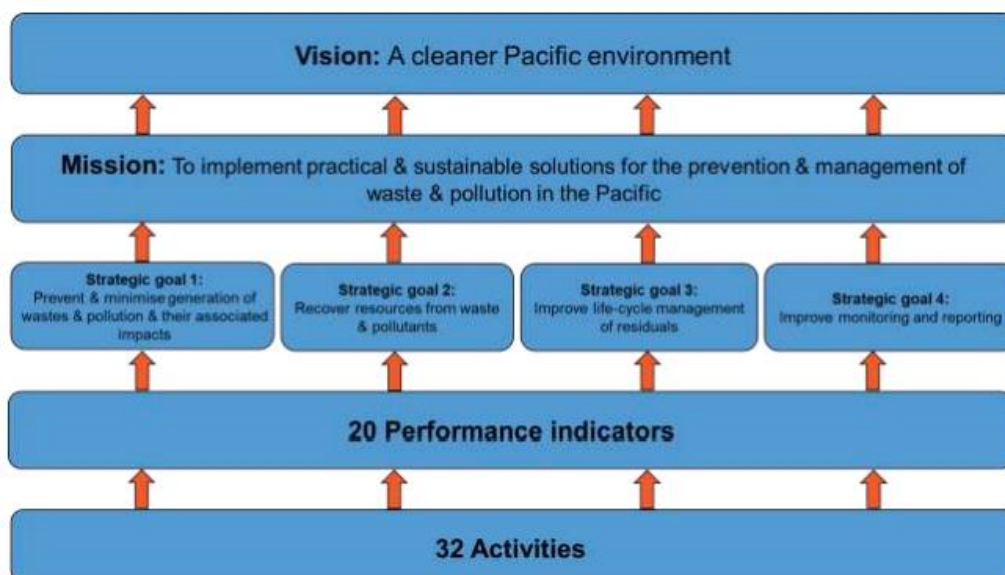
Asian Development Bank (ADB)	Information exchange Potential involvement in the Luganville landfill, Vanuatu Waste management in Honiara and Munda, in Solomon Waste management in RMI
United Nations Development Programme (UNDP)	Cooperation via the Circular Economy for the Waste Recovery of Waste Programme (CERO Waste) Plastic and glass recycling in Samoa and Tokelau. Coordination necessary in Samoa.
Global Environment Facility (GEF)/ISLAND	Information exchange on over-wrapping in target countries 14 target countries. Assist in setting-up hazardous waste management strategies. E-waste (Vanuatu, Solomon), Used oil (FSM, RMI), Chemical waste (Palau), POPs (PNG), Improving landfill (Tonga), Community waste (Fiji), Residual waste (Samoa)
International Union for Conservation of Nature and Natural Resources (IUCN )	The workshop to present the final report on Plastic Waste Free Islands Project (PWFI) in October 2021.

The PacWastePlus Project, funded by the EU and implemented by SPREP, supports the development of a Container Deposit Scheme following recommendations by Pre-Feasibility Study undertaken as parts of project activities by J-PRISM2.

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

<p><b>Relevance</b> Relevance of the Project is still high.</p> <p>(a) Necessity There have been improvements made in waste collection after the completion of the J-PRISM Phase I project, in some areas of each country. However, the amount of waste is still increasing with economic development, urbanization and the modernization of lifestyles. There are some issues found to be common to all target countries: the inability to provide similar services in various areas, including rural areas and remote islands; issues related to the increase in waste, due to population growth, economic activity and the development of final disposal sites; and low recycling rates. Therefore, waste management needs to be further strengthened.</p> <p>(b) Priority Waste Management is a priority issue in the development strategies of the respective countries. The Project is highly relevant to the Development Policies of all PICs, which set out the governments' continuous commitment to strengthening SWM. The Project has also been aligned with the single regional sector strategy, Cleaner Pacific 2025, a comprehensive long-term strategy for integrated and sustainable waste management and pollution prevention and control in the Pacific islands region from 2016 to 2025</p>
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Key elements of the 2021–2025 Implementation Plan<sup>10</sup>

### Coherence

The overall coherence of the project is relatively high.

#### (a) Coherence with Japanese aid policy

The Project is consistent with the Japanese ODA policy. In the Seventh Pacific Islands Leaders Meeting (PALM 7) Fukushima 'Iwaki' Declaration in May 2015, followed by PALM 8 in 2018, in which reaffirmed the importance of sustainable development, management and conservation of environment. Leaders expressed their commitment to comprehensive and integrated efforts to address environmental issues, including the promotion of environmentally sound waste management and 3R (reduce, reuse and recycle) policies. They also noted the value of the Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM).

#### (b) Coherence with Japan's other schemes

Before the outbreak of COVID-19, the project had good collaboration with the volunteer program and found that volunteers could be good assets in awareness activities. The collaboration with Grassroots and Human Security Grants Projects under Japanese Embassies proved to be effective.

#### (c) Coherence with other partners

The following is a list of major programs and/or activities in the region.

- PacWastePlus (PWP) funded by the European Union (EU)
- Sustainable Waste Actions in the Pacific (SWAP) funded by the Agence Francaise de Development (AFD)
- Implementing Sustainable Low and Non-Chemical Development in Small-Island Developing States (ISLANDS) (2021-2026) funded by the Global Environmental Facility (GEF) & the United Nations Environment Programme (UNEP)
- The Pacific Ocean Litter Project (POLP) funded by Australian Aid
- The Regional Recycling Network Scoping Study conducted by the Pacific Regional Pacific Regional Infrastructure Framework (PRIF)
- “The Majuro Integrated Urban Services Improvement (IUSI) Project” and “Ebeye Solid Waste Management Project” for RMI and “Preparing the Honiara Sustainable Solid Waste Management Project (Project Readiness Financing)” for Solomon funded by the Asian Development Bank (ADB)
- The Circular Economy for the Waste Recovery of Waste Programme (CERO Waste) funded by United Nations Development Programme (UNDP)

<sup>10</sup> SPREP, *Cleaner Pacific 2025 Pacific Regional Waste and Pollution Management Strategy IMPLEMENTATION PLAN 2021–2025*.

issued on 31 July 2020.

- Plastic waste-free islands concept solutions funded by the International Union Conservation of Nature (IUCN)
- The Centre for Environment, Fisheries, and Aquaculture Science (CEFAS) supported by the United Kingdom (UK)
- Strongim Bisnis for Solomon funded by Australian Aid

Twenty years ago, there was little interest in assisting waste management for the PICs and JICA did not need to worry about aid coordination. With promotion from JICA and SPREP, waste management has successfully become a mainstream issue in the region and many development partners have started to work in this field. After the COVID-19 pandemic started, development partners paced down and so did the need for aid coordination. Since there are so many stakeholders and most partners have started to reactivate activities, more alignment with others will be essential. Many development partners are working under SPREP. Although, there are not many permanent staff members in SPREP and there are so many large donors present in the sector, to maximize the benefits of donors' contributions, SPREP must have a stronger grip on aid coordination. However, as most programmes/activities are regional and have project offices under SPREP, and information exchange is easier among donors.

### Effectiveness

Evaluation: Effectiveness is relatively high.

#### (a) Achievement of Project Purpose

Output 1, directly related to Indicator 1, was assessed as only "Partially achieved". However, despite difficulties during the COVID-19 pandemic, remarkable achievements were made in Output 2, 3 and 4, and Indicator 2 of the project purpose has exceeded expectations. Therefore, as explained in "(3) Regional Project Purpose", the Regional Project Purpose has been assessed as "Mostly achieved".

Indicator 1 also needs more clarification in what was supposed to be achieved. The SPREP is supposed to monitor the progress of CP 2025, and the project was designed to assist the process by creating forms, etc. However, SPREP does not have sufficient human resources nor the necessary finances, and could not conduct the monitoring with own fundings.

Although the first part of the Project Purpose, "Implementation of the Cleaner Pacific 2025 on solid waste management is timely monitored" did not match with Indicator 1 and was not achieved; the latter part, "Implementation of the Cleaner Pacific 2025 .... is supported based on Pacific to Pacific cooperation", was well achieved. Regional projects still have an important role to play, as learning from each other, capacity development in human resources and creating institutions are very effective in the Pacific region.

#### (b) Contribution of Outputs to Project Purpose

Logical relations between outputs and the project purpose were confirmed; however, Indicator 1 is achieved solely by Output 1 and Indicator 2 though Output 2, 3 and 4. Since Output 4 was changed radically, it could have altered the verifiable indicators of the Project Purpose timely and accordingly to reflect the changes on activities.

#### (c) Other promoting/inhibiting factors

No specific factors have been identified.

### Efficiency

(Due to the extraordinary situation with COVID-19 pandemic, the degree of "Efficiency" was not determined.)

#### (a) Production of Outputs

Output 1: partially produced.

Output 2: assessed as fully produced, although all indicators under Output 2 need more clarification to be verifiable.

Output 3: produced more than expected, although there were delays in attaining indicator 3-1.

Output 4: expected to be fully produced before the completion of the project, although both indicators need to be clearer to be verifiable.

#### (b) Appropriateness of Inputs

##### <SPREP side>

Inputs from the Pacific/ SPREP side have mostly been appropriate.

SPREP has arranged to cover the cost of the mid-term review on CP 2025, by UNEP.

##### <Japanese side>

Inputs by the Japanese side have been fairly appropriate in producing Outputs.

- Project Office experts: In terms of timing and quantity, dispatch of JICA Experts was more or less

appropriate before the pandemic, other than the one year blank period before the current 3R+Return expert was recruited. However, the border closure made it impossible for JICA Experts to travel, and caused delays in some activities that were supposed to start after April 2020. The Current Chief Advisor (CA) is the 4<sup>th</sup> CA (including Acting CAs) in 3 and 1/2 years and possibly affecting the effectiveness of the project.

In regard to quality, the JICA experts were highly regarded by SPREP and C/Ps; however, C/Ps interviewed, commented that some of the sub-regional coordinators might not have had the appropriate experience/skills.

- Equipment: The majority of equipment provided for the regional activities was for disaster responses (Samoa and Vanuatu) and the pilot project in Samoa. They were provided in a timely manner, very appreciated and utilized effectively; however, the crushing machine had arrived in the middle of the COVID-19 pandemic, and it was not opened until the expert-in-charge returned to Samoa in 2021 (at the time of the terminal evaluation, it was reported that the crushing machine together with one extruder machine, planned to start utilizing from July 2022).

- Local cost: The necessary amount of local operation was disbursed in time. Costs regarding 1 Assistant Chief Advisor (Local Expert) and 1 Local Project Assistant is included in the local costs.

(c) Utilization of external resources

As noted under “Coherence”, after the COVID-19 pandemic, development partners paced down as did aid coordination. However, there are so many partners in the region, the collaboration with several donors such as EU, GEF, UN agencies, AFD, ADB is essential and has generated the positive outcomes with the programmes such as PWP, GEF7/ISLAND, SWAP, CERO waste etc.

(d) Promoting and inhibiting factors

<Promoting factors>

- Since many partners are based at the SPREP, it is easy to access information on other regional projects.
- As one of the outputs is on disaster waste and it is a regional project with 9 target countries, prompt post disaster assistance became possible for the countries, when large-scale natural disaster occurred (e.g. the cyclone and the flood in Samoa, the cyclone in Vanuatu and the volcano eruption near Tonga).

<Inhibiting factors>

- The COVID-19 pandemic prohibited experts from supporting project activities and has caused delays in some activities, including a timely revise of the PDM.
- Project personnel changes on both the SPREP side and the Japanese side, including Project Office experts, JICA HQ and overseas office personnel, seemed to negatively influence the progress of the project.
- While positions of sub-region coordinators discontinued, the weak management of the Project Office and the structure of the project implementation at the beginning of the project could further weaken the linkage between the region-wide PDM and the country-specific PDM in particular, of Melanesian and Polynesian countries, and could affect negatively on the region-wide activities.

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**Impact**

The indicator of the Overall Goal was not verifiable; therefore it is necessary to set up verifiable indicator (s). Various positive impacts have been observed. Negative impacts have not been observed.

Overall goal and the indicator of the region-wide PDM as follows:

Overall Goal (Common):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

However, the indicator above is not verifiable, and it is impossible to examine the possibility of achieving the overall goal at the terminal evaluation. It will be necessary to set appropriate verifiable indicator (s) for the Region-Wide activities.

<Positive Impacts>

- The Moana Taka Partnership (MTP)<sup>11</sup> was a joint effort by SPREP and J-PRISM2, initiated by the 1<sup>st</sup> 3R+Return expert in J-PRISM2, and Fiji, Samoa, PNG and RMI have already started to use MTP.

<sup>11</sup> 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 partnership is a critical partnership which facilitates a circular economy, by providing access to waste and recycling infrastructure abroad.

- The project could promptly assist Samoa, Vanuatu and Tonga when major natural disasters hit. Moreover, the project strengthened close ties with National Disaster Management Offices, in particular, Vanuatu, Solomon and Tonga, which are the top 3 high risk countries in disaster risk index in the world<sup>12</sup>.
- The project led Tonga's Disaster Waste Recovery Plan which provided the basis for government budget support to follow up Disaster Waste recovery operations. Samoa's inclusion of Disaster Waste under the Environment Sector in the National Disaster Management Plan 2017-2020, provided the basis for government budget support for Disaster Waste recovery operations during Cyclone Gita 2018 and the flooding in 2020.
- The establishment of recycle associations were not in the original scope of the project; however, 4 Recycle and Waste Management Associations were established in Samoa, Vanuatu, Solomon and PNG, and Tonga will soon have one as well. This activity has been boost the 3R+Return concept in target countries.

<Negative Impact (turned into a positive outcome and learning opportunities)>

- Used oil was collected and stored under the pilot project with SRWMA, and oil leaked from a damaged drum. Although the project activity did not cause the leakage, it could negatively affect the environment, and the measures against the problem was promptly identified and the land farming technology with utilizing used oil was introduced to purify contaminated soil. Ascertaining the effect of the land farming method requires scientific analysis in laboratories, such as periodical analysis of ground water quality, etc., and a high level of coordination skills. Therefore, the project team has been involved C/Ps from MNRE and SRWMA to pass on the knowhow required to deal with such an incident.

### **Sustainability**

Sustainability could be medium-high if SPREP and target countries continue their commitment.

#### (a) Policy and institutional aspects

Cleaner Pacific: Pacific Regional Waste and Pollution Management Strategy 2016-2025 is the only comprehensive regional waste and pollution management strategy in the Pacific Region. A midterm review was conducted in 2020, and "CP 2025 Pacific Regional Waste and Pollution Management Strategy Implementation Plan 2021–2025" was developed and issued on the 31<sup>st</sup> of July 2020. J-PRISM II supports CP 2025, and political and institutional sustainability is likely to be secured.

#### (b) Organizational aspects

In terms of regional cooperation on waste management, the Clean Pacific Roundtable was established and has been meeting regularly since 2016 to develop a framework for sharing information on waste management in the region. On the other hand, the number of personnel in charge of waste management who officially assigned to work as a coordinator for the J-PRISM2 is limited to one, and the SPREP would have been struggle to continue the activities without the support of the Project Office and/or other partners.

#### (c) Financial aspects

Like other regional organization, SPREP's revenue is made up of contributions from member countries and funding from development partners. The EU had pledged the largest amount of funding, 17 million EURO, under EDF 11 (2017-2022), and over 7 mil USD was still available in the end of year 2020. Regarding programme/donor fund income, Waste Management and Pollution Control increased its support from 2,424,287USD (2019) to 3,019,346USD (2020). It shows strong interests amongst donors in this sector.

#### (d) Technical aspects

Despite communication gaps during the COVID-19 pandemic, C/Ps' technical capacity regarding SWM, landfill management, and the 3R+Return concept have gradually enhanced by applying the knowledge and skills acquired through the project period and a remote support by the project experts. In some countries, most of the knowledge and technology transferred through the project is expected to be maintained. However, staff turn-over threatens the sustainability of the project, and more training and technical transfer will be necessary for newly recruited staff members. The database of human resources and training information, PIDOC was submitted to SPREP, and expected to be utilized to further enhance human resources in the region.

### **Influence on the COVID-19**

Due to the COVID-19 pandemic, all long-term experts had to return to Japan in the beginning of April 2020 (one returned to Samoa in January 2021, another returned in April 2021). The current CA was assigned in September 2020, and after working remotely from Japan for 6 months, shifted to Samoa from April 2021.

This has resulted in delays in project activities which needed the physical assistance of experts. On the other

<sup>12</sup> *WorldRiskReport 2021*. P.7

hand, online meetings and administrative works has been much more efficient and has cut time and costs, and produced several creative ideas, such as utilizing the Kobotoolkit for data collection, providing on-line training for mechanics and introducing GPS to improve landfill and rubbish collection.

#### IV. Conclusions

After careful examination of the Project Performance and the Project Implementation Process, (1) the Project is relevant, (2) overall coherence is relatively high, (3) the project is effective, (4) positive impacts are observed and (5) sustainability could be ensured with the continuous commitment of SPREP and target countries and high interests from development partners.

The Project Purpose is expected to be mostly achieved before the completion of the project. Therefore, it is appropriate to terminate the Region-Wide scope of the J-PRISM2 in March 2023, in accordance with the next phase commencing.

#### V. Recommendations

##### **To the Project** <Identifying country-specific verifiable indicator(s) of Overall Goal>

The Overall Goal and the indicator for the region-wide PDM are as follows.

Overall Goal (Region-wide):

Sustainable management of solid waste management in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025)

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for Samoa

- X or more (or "All") national waste management strategies/policies of target countries are revised or up-to-date.
- Waste management plan (s) for at least one city of each country based on the national waste management strategies/policy is created/revised.
- More than XX% of trained personnel remains working in the waste management sector in the region.
- Project activities/implementation is included in the organizational annual work plan report.

<Before the end of the project>

##### To summarise the achievement and the remaining things to do under Output 4

It will be extremely useful for JICA to know what's been achieved and what should be done in the end of the project for the future assistance; therefore, it is recommendable for the Project Office to summarise the achievement and the remaining things under Output 4.

##### **To the JICA Overseas Office/JICA headquarters**

<Promotion and Awareness of Regional Projects' Concepts in the Pacific Region>

It is recommendable to promote J-PRISM's regional concepts further to the JICA Overseas Office. The Project Office needs more support from the JICA Overseas Offices to achieve regional goals, that cannot be attained by individual countries effort.

#### Attachment:

1. Project Design Matrix (PDM Version 3)
2. Plan of Operation (PO Version 3)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Republic of Palau</b>
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**I. Project Outline**

Background	The amount of solid waste generation in Palau has been increasing in recent years due to the inflow of imported goods and the types of waste have become more diverse. Solid waste management (SWM) is urgent issue especially in Koror State, where the capital and population is most concentrated in Palau. JICA had been supporting the SWM in Palau, including capacity development of the national government and Koror State from 2005-2008; introduction of container deposit legislation (CDL) in 2011, among others. However, there still remained challenges, including the need for improvement in the collection and transportation system and for development of a new landfill as the old landfills were nearing their capacities with some environmental concerns. Building on the efforts of J-PRISM Phase I to lay down the basic foundation of the human and institutional capacity for sustainable SWM, J-PRISM II was implemented to strengthen human resources, organizational and institutional infrastructure for sustainable waste management and strengthen the recycling system through the implementation of Cleaner Pacific 2025.
Summary of the Project	See Attachment 1 (PDM) and 1 (PO) for details
Country Project Purpose	With a view to commencement of a new landfill site, an appropriate solid waste management system is created
Outputs	Output 1: New NSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are officially submitted to the Minister. Output 2: Good practices of solid waste management /3R are promoted in country and the region Output 3: Waste collection is improved in 10 states of Babeldaob Island and in Koror Output 4: Transition from M-dock landfill to a new landfill is appropriately carried out
Implementing Agency	Solid Waste Management Division, Bureau of Public Works (BPW-SWM) under the Ministry of Public Infrastructure, Industries and Commerce (MPIIC), 10 state governments of Babeldaob island, Solid Waste Management Office of the Koror State Government (KSG-SWM)
Project Duration	February 2017 – September 2022 (5.5 years)
Target Group	6 counterparts (C/P) (as of April 2022) Management C/Ps: Project Director (1), Project Manager (1) C/Ps: 2 BPW-MPIIC, 2 Koror State Government (KSG)-SWM
Target Area/ Target Population	Palau 17,661 (2015)

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of April 2022)</b>	
<b>Japanese Side</b> 1) Experts (MM) 7 Short-term Experts (52.64MM in country and 34.40MM in remote for the three countries of Micronesia), including 1 expert of vehicle and heavy machinery maintenance held several remote workshops  2) Provision of Equipment - 1 drone - 1 projector	<b>Palau Side</b> 1) Allocation of Counterparts Two (2) management C/Ps and four (4) C/Ps were recognized as C/Ps for the Project.  2) Local Cost: The counterpart organizations provided appropriate facilities and bore local costs to ensure smooth implementation of the activities.  3) Office space

<p>3) Training</p> <ul style="list-style-type: none"> <li>- Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method</li> <li>- Regional Disaster Waste Management Guideline Development Consultation Workshop</li> <li>- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries</li> </ul> <p>4) Local cost support JPY 15,352,000 (approx. USD132,854)<sup>1</sup> for Palau, RMI and FSM Major expenses are as follows:</p> <ul style="list-style-type: none"> <li>- Consultants (JPY 6,166,700 approx. USD 53,366)</li> <li>- Hiring cars (JPY 4,182,000 approx. USD36,190)</li> </ul>	<p>The counterpart provided necessary office space at the time of visits by experts.</p>
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**(2) Outputs**

<p>Output 1: New NSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are officially submitted to the Minister</p>	<p>Degree of Achievement: Achieved</p>
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Indicator	
<p>1.1 Current SWM situation, issues and measures are elaborated in the NSWMS.</p>	<p><u>Status: Achieved</u> The Palau Integrated Waste Strategy 2017 to 2026, which covers both solid and hazardous wastes, was drafted with support of SPREP in November 2017. The project conducted SWM baseline surveys, which included incoming waste amount survey to the disposal site and the public opinion survey on waste discharge manner on 8th -18th June 2017 to create a waste flow, which served as a foundational tool for the formation of National Solid Waste Management Strategy (NSWMS). Then the current SWM situation in Koror and 10 states in Babeldaob was analyzed technically and quantitatively based on the waste flow. The results were shared among stakeholders through a series of meetings.</p> <p>BPW-MPIIC in collaboration with the project built on the draft strategy, incorporated the findings of the baseline surveys, and formulated the NSWMS 2017 to 2026. C/P officials from BPW, Environmental Quality Protection Board (EQPB) and KSG were consulted and a consensus was reached.</p>
<p>1.2 The NSWMS (final version) is submitted to the Minister</p>	<p><u>Status: Achieved</u> NSWMS was submitted and approved by the Minister on 30th January 2019.</p>

Overall

The output has been fully achieved. The technical and quantitative analysis at the outset of the project was key to the formulation of the NSWMS that was concrete and action-oriented. Through this analysis, challenges and priorities became clear to the C/Ps and relevant actors, which directed the implementation of activities under Output 3.

<sup>1</sup> JICA Official rate in March 2022 (1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

Output 2: Good practices of solid waste management /3R are promoted in country and the region		Degree of Achievement: Mostly achieved
Indicator		
2.1 What is learned from the training organized by J-PRISM (II) Project Office is utilized.	<p><u>Status: Mostly achieved</u></p> <p>Following trainings were conducted. A high number of Palauan officials participated in training on relevant topics.</p> <ul style="list-style-type: none"> <li>- Training on Sanitary Landfill Design and Operation by Fukuoka Method (February 2018/Palau): Thirteen (13) government officers from BPW and KSG attended. The knowledge gained was applied in the improvement of the M-dock final disposal site (extension of the third berm and realignment of the access road), which helped prevent scattering of waste by the wind, as well as made the waste invisible from the surroundings.</li> <li>- Regional Disaster Waste Management Guideline development consultation workshop (February 2019/Palau): Twenty-four (24) officers from BPW, KSG and other departments attended.</li> <li>- The On-Line Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries (September 2021 / On-line). Jointly done with J-PRISM Project Office in Samoa and 13 officers (7 officers from BPW and 6 officers from KSG) actively participated in the training. Some on-site staff, such as mechanics, who participated in the vehicle maintenance training, had difficulty communicating in English. C/P confirmed that landfill workers have been following the maintenance manual for all equipment.</li> </ul>	
2.2 Palau's experience is presented at regional level meetings.	<p><u>Status: Achieved</u></p> <p>BPW and KSG organized a workshop on SWM for ten Tuvaluan government officers from the Ministry of Finance, the custom office and municipalities who visited Palau in January 2018. The trainees learnt about CDL system, financial arrangement on SWM and other recycling activities in Palau.</p> <p>Furthermore, SWM and 3R activities in Palau were presented by Palauan officers at the second steering committee meeting of J-PRISM II in Fiji in August 2018 and the third steering committee meeting in Samoa in September 2019, both attended by the nine participating countries of J-PRISM II. A special session “Designing CDL (Container Deposit Legislation) and the greater benefits for Pacific Island Countries” was organized and Palauan experiences were shared at the third steering committee meeting in September 2019.</p> <p>At the 3rd Clean Pacific Round Table in November 2021, Palauan officials presented experiences of Palau.</p> <ul style="list-style-type: none"> <li>- Technical Session 1 “Government”: A BPW official presented the government role in SWM, as a speaker</li> <li>- Side event “Session for Sustainable Financing”: A BPW official presented financial arrangement of the Palauan CDL system</li> </ul> <p>The outline of the NSWMS was presented by BPW-MPIIC at the second Joint Coordinating Committee (JCC) on 13th February 2019.</p> <p>Good practices were uploaded at <a href="https://www.sprep.org/j-prism-2/lessons-learnt">https://www.sprep.org/j-prism-2/lessons-learnt</a>, including “Container Deposit Scheme in Peleliu Island”. A modified CDL was introduced in a remote island of Peleliu with the support of Japan Overseas Cooperation Volunteers (JOCV) scheme. This can be considered as a scaling-up / spin-off of the good practice of CDL in the main island.</p>	



Overall

It was verified that knowledge gained from some training were applied, and good practices of Palau were showcased in regional forum. The Output has been mostly achieved

Output 3: Waste collection is improved in 10 states of Babeldaob Island and in Koror Degree of Achievement Achieved

Indicator	
[10 States under purview of BPW-SWM] 3.1 Critical issues of waste collection are identified by the counterpart officials.	<u>Status: Achieved</u> The SWM baseline survey, which included incoming waste amount survey to the disposal site and the public opinion survey on waste discharge manner, was conducted from 8th to 18th June 2017 to create a waste flow, based on which the current SWM situation in Koror and 10 states in Babeldaob was analyzed technically and quantitatively. The results were shared among stakeholders through a series of meetings. Through this process of the technical and quantitative analysis, critical issues of waste collection were clarified and understood by the C/P officials and relevant actors.
3.2 Inter-state collection plan is formulated.	<u>Status: Achieved</u> In February 2019, GPS data loggers were installed in all the existing waste collection trucks in 10 states of Babeldaob Island to record information such as waste collection route, points, and schedule. Based on the analysis of this information, an inter-state collection plan was prepared in January 2020 which served as specifications for tender document to select collection companies.
3-3 Officials in charge of SWM in 10 states participate in a workshop to disseminate the 10 state-wide collection plan.	<u>Status: Achieved</u> The workshop was implemented in January 2021 due to the delay of the construction work of the new landfill site, which was originally scheduled before October 2020. BPW explained the planned inter-state collection system to the relevant officials of the 10 states.
3-4 Collection based on the inter-state collection plan is initiated.	<u>Status: Achieved</u> Tender for selecting waste collection companies was implemented in October 2020 and a private contractor (Babeldaob Waste Collection Company) was selected as a result. The construction of a new final disposal site was completed in November 2020 with the support of grant aid by the government of Japan. After a period of preparation, including a trial collection in each state, the inter-state collection service in 10 states of Babeldaob was commenced on 22 <sup>nd</sup> of February 2021 with the opening of the new disposal site in Aimeliik. Since then, the inter-state collection in Babeldaob Island has been implemented smoothly. Monthly meetings between BPW and the 10 states have continued to address any emerging issues, such as difficulty in accessing some areas at times of heavy rain.
[Koror] 3-5 Provided support/information is utilized by Koror State Government.	<u>Status: Mostly achieved</u> As the SWM department of Koror State Government (KSG) is an important C/P of the project, KSG was invited to all the seminars, workshops, and meetings organized by the project to provide knowledge sharing opportunities. KSG attended to all seminars, workshops and meetings. C/P confirmed that the knowledge gained through training (on sanitary landfill and vehicle maintenance) have been used in order to continue operations of M-dock landfill.

Overall

It can be said that this output was achieved. A new waste collection plan for the entire Babeldaob island was

formulated with a vision of centralizing the final disposal in the new landfill site in Aimeliik, closing all other state landfills, and introducing a unified waste collection system across the 10 states. The inter-state collection services in Babeldaob started on 22nd of February 2021 and it has been operating smoothly.

Output 4: Transition from M-dock landfill to a new landfill is appropriately carried out Degree of Achievement> Mostly achieved

Indicator	
4-1 M-dock is in the process of landfilling in line with a closure plan	<p><u>Status: Achieved</u></p> <p>The extension of the M-dock landfill was necessary to accommodate the waste until the construction of the new landfill site was completed. BPW-MPIIC internally secured funding for the extension works (construction of the third berm and realignment of the access road), as such, implemented the necessary works with their own resources. Final shape of M-dock landfill site was presented based on the three-dimensional model developed from aerial photos taken by a drone. Landfill operation in the site was conducted and periodical monitoring by the drone was carried out for technical supervision of works.</p> <p>After the commencement of landfill operation in Aimeliik, M-Dock landfill site was returned to KSG, and KSG decided not to close M-dock landfill site immediately, to serve as a disposal site for residues from recycling activities in Koror. The closure plan of the M-dock landfill was updated during the J-PRISM I. Once the third embankment currently in use is fully filled, the site is scheduled to be properly closed and utilized as an asset of the KSG.</p> <p>The use of drone and 3D models was an innovative approach that enabled remote monitoring. Good cooperation between national government and KSG facilitated this transition.</p>
4-2. A new landfill site is operated in accordance with step-wise landfill operation procedure	<p><u>Status: Achieved</u></p> <p>Earth breaking ceremony for a new landfill site in Aimeliik was held in March 2019 and the construction work was completed in November 2020. After a period of preparation including a trial collection with the contractor, landfill operation at new disposal site commenced in February 2021. A new landfill site has been operated appropriately with necessary human and financial resources secured, and according to the step-wise landfill operation procedure (following the number of cells for landfilling).</p>

Overall

The indicators of this Output have been both achieved. However, the current indicators do not fully capture the appropriateness of the transition process. It would have been pertinent to have an additional indicator that assesses the process of transition.

Some C/Ps stated that there was a challenge in the transition from M-Dock landfill to a new landfill in Aimeliik in terms of public communication. Announcement to the public was given with a short notice, and BPW received many complaints and questions from the public. Also, national government and private businesses were not included in the collection service based on the contract of Babeldaob Waste Collection Company, and it seems some of the offices and businesses were not aware of it. It is desirable to review the public communication aspect of this transition and generate lessons learned, if any.

Due to this, the achievement of this Output is not 100% despite achieving the indicators, as the Output refers to that the transition was appropriately carried out. As such, this Output is considered to have been mostly achieved.

**(3) Project Purpose:** With a view to commencement of a new landfill site, an appropriate solid waste management system is created

Indicator	
1. Inter-state collection in Babeldaob is carried out.	<p><u>Status: Achieved</u> Inter-state collection in Babeldaob has been successfully inaugurated on February 22, 2021, following a series of consultations with officials of the state governments in Babeldaob. During the remaining project period, inter-state collection has been smoothly operated.</p>
2. A new landfill site is sustainably operated.	<p><u>Status: Mostly achieved</u> Construction of a new national landfill in Aimeliik under the grant aid by the Government of Japan is successfully completed and wastes have been transported to the landfill since 22 February 2021. A new landfill site is being appropriately operated with human resources and the budget secured.</p> <p>However, there remains a question with regards to maintaining the system from the budget aspect, as the waste management budget relies on CDL revenues which are influenced by the import of targeted deposit items. Importation dropped with the COVID-19, and budget for SWM was reduced. In addition, how to recover the collection costs for industrial waste needs yet to be considered. A need to find an alternative way to secure budget is identified, which may include lobbying with the government to draw budget from the general budget of the government, introducing a user-fee, increasing the number of items covered by CDL, and expanding the mechanism of securing financial resources and returns by other economic methods</p>

According to the indicators, the project purpose is mostly achieved, as the system of inter-state waste collection by the private contractor was established and the operation in the new landfill has started and is proceeding smoothly. Due to a remaining question on the budget aspect, the Project Purpose is considered to have been mostly achieved.

#### **(4) Project Implementation Process**

##### **(a) - Project Management**

JCC meetings were held annually, which served to provide overall guidance and direction of the Project. Since 2021, JCC meetings were held virtually, and jointly with the other two countries of the Micronesia region (RMI and FSM), due to the limitations of movement caused by the COVID-19. These three-country joint JCCs offered opportunities for experience sharing and learning that were mutually stimulating among the three countries. At the same time, seven projects covering three countries, four states and two atolls had to be explained at a JCC meeting, which made the meeting long with many presentations and with many participants and it was found more difficult to discuss individual projects in depth.

Regular meetings with C/P were held usually on a monthly basis. Monitoring was done every six months, using the monitoring sheet as a tool to compile information on the progress made in the activities. The monitoring sheet was prepared by the experts with the inputs of the C/Ps, and shared with the JICA country office and the headquarters. The revision to the project plan was considered at the JCC meetings.

##### **[Palau Side]**

All of the key officials working in the SWM sector were assigned from the project outset, throughout the project period. The level of motivation and initiative-taking from the C/P was quite high. The Project Manager was very involved, and demonstrated good capacity for planning and ability to put it into action.

##### **[Japanese Side]**

Five short-term experts supported the three countries in Micronesia region (Palau, FSM and RMI). Each expert assisted in different thematic area, horizontally across the three countries. The thematic support provided by the experts was well coordinated to provide necessary assistance to each country. This team set-up, together with the good coordination within the team, made it possible to broaden the scope of support provided by the expert team as a whole. This set-up and sub-regional approach helped facilitate opportunities for mutually stimulating exchange and learning in Micronesia region, where there was a similarity across the three countries in terms of

its small size of the territory and population, and of project activities. Additionally, one (1) expert on vehicle and heavy machinery maintenance supported the project through a series of training. The work of the JICA short-term experts was highly appreciated by C/Ps, for their availability and responsiveness to the request for technical guidance, on matters within and outside of the PDM. The collaboration with the Project Office was more evident under the Output 2 as it required collaboration by design, but it was less clear in other outputs.

Some C/P officials expressed their wish to have a full time presence of experts in country to have greater accomplishments, though, in that case it would not be possible to benefit from broad range of expertise that were offered by the expert team.

(b) Communication

Communication between C/Ps and the JICA short-term experts was smooth, and the relationships between the C/Ps and the experts were very positive. The experts gained the trust of the C/Ps by being responsive to their request for technical advice within and outside of PDM. Communication between the short-term experts and the PO, JICA headquarters and JICA branch offices was also smooth. Especially since the onset of the COVID-19, when meetings became online, PO and JICA branch office were always invited to the monthly project meetings, which helped them to follow the progress of activities.

(c) Method of Technical Transfer

Technical transfer was carried out by way of training and technical advice by JICA experts. The project emphasized the collaborative work between the C/P and the JICA experts, which contributed to the capacity development of the C/P and the technical knowledge transfer. The COVID-19 prevented the project to organize face-to-face training, but an innovative approach was taken to provide necessary training using the combination of video and online sessions, in case of On-Line Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries.

(d) Collaboration with Local Stakeholders

BPW with support of the project worked closely with the 10 states of Babeldaob Island for the implementation of the inter-state collection system. The project was also in close communication with the waste department of the KSG.

(e) Participation in Region-Wide Activities of J-PRISM2

The project participated in the following region-wide activities.

- Training on Sanitary Landfill Design and Operation by Fukuoka Method (February 2018/Palau): Thirteen (13) government officers from BPW and KSG attended. Follow-up survey was conducted and the result was compiled in a report by the 3R+ Return expert of PO in Palau.
- Regional Disaster Waste Management Guideline development consultation workshop (February 2019/Palau): Twenty four (24) officers from BPW, KSG and other departments attended.
- The On-Line Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries (September 2021- / On-line). Jointly conducted with J-PRISM Project Office in Samoa and 13 officers (7 officers from BPW and 6 officers from KSG) actively participated in the training
- Online Training on Daily Inspection (Pre-& Post- Operation Inspection) of Waste Collection Vehicles and Heavy Machinery 28 September, 2021 (Palau),
- Regional Workshop on Waste Collection Vehicles and Heavy Machinery 2 March, 2022 Online
- Trainings on Proper Preventive Maintenance of Garbage Collection Vehicle and Heavy Machinery 28 September, 2021 (Palau), 2 March 2022

(f) Coordination with Other Japanese and International Projects/Partners

There was good communication and cooperation with JICA oversee office, maintaining communication once a month. JICA oversea office was always invited to web conferences of the project.

There was significant cooperation with other scheme of Japanese assistance (grant assistance for grassroots human security projects, grant aid, non-project grant aid, etc.). Especially in Palau, the cooperation with other assistance scheme was integral to this project. The development of a final disposal site in Aimeliik with the support of the Japanese grant aid project to enable the initiation of the inter-state collection service was a good example. There was also International Center for Environmental Technology Transfer (ICETT) grant aid technical cooperation project that related closely to this project.

Followings are the list of development partners who include Palau as a target country in the waste management

sector.

- PacWastePlus: waste tires
- Global Environment Facility: end of life vehicle, chemical waste
- Asian Development Bank (ADB): potential introduction of the private sector investment for the development and operation of waste collection and transportation system for the circular economy promotion in Koror state
- Pacific Regional Infrastructure Facility (PRIF): Regional Resource Circulation and Recycling Network

The project provided technical advice and comments on PWP's activities in Palau, upon request from C/P.

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

#### Relevance

This project is still relevant.

This project is consistent with the Palau 2020 National Master Development Plan with strategies on solid waste management that include provision of adequate facilities for the disposal of solid waste, improved management and operation of facilities, increased community involvement and awareness, and commercialization aspects of the waste management including the introduction of user fees. The Palau National Infrastructure Investment Plan (NIIF) outlines the strategy in solid waste management is to gradually introduce state of the art facilities and best practices to dispose of solid wastes and thereby promote improved health and preserve the natural environment. National Solid Waste Management Strategy (NSWMS) 2017-2026 was developed by J-PRISM II and has been serving as a reference document for SWM. SWM remained a critical development need, including the need for improvement in the collection, transport and disposal as the old landfills were nearing their capacities with some environmental concern. Based on the above, this project has been consistent with the national development plans and Palau's development need. Therefore, the relevance of the project is high.

#### Coherence

The overall coherence of the project is high, however, there seems to be room to seek more complementarity with other partners at the country level.

##### (a) Coherence with Japanese aid policy

Under the Japan's Country Development Cooperation Policy for the Palau, support for improvement of surrounding environment and public health by appropriate waste disposal and environmental conservation (including measures against marine plastic waste) is one of the priority areas of assistance. As such, the project is consistent with the Japanese Official Development Assistance (ODA) Policy.

##### (b) Coherence with other schemes of JICA and Japanese government

There was significant complementarity with other scheme of Japanese assistance (grant assistance for grassroots human security projects, grant aid, non-project grant aid, etc.). Especially in Palau, the cooperation with other assistance scheme was integral to this project, including in the development of a final disposal site in Aimeliik with the support of the Japanese grant aid project to enable the initiation of the inter-state collection service. There were also JICA volunteers dispatched to the C/P organization until the COVID-19. Based on the above, it can be said that the project is coherent with other schemes and projects of JICA and the Japanese government.

##### (c) Coherence with other partners

Following is the list of development partners who include Palau as a target country in the waste management sector.

- PacWastePlus (PWP): waste tires
- Global Environment Facility (GEF): end of life vehicle, chemical waste
- Asian Development Bank (ADB): potential introduction of the private sector investment for the development and operation of waste collection and transportation system for the circular economy promotion in Koror state
- Pacific Regional Infrastructure Facility (PRIF): Regional Resource Circulation and Recycling Network

The project provided technical advice and comments on PWP's activities in Palau, upon request from C/P, and supported funding application process for PWP, ADB, GEF, etc. There was some information sharing with the developing partners. There has not been extensive synergistic cooperation with other development partners at the field level as yet, but there have been coordination to complement activities and avoid duplication at the level of the Project Office and SPREP, such as creating matrix to map out activities, and coordinating the contribution of

different development partners towards waste surveys. Based on the above, it can be said that the coherence of this project is high, however, there seems to be room to seek more complementarity with other partners at the country level.

### **Effectiveness**

The project is assessed effective.

#### (a) Achievement of Project Purpose

The project has mostly achieved all indicators under the Project Purpose. It should be noted that one of the indicators for the Project Purpose refers to the sustainable operation of the new landfill site, and a question was raised as to the sustainability from the budget point of view. As such, it is considered that the Project Purpose has been mostly achieved. To fully achieve the Project Purpose, it is recommended to explore options for financial sustainability.

#### (b) Contribution of Outputs to Project Purpose

Logical relation between Outputs and Project Purpose is confirmed. However, the indicators of the Project Purpose in the four states are achieved largely through Output 1. It is desirable to have included indicators which also relates to Outputs 2 and 3.

#### (c) Other Promoting and Inhibiting factors

##### <Promoting factors>

- The C/P had high awareness of the importance of SWM. This was partly due to the history of investing financial and human resources in solid waste management. The C/P demonstrated high willingness and initiative-taking, with ability to plan and put the plan into action.
- Good partnership between JICA expert and C/Ps helped smooth implementation of the project. The short-term experts were highly responsive to the request of C/Ps for technical guidance, within and outside of the PDM. C/Ps were well-accompanied with their questions and doubts clarified promptly as they advanced on the project implementation.
- The main C/Ps were the implementing agencies of infrastructure and waste operations. The operational nature of their mandate helped to formulate NWMP that was concrete and operations-oriented.
- The project could effectively make use of Japan's grant aid and technical cooperation projects to promote the achievement of the project outputs. In technical cooperation projects such as J-PRISM II, the input of equipment and other hardware is very limited. The cooperation with other schemes and projects was very effective and timely.
- The funding was made available for the construction of the third dam at the M-Dock disposal site by BPW.
- The project had no change of key C/P, and saw an increase in the number of personnel. Having a stable and involved C/P helped smooth implementation.

##### <Inhibiting factors>

- COVID-19 forced the project to adopt remote support by the experts.

### **Efficiency**

(Due to the extraordinary situation with COVID-19 pandemic, the degree of "Efficiency" was not determined.)

#### (a) Production of Outputs

Output 1, Output 2, Output 3 and Output 4 have been generally achieved as planned.

#### (b) Appropriateness of Inputs

##### <Palau side>

The personnel with adequate competency have been assigned to the Project. Local costs and office space have been also provided timely and adequately.

Personnel: 6 C/Ps including 2 management personnel. Necessary human resources were provided to run the operations of inter-state waste collection and the new final disposal site.

Facilities: Necessary office facilities were provided to the project.

Local cost: BPW secured necessary budget for the project activities. Construction of the third dam at the M-Dock disposal site was implemented by BPW with their own financial resources.

The inputs from Palau side has been appropriate.

##### <Japanese side>

Overall, inputs by the Japanese side have been appropriate in producing Outputs.

**Experts:** Five short-term experts supported the three countries in Micronesia region (Palau, FSM and RMI). Each expert assisted in different thematic areas, horizontally across the three countries. The thematic support provided by the experts was well coordinated to provide necessary assistance to each country. This team set-up, together with the good coordination within the team, made it possible to broaden the scope of support provided by the expert team as a whole. This set-up helped mutually stimulating exchange and learning among countries in the Micronesia region, where there was a similarity across the three countries in terms of its small size of the territory and population, and of project activities. The work of the JICA short-term experts was highly appreciated by C/Ps, for their availability and responsiveness to the request for technical guidance, on matters within and outside of the PDM. Additionally, one (1) expert on vehicle and heavy machinery maintenance supported the project through a series of training. The COVID-19 and the resulting border closure rendered the on-site support impossible. The impact of the lack of onsite support was considered to be lowered as the trust and working relationship had been already built before the project switched to remote support. The collaboration with the Project Office was more evident under the Output 2 as it required collaboration by design, but it was less clear in other outputs. In terms of timing, quantity and quality, the dispatch of JICA short-term experts was appropriate.

**Equipment:** The drone and projector were used in three countries of Micronesia, but eventually donated to Palau. The timing of these inputs was very good, and it was very effective to monitor the disposal site, especially to calculate the remaining years.

**Local cost:** Necessary amount of the local operation was disbursed in time.

(c) Utilization of external resources

It was identified that effective utilization of external resources (Japanese grant aid scheme, Japanese volunteers who were stationed at the C/P, budget secured by BPW) has increased the efficiency of the project.

**Impact**

Overall Goal at the country level was not identified during the planning stage, therefore N/A in the survey. Various positive impacts have been observed. Negative impacts have not been observed.

Overall goal and the indicator of the region-wide PDM as follows:

Overall Goal (Common):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

It is impossible to examine possibility to achieve the overall goal at the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for the Palau.

Positive impacts

A number of positive impacts have been observed.

- Improved capacity of C/P in the technical areas of waste management, including analysis, planning, setting-up and implementation of waste collection systems and management of waste disposal site.
- Positive environmental impact of closing state disposal sites which was open dumping
- More efficient waste collection despite longer distance of transport from some areas, which was made possible by the successful introduction of an Inter-State Collection System with a centralized disposal site.

Negative impacts have not been observed nor foreseen.

**Sustainability**

Sustainability of the project is expected to be high.

(1) Policy and Institutional aspects

Laws and regulations governing waste management include: Environment Quality Protection Act 1981 - RPPL No. 1-58; Solid Waste Management Regulations 2013; Recycling Act 2006 - RPPL No. 7-24; Beverage Container Recycling Regulation 2009; and Plastic Bag Use Reduction Act 2017 - RPPL No. 10-14. National Solid Waste Management Strategy 2017-2026 was developed and approved as part of the project, which has been serving as a reference document in solid waste management.

At the national level, the Bureau of Public Works (BPW) under the Ministry of Public Infrastructure, Industries and Commerce (MPIIC) is responsible for the overall management of municipal waste while Environmental Quality Protection Board (EQPB) is responsible for hazardous waste. The waste management operations in each

of the 18 states are the responsibility of the state government. BPW is responsible for the operations and management of the final disposal site located in Koror State and the supervision of the CDL, as well as oversight of the inter-state waste collection in the 10 states of Babeldaob island by a private contractor. Based on the above, policy and institutional aspects of waste management is expected to be sustainable.

(2) Organizational aspects

The organizational capacity of the C/Ps has been enhanced on analysis, planning and implementation of SWM operations. The national ownership of the project is very high. BPW as an operating agency of waste management has capacity and commitment to advance in the SWM. There was also good cooperation between departments and possibility of obtaining budget. This is exemplified in the planning and implementation of the transition from existing disposal sites to a new centralized disposal site with the inter-state collection system, where BPW developed a plan and put it into action, internally securing funding for the construction works for the extension of M-dock landfill. C/Ps continued to advance on activities while short-term experts were not able to provide on-site support. Based on the above, the organizational sustainability is expected to be high.

(3) Financial aspects

The operational costs of waste management section of BPW, which manages the disposal site and provides awareness raising activities to residents on recycling activities, are entirely covered by 25 % of the CDL deposit since 2021, therefore its framework is independent from the national budget. There is no user fees for waste collection and disposal. While it is positive to have its own budget source, there remains a question with regard to financial stability and sustainability, as CDL revenues are influenced by the import of targeted deposit items, which can be impacted by the price and regulations as well as crisis such as COVID-19. In addition, how to recover the collection costs for industrial waste needs yet to be considered. A need to find an alternative way to secure budget is identified, which may include lobbying with the government to draw budget from the general budget of the government, introducing a tipping fee, increasing the number of items covered by CDL, and expanding the mechanism of securing financial resources and returns by other economic methods. The financial sustainability is considered to be medium.

(4) Technical aspects

C/Ps gained technical knowledge and skills, especially in terms of analysis, planning, setting-up and implementation of waste collection and disposal. It was identified that an increasing number of tasks can be implemented independently, though close technical advice and continued training are still required, including in capacity development for public awareness raising. Technical sustainability is considered to be generally high.

**Influence on the COVID-19**

(How it affected, any changes created, etc.)

Due to the COVID-19 pandemic, from February 2020 onward no experts have been dispatched to Palau. Experts worked in their home countries, and communicated through regular web-meetings and provided counterpart officials with needed technical advices. The impact of the lack of onsite support was considered to be lowered as the trust and working relationship had been already built before the project switched to remote support. COVID-19 also prompted some innovations, such as: online training combining video and online session; virtual meetings and consultations; and the use of drone for the improvement of the final disposal site. These innovations can be replicated for future activities.

**IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is highly relevant, and the overall coherence of the project is high. The project was found to be implemented effectively. Some positive impacts are observed, and sustainability of the project is expected to be high.

Based on the above-mentioned findings and evaluation, the evaluation team considers that this project is expected to generally achieve the result as planned by the end of the project. Therefore, it is appropriate to terminate Palau scope of the J-PRISM II in September 2022.

**IV. Recommendations**

Consider identifying country specific verifiable indicator(s) of Overall Goal.  
The Overall Goal and the indicator of Region-wide PDM are as follows:



Overall Goal (Region-wide):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for Palau may include:

- NSWMS is updated periodically based on monitoring and quantitative and technical analysis undertaken together with relevant authorities and stakeholders.
- Project activities are included in organizational annual work plan and budget of C/Ps
- A mechanism for sustainable financing of SWM is introduced for the proper management of waste collection, transport and disposal.

#### **To BPW-MPIIC**

While the project mostly achieved the results, there remains a question with regard to financial stability and sustainability in the SWM sector in general. A need to find an alternative way to secure budget was identified. It is recommended to explore mechanisms for sustainable financing of the SWM in future.

#### **To Short-term Experts**

There seems to have been a challenge in the transition from M-Dock landfill to a new landfill in Aimeliik in terms of public communication and communication to offices and businesses. It is recommendable to review the public communication aspect of this transition with the BPW-MPIIC to generate lessons learned, if any, and provide advice on public communication to inform future interventions.

#### **To JICA Overseas Office**

There has been a significant complementarity with other schemes and projects of Japan. It is recommended to continue and further the coordination with the Japanese Government through the Embassy of Japan to find synergies with their different schemes as well as other JICA schemes and projects. For example, there may be further collaboration to be explored with the dispatch of JOCVs on environmental education and ICETT grant aid technical cooperation project. Through a good coordination, action plans in the NSWMS can be translated to actions at the community level to further 3R + Return. It is also recommended to continue facilitating the coordination with other development partners.

#### **Attachment:**

1. Project Design Matrix (PDM Version 2)
2. Plan of Operation (PO Version 2)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Federated States of Micronesia (FSM)</b>
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**I. Project Outline**

Background	The Federated States of Micronesia (FSM) is comprising 607 islands and consisting of four states, Yap, Chuuk, Pohnpei and Kosrae. Each of the four states has autonomy within the federation. As an island nation, people of FSM rely on imported goods from overseas for their living and waste materials are accumulated into small islands. However, the political situation and financial constraint makes it difficult to implement effective Solid Waste Management (SWM). Building on the efforts of J-PRISM Phase 1 to lay down the basic foundation of the human and institutional capacity for sustainable SWM, J-PRISM II was implemented to strengthen human resources, organizational and institutional infrastructure for sustainable waste management and strengthen the recycling system through the implementation of Cleaner Pacific 2025.
Summary of the Project	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	For the Federal Government: Support to creation of solid waste management system in each four state is provided. For Yap, Chuuk, Pohnpei and Kosrae states: Creation of solid waste management system is promoted
Outputs	<p>Federal Government Output 1: Support from DECEM (former OEEM) to formulate SSWMS is provided to each state. Output 2: Good practices of solid waste management /3R are promoted in country.</p> <p>Yap Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed. Output 2: Good practices of solid waste management /3R are promoted in country and the region. Output 3: Waste collection is improved in Yap island</p> <p>Chuuk Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed. Output 2: Good practices of solid waste management /3R are promoted in country and the region. Output 3: Effective CDL implementation mechanism is explored by relevant authorities</p> <p>Pohnpei Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed. Output 2: Good practices of solid waste management /3R are promoted in country and the region. Output 3: Effective CDL implementation mechanism is explored by relevant authorities</p> <p>Kosrae Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed. Output 2: Good practices of solid waste management /3R are promoted in country and the region. Output 3: Waste collection is improved in Kosrae</p>
	Federal government: Department of Environment, Climate Change and Emergency Management (DECEM) – former Office of Environment and Emergency Management (OEEM) Yap: Department of Public Works and Transportation (DPW&T); Environmental

Implementing Agency	Protection Agency (EPA) Chuuk: Department of Transportation and Public Works (DTPW); Environmental Protection Agency (EPA) Pohnpei: Pohnpei Environmental Protection Agency (EPA); Office of Transportation and Infrastructure (T&I) Kosrae: Kosrae Island Resource Management Authority (KIRMA); Department of Transportation and Infrastructure (DT&I)
Project Duration	February 2017 – September 2022 (5.5 years)
Target Group	29 counterparts (C/P) (as of February 2022) <u>Federal Government:</u> Management C/P: 1 Project Director (DECCEM), 1 Project Manager (DECCEM) C/Ps: 1 (DECCEM), 1 (SPREP FSM) <u>Yap:</u> Management C/P: 1 Project Director (DPW&T), 1 Project Manager (EPA) C/Ps: 2 (DPW&T), 1 private sector (Island Paradise) <u>Chuuk:</u> Management C/P: 1 Project Director (EPA), 1 Project Manager (DTPW) C/Ps: 2 (EPA) <u>Pohnpei:</u> Management C/P: 1 Project Director (EPA), 1 Project Manager (T&I) C/Ps: 3 (EPA), 1 (T&I), 1 (Pohnpei Waste Management Services: PWMS) <u>Kosrae:</u> Management C/P: 1 Project Director (EPA), 1 Project Manager (DT&I) C/Ps: 3 (KIRMA)
Target Area/ Target Population	Yap, Chuuk, Pohnpei, Kosrae Approx. 102,843 (2010)

## II. Accomplishment and Implementation Process of the Project

Inputs (as of April 2022)	
<p>Japanese Side</p> <p>1) Experts (MM) 7 Short-term Experts (52.64MM in country and 34.40MM in remote for the three countries of Micronesia), including 1 CDL expert and 1 expert of vehicle and heavy machinery maintenance held several remote workshops</p> <p>2) Training</p> <ul style="list-style-type: none"> <li>- Two (2) FSM-wide SWM workshops</li> <li>- Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method</li> <li>- Regional Disaster Waste Management Guideline Development Consultation Workshop</li> <li>- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries</li> </ul> <p>3) Local cost support JPY 15,352,000 (approx. USD132,854)<sup>1</sup> for Palau, RMI and FSM Major expenses are as follows:</p> <ul style="list-style-type: none"> <li>- Consultants (JPY 6,166,700 approx. USD 53,366)</li> </ul>	<p>FSM Side</p> <p>1) Allocation of Counterparts 14 management C/Ps and 15 C/Ps were recognized as C/Ps for the Project.</p> <p>2) Local Cost: The counterpart organizations provided appropriate facilities and bore local costs to ensure smooth implementation of the activities.</p>

<sup>1</sup> JICA Official rate in March 2022 (1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

- Hiring cars (JPY 4,182,000 approx. USD36,190)

## Results of the Federal Government

### (2) Outputs

Output 1: Support from DECEM (former OEEM) to formulate SSWMS is provided to each state Degree of Achievement: Achieved

Indicator	Results
1-1 Core concept of CP2025 are incorporated into SSWMSs.	<p><u>Status: Achieved</u></p> <p>The first SWM workshop was held on 27th Sep 2017 in Pohnpei and Ms. Ma Bella, an SWM expert from SPREP was invited. DECEM has taken responsibilities for inviting the expert from SPREP, providing logistic support for all the C/P from four states of FSM as well as chairing the workshop. State representatives who participated in the first SWM workshop gained an opportunity to understand the core concept of the Cleaner Pacific 2025 (CP2025) as well as its aim, i.e. achievement of practical and sustainable SWM among Pacific Island Countries (PICs). Guiding Principles of State Solid Waste Management Strategies (SSWMSs) of all four states were set in line with the concept of CP 2025. It is reasonable to conclude that core concepts of CP2025 are now incorporated into SSWMSs.</p> <p>DECEM is now formulating the National Waste Management Strategy through consultation with developing partners including J-PRISM II.</p>

#### Overall

This output is achieved according to the indicator. The involvement of DECEM in the formulation of SSWMSs was not extensive after the initial SWM workshop, but DECEM clearly provided opportunities for learning and exchange among the four states, and the desired result of development of SSWMSs in line with the core concept of CP2025 was achieved.

Output 2: Good practices of solid waste management /3R are promoted in country Degree of Achievement: Achieved

Indicator	Results
2-1 Compiled case studies are shared with other countries through DECEM (former OEEM)	<p><u>Status: Achieved</u></p> <p>Good practices of the development of SSWMSs in each state and the introduction of Inter-Municipal Collection Service (IMCS) in Kosrae, have been compiled as case studies and uploaded at: <a href="https://www.sprep.org/j-prism-2/lessons-learned">https://www.sprep.org/j-prism-2/lessons-learned</a>. In addition, Good Practice Booklet titled “Good Practice on Solid Waste Management throughout the FSM” was produced by the initiative of the DECEM and shared among key stakeholders in each state in July 2020.</p>
2-2 Three times of workshops are provided to share knowledge and experiences among four states.	<p><u>Status: Achieved</u></p> <p>First SWM workshop (Pohnpei, Sep 27th, 2017): state representatives presented on the results of SWM baseline surveys. The process of preparing for and making presentations helped deepen their understanding of the current situation and the challenges of SWM. This was beneficial for the subsequent SSWMS formulation.</p> <p>Second SWM workshop (Pohnpei, September 26th, 2019): state representatives presented their status of waste collection as well as their efforts to improve it. Since waste collection was a critical issue in every state, there were active discussions and sharing in this second workshop.</p> <p>Substitute to the third SWM workshop (online, May 20th 2021): Due to the travel restriction by the COVID-19, J-PRISM organized a web-based sub-regional JCC (Fourth JCC conducted jointly for Palau, RMI and FSM). This fourth JCC meeting was</p>

an important knowledge-sharing opportunity, and served as a substitute to the third SWM workshop.

Although the third SWM workshop was not possible due to COVID-19, opportunities for knowledge and experience sharing were facilitated by the support of DECEM.

Aside from the above, there were further knowledge and experience sharing among four states as well as other PICs.

- Micronesia Clean Up Day Webinar: “Waste Management in FSM” (September 2021): This was organized by DECEM/Micronesia Clean Up Day Committee. J-PRISM experts as well as counterpart officials in each state participated in as speakers.
- Side Event 1: “UNEP Factsheet Launch: Plastic Pollution Prevention” at the 3rd Clean Pacific RoundTable 2021 (November 2021): At this session, an official of DECEM participated as a speaker.

Overall

This output has been achieved. However, a state level C/P expressed their wish to see greater role of the national government in supporting information exchange and sharing between the states and other island countries, in a sense that states could refer to DECEM when they seek information on other states and countries.

**(3) Project Purpose: FSM Federal Government**

Support to creation of solid waste management system in each four state is provided.

Degree of Achievement: Mostly achieved

Indicator	Results
Support is provided to each states (i.e. workshops and trainings, etc.)	<p><u>Status: Mostly achieved</u></p> <p>The first SWM workshop in Pohnpei was held on September 27, 2017, and the second SWM workshop in Pohnpei was held on September 26, 2019. DECEM chaired the workshops and provided logistical support to organize the workshops. Micronesia Clean Up Day Webinar: “Waste Management in FSM” was also organized on September 2021. In addition, the first and third JCCs were held in Pohnpei for the four states of FSM. DECEM supported these FSM-wide JCCs logistically, covering the accommodation and per diem of participants from Yap, Chuuk and Kosrae. These supports of DECEM enabled information sharing and peer learning among the four states of FSM.</p>

Overall

The Project Purpose is achieved according to the indicator. A key role of DECEM within JPRISM II was creation and facilitation of opportunities for sharing and learning among the four states in support of the creation of solid waste management system. This indicator reflects activities rather than outcomes. It would have been desirable to have an indicator that reflects the desired outcomes more clearly.

**Results of Yap**

**(2) Outputs**

Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed	Degree of Achievement: Achieved
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Indicator	Results
1-1 The SSWMS (final version) is submitted to the relevant authority.	<p><u>Status: Achieved</u></p> <p>SSWMS 2018-2027 and its Action Plan were explained to the stakeholders at a workshop held on 27 November 2017, and SSWMS (draft) was agreed after thorough questions-and-answers session. It was approved by the Governor on 14 September 2018. Furthermore, SSWMS was used as a base for budgetary request by the DPW&amp;T.</p>

Overall

This output has been achieved. The technical and quantitative analysis at the outset of the project was key to the formulation of a SSWMS. SSWMS serves as a reference document for SWM interventions. The first priority identified in the plan was being addressed under the Output 3.

Output 2: Good practices of solid waste management / 3R are promoted in the country and the region Degree of Achievement: Mostly achieved

Indicator	Results
<p>2-1 What is learned from the training organized by J-PRISM II Project Office is utilized</p>	<p><u>Status: Mostly Achieved</u></p> <p>Following training was provided with the participation of officials and personnel of Yap.</p> <ul style="list-style-type: none"> <li>- The first SWM workshop in Pohnpei (September 27, 2017): Mr. Manuel Maleichog, Mr. Jesse Sigeyog of DPW&amp;T, and Ms. Christina Fillmed of EPA participated in and presented the result of SWM baseline survey of Yap in the workshop.</li> <li>- Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method (Palau, February 2018): Mr. Jesse Sigeyog of DPW&amp;T participated from Yap. The operation and management of the public disposal site was outsourced to the private sector, and C/P confirmed that the contractor Island Paradise Co. as the landfill and recycling operator, has been applying the knowledge gained in consultation with the project.</li> <li>- Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, February 2019): One official (Mr. Jesse Sigeyog) of DPW&amp;T participated from Yap. It may not be a topic that was recognized as a priority in a normal time, but it is an important topic to have been thought out in the context of PICs.</li> <li>- The second SWM workshop in Pohnpei (September 26, 2019): Mr. Jesse Sigeyog of DPW&amp;T, Ms. Christina Fillmed of EPA, and Mr. Jesse Faimaw of Island Paradise (waste and recycling operator), participated in and presented the waste collection expansion pilot project.</li> <li>- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries for Yap (3rd February 2022): 5 officers from DPW&amp;T participated in the training. The training corresponded to the needs of Yap. Despite being online training, with the use of videos taken by the trainees as training materials, the training provided a good learning experience. Many participants commented that the training was useful in the post-training evaluation questionnaire. C/Ps confirmed that the maintenance of the vehicles has been correctly done by mechanics and operators who participated in the training.</li> </ul> <p>While knowledge transfer may not always be meant to lead to immediate application of the acquired knowledge, there is a risk that the acquired knowledge gets lost if the knowledge is not applied in a reasonable timeframe, especially when there is a limited number of participants. The training on landfill and on disaster waste only had one participant. It would be desirable to have a follow-up occasion for the participant(s) to share knowledge gained from the training with a wider audience of the C/Ps and relevant authorities.</p> <p>Aside from the formal training, the project experts transferred knowledge to C/P through collaborative work and technical guidance. C/Ps confirmed significant knowledge was gained on how to manage SWM issues through the work of the project and that the awareness of the communities has also been improved.</p>

Overall

It was verified that the acquired knowledge from some training was utilized. The Output is considered to be mostly achieved.

Output 3: Waste collection is improved in Yap Island.	Degree of Achievement Not possible to evaluate
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Indicator	Results
3-1 Collection rate is improved in the pilot project area.	<p><u>Status: Not possible to evaluate</u></p> <p>The pilot project for expansion of collection was formulated, but encountered several problems. First of all, the pilot project encountered a budget problem as its budget was diverted to compensate another waste management related cost. Secondly, the law had to be amended to enable the DPW&amp;T to collect the user fees, but there was a delay in the legal processes, partly because it was difficult to apply the amendment only in pilot areas. Thirdly, there was an outbreak of little fire ants, including in part of the target areas of the pilot project, and it became prohibited to transport the waste from the affected area. As a result, the pilot project couldn't be advanced, and the need to revise the pilot project arose. In the meantime, a compactor truck was provided under the grassroots grant assistance for human security project, and it became more pertinent to expand waste collection into the entire Yap island, rather than in pilot areas only. Contents and ways to provide technical assistance in improving waste collection was to be decided after FY2022 budget becomes clear. Activities related to this output were stalled at the time of the evaluation, as the state budget had not been approved not only for SWM, including the pilot project, but also for all sectors.</p> <p>Prior to encountering this budget problem, C/P had discussed with target villages of the pilot project on the collection fees, but found that they lacked knowledge and experience in how to approach communities for greater community acceptance. As there was a time lapse since then, and as the improved collection is now to be implemented in wider Yap rather than in pilot areas only, there is a need to re-discuss with the villages on the user fee again when the activities under this output are resumed. There is a need to build the capacity of C/P for the community outreach and community consultation to improve the community acceptance.</p> <p>The C/Ps expressed the need to lobby with policy makers by making presentations at the state legislature to facilitate the budget approval process. There was optimism among C/Ps that the budget issue would be resolved as sustainable financing of SWM was on the table at the state legislature, which may involve adopting or amending laws. Sustainable financing of SWM is an essential issue to be tackled in this context where the budget approval can be a significant challenge. Under a normal circumstance, the project would have had the short-term expert team on site to provide greater support to the C/P, for example, by accompanying the C/Ps in lobbying towards policy makers to facilitate the budget approval process. This was not possible due to the travel restriction of the COVID-19. Aside from lobbying, there is a need to consider a mechanism for sustainable financing of SWM activities.</p> <p>The evaluation team considers that it was not possible to evaluate the indicator as external factors severely affected the project implementation for this Output.</p>

Overall

It was considered that it was not possible to evaluate this Output as it was severely affected by external factors, including the outbreak of little fire ants and the lack of the state budget approval.

**(3) Project Purpose: Yap**

Creation of solid waste management system is promoted.

Degree of Achievement: Mostly achieved.

Indicator	Results
1. Current SWM	<u>Status: Achieved</u>

<p>situation is technically as well as quantitatively analyzed and understood.</p> <p>2. SWM challenges are identified.</p> <p>3. Measures to tackle identified SWM challenges are proposed.</p>	<p>In the process of formulating the SSWMS, the current status of SWM was technically and quantitatively analyzed together with the C/Ps. This represented an opportunity for key officials of state agencies to understand the current situations and urgent issues to be tackled.</p> <p>The following three challenges have been identified (in order of priority). These challenges and measures to address them are elaborated in the Yap's SSWMS and the action plan.</p> <ol style="list-style-type: none"> <li>1. Expansion of collection services along with step-by-step closure of community dump site</li> <li>2. Further efforts to minimize waste</li> <li>3. Financial sustainability with sound institutional setting</li> </ol> <p>Activities of the Output 3 were informed by the SSWMS.</p>
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**Overall**

The indicators of the Project Purpose are achieved largely through Output 1. It is desirable to have included indicators which also relates to Outputs 2 and 3. Although all three indicators have been met, the achievement of the project purpose is not 100% because of the Output 3 which was considered not possible to evaluate, due to external factors severely affecting the ability of the project to implement the planned activities. The Project Purpose is considered to have been mostly achieved.

**Results of Chuuk**

**(2) Outputs**

Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed	Degree of Achievement: Achieved
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Indicator	Results
1-1 The SSWMS (final version) is submitted to the relevant authority.	<u>Status: Achieved</u> SSWMS 2019-2028 and its Action Plan were explained to the stakeholders at a workshop held on June 25 <sup>th</sup> 2018, and SSWMS (draft) was agreed after questions and answers. Then it was approved by the governor on June 29, 2018.

**Overall**

The technical and quantitative analysis at the outset of the project was key to the formulation of a SSWMS. SSWMS serves as a reference document for SWM interventions. A priority identified in the plan was being addressed under the Output 3.

Output 2: Good practices of solid waste management / 3R are promoted in the country and the region	Degree of Achievement: Mostly achieved
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Indicator	Results
2-1 What is learned from the training organized by J-PRISM II Project Office is utilized	<u>Status: Mostly achieved</u> Following workshops and training were conducted. <ul style="list-style-type: none"> <li>- The first SWM workshop (Pohnpei, September 27, 2017): Mr. Ismael H. Mikel and Ms. Joyce Sewell of EPA as well as Mr. Tos Nakayama of DT&amp;PW participated in and presented the result of SWM baseline survey of Chuuk.</li> <li>- Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method (Palau, February 2018): One official of DT&amp;PW (Mr. Tos Nakayama) participated. In Chuuk, due to the austerity policy of the state government, DT&amp;PW was unable to improve the final disposal site, however, the C/P stated that the acquired knowledge was helpful to improve the daily operation of the marina dumpsite.</li> <li>- Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, February 2019): One official of DT&amp;PW (Mr. Tos Nakayama)</li> </ul>



participated. It may not be a topic that was recognized as a priority in a normal time, but it is an important topic to have been thought out in the context of PICs. The C/P confirmed that knowledge used was applied during a typhoon where temporary dumpsite was designated, for segregating and quantifying types of waste for data collection before bringing to the final disposal.

- The second SWM workshop in Pohnpei (September 26, 2019): Ms. Joyce Sewell of EPA and Mr. Tos Nakayama of DT&PW participated in this workshop and Mr. Tos Nakayama presented the waste collection system in Chuuk.
- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries (Online, 20th October 2021): 12 officers from DTPW as well as Airport Service Department participated in the training. This was a much-needed training. Despite being online training, with the use of videos taken by the trainees as training materials, the training provided a good learning experience. In the post-training evaluation questionnaires, many participants commented that the training was useful. The C/P verified that the daily checklist for equipment continues to be implemented for preventive maintenance, using the knowledge gained at the training.

Overall

It was verified that the knowledge acquired from the training was utilized. The Output is considered to be mostly achieved.

Output 3: Effective CDL implementation mechanism is explored by relevant authorities.

Degree of Achievement  
Expected to be mostly achieved

Indicator	Results
3-1 Guideline on implementation procedure such as measurement, accounting and data collection is prepared.	<p>Status: <u>Expected to be mostly achieved if necessary documents for CDL introduction are drafted.</u></p> <p>Although Chuuk had a history of being the first state to adopt the recycling law among the four states of FSM, it was the only state that had not practiced recycling activities in FSM. The introduction of CDL was strongly desired, and the project started discussion on an effective CDL implementation mechanism with related organizations and supporting key stakeholders to inaugurate CDL. The project undertook the following activities.</p> <ul style="list-style-type: none"> <li>- A Preliminary Survey on Container Deposit Legislation for Pohnpei and Chuuk States of the FSM (Survey period: July 8 – 13, 2017): the project reviewed the CDL mechanisms described in the old law, estimated the beverage containers imported and consumed in Chuuk, and recommended the new effective CDL mechanisms, i.e. legal framework, target items, preparation of seed money, etc.</li> <li>- Support to amend the CDL law: the project supported EPA to amend the CDL law. The amendment was reviewed by the Attorney General, and was made ready for review at the State Legislative Assembly for approval. The approval process was still pending at the time of the evaluation. As a new governor took office, the Executive Director of EPA was in the process of explaining the importance of CDL implementation once again to the new governor.</li> <li>- Procurement of recycling equipment and facility: EPA procured two press machines with support of the grass root grant aid.</li> </ul> <p>The approval of the amendment to the CDL law has been pending, before the project could start supporting the preparation of the guidelines, which were understood to be an implementation plan that includes or leads to implementing regulations that specify the target items and the deposit amount. Assistance has been provided by the project on an on-going basis, but an implementing plan has not been prepared as it was considered that the legal framework needed to be clarified first and different actors and institutions needed assistance, and that an implementing plan prepared separately from the legal framework and institutional support would not work. The amendment of the law was an</p>

external factor that influenced the progress of this Output, though valuable preparatory works and assistance were provided by the project.

It is challenging to introduce a new system, which requires law amendment, institutional arrangement, and budget for initial investment. The political commitment for SWM (at the policy maker level) seemed to be not particularly high in the state, in the existence of other competing priorities (such as construction of road networks), and the state faced difficulty with securing the budget. Under a normal circumstance, the project would have had the short-term expert team on site to provide greater support to the C/P, for example, by accompanying the C/Ps in lobbying towards policy makers to facilitate the progress, which was not possible due to the travel restriction of the COVID-19.

At the time of the evaluation, the project was considering if an implementing plan, in particular, implementing regulations, could be drafted, together with other necessary documents for CDL introduction (a model Memorandum of Understandings to outsource the service to an operating company) before the end of the engagement of the short-term experts in September 2022 even though the law amendment was still pending.

**Overall**

The preparation of the CDL encountered difficulty at the stage of the approval of the CDL law amendment, which is an external factor. The Output is expected to be mostly achieved if necessary documents for CDL introduction are prepared, including draft implementing regulations and a model Memorandum of Understandings to outsource the service to an operating company, and are passed on to the EPA before September 2022.

**(3) Project Purpose: Chuuk**

Creation of solid waste management system is promoted.

Degree of achievement: Expected to be mostly achieved

Indicator	Results
1. Current SWM situation is technically as well as quantitatively analyzed and understood.	<u>Status: Achieved</u> In the process of formulating the SSWMS, the current status of SWM in each four state was analyzed along with the C/Ps in each state. Thus, key officials of state agencies in each state have now understood not only the current situations but also the urgent issues to be tackled.
2. SWM challenges are identified.	The following three challenges have been identified (in order of priority). These challenges and measures to address them are elaborated in the Chuuk’s SSWMS and the action plan. <ol style="list-style-type: none"> <li>1. Preparation of long-term development plan for final disposal</li> <li>2. Further efforts to minimize waste</li> <li>3. Financial sustainability with sound institutional setting</li> </ol>
3. Measures to tackle identified SWM challenges are proposed.	Activities of the Output 3 were informed by the SSWMS. The indicators of this Project Purpose have been achieved.

**Overall**

The indicators of the Project Purpose are achieved largely through Output 1. It is desirable to have included indicators which also relates to Outputs 2 and 3. Although all three indicators have been met, the achievement of the project purpose is not 100% because of the less-than-optimal achievement of the Output 3, which is considered as an important measure in the strategy. The Project Purpose is considered to have been mostly achieved.

Results of Pohnpei	
(2) Outputs	
Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed	Degree of Achievement: Achieved
Indicator	Results
1-1 The SSWMS (final version) is submitted to the relevant authority.	<p><u>Status: Achieved</u></p> <p>Waste flow of Pohnpei was created based on the SWM baseline survey including public opinion survey on waste discharge manner, waste amount and composition survey, incoming waste survey to the disposal site, etc., conducted in July 2017. Through the waste flow analysis, the current SWM situations in Pohnpei was understood by key stakeholders technically and quantitatively.</p> <p>Pohnpei was unable to advance rapidly with the frequent staff turnover of EPA, but the necessity of Pohnpei SSWMS was confirmed at the second JCC meeting on 11 October 2018. The project experts with counterpart officials conducted supplementary survey on SWM situations of each municipality in Pohnpei, organized regular stakeholders meetings, made presentations to the chairperson of EPA board and the Governor, and finalized SSWMS of Pohnpei. The SSWMS 2020-2029 was endorsed by the Governor on 29<sup>th</sup> October 2019.</p>
<p><u>Overall</u></p> <p>This Output has been achieved. The technical and quantitative analysis at the outset of the project was key to the formulation of a SSWMS. SSWMS serves as a reference document for SWM interventions. The first priority identified in the plan was being addressed under the Output 3.</p>	
Output 2: Good practices of solid waste management / 3R are promoted in the country and the region	Degree of Achievement: Mostly achieved
Indicator	Results
2-1 What is learned from the training organized by J-PRISM II Project Office is utilized	<p><u>Status: Mostly achieved</u></p> <p>The following workshops and trainings were conducted.</p> <ul style="list-style-type: none"> <li>- The first SWM workshop in Pohnpei (September 27, 2017): Mr. Henry Susaia, Mr. Alfred David, Mr. Brad Soram and Mr. Joseph Victor of EPA as well as Mr. Strick Silbanuz of T&amp;I and Mr. Pius Yaropiyal of Pohnpei Waste Management Service (PWMS) participated in the workshop and Mr. Alfred David presented the result of SWM baseline survey of Pohnpei.</li> <li>- Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method (Palau, February 2018): One official of PWMS (Mr. Pius Yaropiyal) participated. Mr. Pius who participated in the training on the final disposal site actually fabricated eco-fan which he learned how to make at the seminar and used it at the public disposal site in Pohnpei.</li> <li>- Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, February 2019): One official of EPA (Mr. Elmer David Jr.) participated. It may not be a topic that was recognized as a priority in a normal time, but it is an important topic to have been thought out in the context of PICs. The utilization of this knowledge is to be followed up.</li> <li>- The second SWM workshop in Pohnpei (September 26, 2019): Mr. Henry Susaia, Mr. Brad Soram of EPA as well as Mr. Strick Silbanuz of T&amp;I participated in and Mr. Brad Soram presented the issues regarding the current waste collection services of municipalities in Pohnpei.</li> <li>- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries (Online, 15th October 2021): 12 officers from EPA, Madolenihmw</li> </ul>

municipality, U municipality, Kitti municipality, Sokehs municipality and Kolonia Town Government (KTG) participated in the training. This was a much-needed training. Despite being online training, with the use of videos taken by the trainees as training materials, the training provided a good learning experience. In the post-training evaluation questionnaires, many participants commented that the training was useful. C/P confirmed that the compactor truck operators of Pohnpei and KTG attended a virtual training on daily maintenance of trucks and were able to apply the knowledge gained.

Overall

It was verified that the acquired knowledge was utilized for some of the trainings. The Output is considered to have been mostly achieved.

Output 3: Effective CDL implementation mechanism is explored by relevant authorities.

Degree of Achievement  
Expected to be mostly achieved.

Indicator	Results
<p>3-1 Guideline on implementation procedure such as measurement, accounting and data collection is prepared.</p>	<p><u>Status: Expected to be mostly achieved if necessary documents for CDL improvement are drafted</u></p> <p>In Pohnpei, CDL-related law was enacted in August 2011, and recycling of beverage containers began. In August 2016, the law was successfully revised by changing the timing of deposit from retailing to customs filing. However, unlike CDL of Yap and Kosrae, CDL of Pohnpei targeted only aluminum cans, and those aluminum cans were purchased at the redemption centers only four or five times a year. There was a large room to improve the system in Pohnpei. Under such circumstances, the issues and problems of the current CDL system were widely shared and discussed at the second JCC meeting held on October 11, 2018, and the participants reconfirmed the need for its improvement. Support provided by the project was as follows.</p> <ul style="list-style-type: none"> <li>- Preliminary survey on Container Deposit Legislation for Pohnpei and Chuuk States of the FSM (Survey Period: 8 – 13 July 2017): the project examined the current CDL system and the implementation status, estimated the number of cans and bottles consumed in Pohnpei based on the import data, and identified the issues to be addressed. Recommendations were made as to how to improve the CDL system.</li> <li>- Preparation of a new recycling center: The need to construct a new recycling center near the disposal site and furnish it with recycling equipment, was identified in the analysis above. EPA succeeded in obtaining the grass root grant aid of Japan and constructed a new recycling center in the corner of the final disposal site. The construction was completed in May 2021. EPA worked with the governor's office to procure a large press machine under the non-project grant aid. The machine was still pending to arrive in Pohnpei at the time of the evaluation.</li> </ul> <p>The EPA was leading the improvement activities. However, in the last year of the project, further activities were pending the arrival of the press machine, including: amendment of the law to expand target items (PET, glass, batteries); preparation of a guideline, contracting out the operation of the recycling center; a model Memorandum of Understandings for an arrangement to outsource the operation to the private sector; and awareness raising by EPA.</p> <p>Guideline was understood to be an implementation plan which includes draft implementing regulations. They have not been prepared as it was considered that the legal framework needed to be clarified first and different actors and institutions needed assistance, which was pending the arrival of the press machine.</p> <p>At the time of the evaluation, the project was considering to prepare for a package of documents to be passed on to the EPA before September 2022 regardless of the arrival</p>

of the press machine, including preparation of the draft law amendment, preparation of draft implementing regulations, and a model Memorandum of Understandings for an arrangement to outsource the operation to the private sector.

**Overall**

At the time of the evaluation, some activities were pending, which was affected by an external factor of the delayed arrival of the press machine. The Output is expected to be mostly achieved if the package of necessary documents for CDL improvement, including draft law amendment, draft implementing regulations, and a model Memorandum of Understandings to outsource the service to an operating company, are prepared and are passed on to the EPA before September 2022.

**(3) Project Purpose: Pohnpei**

Creation of solid waste management system is promoted.

Degree of agreement: Expected to be mostly achieved

Indicator	Results
1. Current SWM situation is technically as well as quantitatively analyzed and understood.	<u>Status: Achieved</u> In the process of formulating the SSWMS, the current status of SWM in each four state was analyzed along with the C/Ps in each state. Thus, key officials of state agencies in each state have now understood not only the current situations but also the urgent issues to be tackled.  The following three challenges have been (in order of priority), as well as measures to address them, and clearly written so in the Pohnpei SSWMS and the action plan.
2. SWM challenges are identified.	- Improvement of the current CDL system - Proper final disposal - Improvement of collection service
3. Measures to tackle identified SWM challenges are proposed.	Activities of the Output 3 were informed by this process. The indicators of the Project Purpose have been achieved.

**Overall**

The indicators of the Project Purpose are achieved largely through Output 1. It is desirable to have included indicators which also relates to Outputs 2 and 3. Although all three indicators have been met, the achievement level is not 100% because of the less-than-optimal achievement level of the Output on collection improvement (Output 3), which is considered as an important measure in the strategy. The Project Purpose is considered to be mostly achieved.

**Results of Kosrae**

**(2) Outputs**

Output 1: New SSWMS and its action plan prepared in line with the Cleaner Pacific (2016-2025) are developed	Degree of Achievement: Achieved
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Indicator	Results
1-1 The SSWMS (final version) is submitted to the relevant authority.	<u>Status: Achieved</u> Stakeholders were gathered, SSWMS 2018-2027 and its Action Plan were explained to the stakeholders at a workshop held on 16 February 2018, and SSWMS (draft) was agreed after questions and answers. Then it was approved by the governor on 28 May 2018.

**Overall**

The technical and quantitative analysis at the outset of the project was key to the formulation of SSWMS.

SSWMS serves as a reference document for SWM interventions. The first priority identified in the plan was addressed under the Output 3.

Output 2: Good practices of solid waste management / 3R are promoted in the country and the region	Degree of Achievement: Mostly achieved
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Indicator	Results
2-1 What is learned from the training organized by J-PRISM II Project Office is utilized	<p><u>Status: Mostly achieved</u></p> <p>The following workshops and training were conducted.</p> <ul style="list-style-type: none"> <li>- The first SWM workshop in Pohnpei (September 27, 2017): Mr. Blair Charl, Mr. Kiobu K. Luey of KIRMA as well as Mr. Bob Skilling of DT&amp;I participated in and presented the result of SWM baseline survey of Kosrae.</li> <li>- Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method (Palau, February 2018): One official of DT&amp;I (Mr. Osamu Nedlic) participated. The knowledge acquired was applied to the improvement of the landfill, including elevation of the access road, spreading and compacting waste discharge, segregation of waste dumped at the landfill site, maintaining the leachate pond and ventilation gas pipe.</li> <li>- Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, February 2019): One official of KIRMA (Mr. Kiobu K. Luey) participated. It may not be a topic that was recognized as a priority in a normal time, but it is an important topic to have been thought out in the context of PICs. Whether the acquired knowledge was utilized needs to be monitored.</li> <li>- The second SWM workshop in Pohnpei (September 26, 2019): Mr. Blair Charley of KIRMA, and Mr. Hairom Livaie of DT&amp;I participated in and presented the Inter-Municipal Collection System (IMCS)</li> <li>- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries (Online, July 2, 2021): 4 officers from DT&amp;I participated in the training. This was a much-needed training. Despite being online training, with the use of videos taken by the trainees as training materials, the training provided a good learning experience. In the post-training evaluation questionnaires, many participants commented that the training was useful. After the training, the maintenance work has continued to be done according to the procedures and steps taught at the training. The daily checklist for the maintenance of the compactor trucks has been in use for daily operation of the collection truck. The checklist forms was found to be very useful for the preventive measures for the operation of the equipment.</li> </ul>

Overall

It was verified that acquired knowledge from some trainings were utilized. This Output has been mostly achieved.

Output 3: Waste collection is improved in Kosrae.	Degree of Achievement Achieved
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Indicator	Results
3-1 Collection rate is improved in Kosrae	<p><u>Status: Achieved</u></p> <p>Initially, there was a plan that was being formulated, for the donation of one compactor truck to each of the four municipalities by the Embassy of Japan. The project met with the four municipalities, together with DT&amp;I, to analyze the amount of waste generated from the four municipalities and the operating cost, among others. As a result, it became clear that it was more efficient to have a shared waste collection system across the four municipalities with one compactor truck. Upon this consensus, the IMCS plan was developed. DT&amp;I revised the law to make the responsibility of waste collection to its jurisdiction, created a financial mechanisms in which the state</p>

and 4 municipalities share the cost of collection (municipalities to cover the cost of fuel for compactor truck based on the population), and distributed unified collection containers, to develop a more efficient waste collection system.

Based on the IMCS plan, following activities were performed in coordination to relevant bodies:

- public awareness raising and community consultation meetings, mainly done by KIRMA,
- training for collection crew and preparation for collection routes, and installation of the sound system, done by DT&I,

One compactor truck was procured with the support of non-project grant aid. IMCS started in the entire state of Kosrae on February 10, 2020. The monitoring data was available for the first week of IMCS only, and the total volume of waste collected was 11 tons per week. Compared to the waste volume in the baseline survey, which was 8.5 ton/week, IMCS resulted in approximately 1.3 times more waste collected than that of the baseline survey.

The 10<sup>th</sup> monitoring sheet says according to the monitoring result as of September 2020 and discussions in web meetings, it was verified that IMCS had been technically and financially operating properly.

Since then, however, there have been some municipal governments that could not fulfill their commitment of paying their share of the cost of the IMCS. There was also a challenge in securing budget in the fiscal year 2022. Thanks to the lobbying of DT&I, SWM sector was able to secure an increased budget for the fiscal year 2023. Nonetheless, the financial aspect of the IMCS is to be monitored.

**Overall**

This Output has been achieved. However, as mentioned above, the financial aspect of the IMCS is to be monitored to ensure that the improvement in waste collection could be sustained over time. The monitoring result may indicate a need to explore sustainable financing for SWM in general beyond IMCS.

**(3) Project Purpose: Kosrae**

Creation of solid waste management system is promoted.

Degree of achievement: Mostly achieved

Indicator	
<p>1. Current SWM situation is technically as well as quantitatively analyzed and understood.</p> <p>2. SWM challenges are identified.</p> <p>3. Measures to tackle identified SWM challenges are proposed.</p>	<p><u>Status: Achieved</u></p> <p>In the process of formulating the SSWMS, the current status of SWM in each four state was analyzed along with the C/Ps in each state. Thus, key officials of state agencies in each state have now understood not only the current situations but also the urgent issues to be addressed.</p> <p>The following four challenges have been identified, together with measures to be taken, and clearly written so in the Kosrae’s SSWMS and the action plan.</p> <ol style="list-style-type: none"> <li>1. Expansion of collection services along with step-by-step closure of community dump site</li> <li>2. Further efforts to minimize waste</li> <li>3. Financial sustainability with sound institutional setting</li> </ol> <p>Activities of the Output 3 were informed by this process. The indicators of this the Project Purpose have been achieved.</p>

**Overall**

The indicators of the Project Purpose are achieved largely through Output 1. It is desirable to have included

indicators which also relates to Outputs 2 and 3. All three indicators of the Project Purpose have been met, and the Outputs 1 and 3 have been achieved while Output 2 has been mostly achieved. The Project Purpose is considered to be mostly achieved.

#### **(4) Project Implementation Process**

##### **- Project Management**

Joint Coordinating Committee (JCC) meetings were held annually, which served to provide overall guidance and direction of the Project. Before the COVID, a joint JCC for the four states of FSM and an individual JCC for each state alternated. Since 2021, JCC meetings were held virtually, and jointly with the other two countries of the Micronesia region (Palau and RMI), due to the limitations of movement caused by the COVID-19. These three-country joint JCCs offered opportunities for experience sharing and learning that were mutually stimulating among the three countries. At the same time, seven projects covering three countries, four states and two atolls had to be explained at a JCC meeting, which made the meeting long with many presentations and many participants. For this reason, some actors stated that it was more difficult to discuss individual projects in depth.

Regular meetings with C/P were held usually on a monthly basis. Monitoring was done every six months, using the monitoring sheet as a tool to compile information on the progress made in the activities. The monitoring sheet was prepared by the experts with the inputs of the C/Ps, and shared with the JICA country office and the headquarters. The revision to the project plan was considered at the JCC meetings.

##### **[FSM Side]**

Overall, inputs by FSM side have been mostly appropriate in producing Outputs.

Personnel: 29 C/Ps including 14 management personnel. Necessary human resources were provided to run the operations of waste collection in Kolonia town, Pohnpei and IMCS in Kosrae.

Facilities: Necessary office facilities were provided to the project.

Local cost: C/Ps of Kosrae were largely able to secure necessary budget for the project activities. As mentioned above, Yap encountered budget constraints that stalled the project activities under Output 3. DECEM facilitated the cost of stay of officials from other states when JCC was organized in Pohnpei.

##### **[Japanese Side]**

Experts: Five short-term experts supported the three countries in Micronesia region (Palau, FSM and RMI). Each expert assisted in different thematic areas, horizontally across the three countries. The thematic support provided by the experts was well coordinated to provide necessary assistance to each country. This team set-up, together with the good coordination within the team, made it possible to broaden the scope of support provided by the expert team as a whole. This set-up and sub-regional approach helped facilitate opportunities for mutually stimulating exchange and learning in Micronesia region, where there was a similarity across the three countries in terms of its small size of the territory and population, and of project activities. The work of the JICA short-term experts was highly appreciated by C/Ps, for their availability and responsiveness to the request for technical guidance, on matters within and outside of the PDM. 1 short-term expert on CDL supported FSM and RMI and 1 experts on vehicle and heavy machinery maintenance supported the three countries of the Micronesia region. Some C/P officials expressed their wish to have a full time presence of experts in country to have greater accomplishments, though, in that case it would not be possible to benefit from broad range of expertise that were offered by the team in the project. The collaboration with the Project Office was more evident under the Output 2 as it required collaboration by design, but it was less clear in other outputs.

Local cost: Necessary amount of the local operation was disbursed in time.

##### **- Method of Technical Transfer**

Technical transfer was carried out by way of training and technical advice by JICA experts. The project emphasized the collaborative work between the C/P and the JICA experts, which contributed to the capacity development of the C/P and the technical knowledge transfer. The COVID-19 prevented the project to organize face-to-face training, but an innovative approach was made to provide necessary training using the combination of video and online sessions, in case of On-Line Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries.

##### **- Collaboration with Local Stakeholders**

Collaboration with local stakeholders was smooth, including community leaders and household heads, KTG and Micronesian Productions (Pohnpei), and municipalities covered by IMCS (Kosrae). Communities showed their willingness to contribute (financially) to the SWM in Yap but there remained a question whether they would be able to do so in reality.



- Participation in Region-Wide Activities of J-PRISM2
- Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method (Palau, February 2018)
- Regional Disaster Waste Management Guideline Development Consultation Workshop (Palau, February 2019)
- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries (July 2021 for Kosrae, October 2021 for Chuuk, October 2021 for Pohnpei, February 2022 for Yap)
- Regional Workshop on Waste Collection Vehicles and Heavy Machinery, March 2022

- Coordination with Other Japanese and International Projects/Development Partners

There was cooperation with grant aid project, non-project grant aid, grassroots grant assistance for human security project, subject-based training in Japan, etc. The cooperation with these other assistance scheme was integral to the implementation of the J-PRISM II, including: the procurement of a compactor truck under grassroots grant assistance for human security project in Yap; the procurement of a press machine under the non-project grant aid and the construction of a recycling center under the grassroots grant assistance for human security project in Pohnpei, the procurement of two compactor trucks for Kolonia town, Pohnpei, by the Embassy of Japan, the procurement of two press machines with support of the grassroots grant assistance for human security project in Chuuk, and the procurement of a compactor truck with the support of non-project grant aid in Kosrae.

Followings are the list of development partners who include FSM as a target country in the waste management sector.

- PacWastePlus: organic waste (Yap, Chuuk), waste audit
- Global Environment Facility: waste oil
- Pacific Regional Infrastructure Facility (PRIF): Regional Resource Circulation and Recycling Network
- Pacific Ocean Litter Project (POLP): plastic waste
- Moana Taka partnership: waste oil transport (Pohnpei)
- World Bank: marine pollution (FSM), recycling facility (Chuuk)

There was some exchange with PacWastePlus, including their participation in JCC and Steering Committee (meeting attended by all nine countries). There has been coordination to complement activities and avoid duplication at the level of the Project Office and SPREP, such as creating matrix to map out activities, and coordinating the contribution of different development partners towards waste surveys.

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

#### Relevance

The relevance of the project is high.

This project is consistent with the Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 with the goal in SWM to provide infrastructure that: meets the demand for solid waste infrastructure in an effective and efficient manner; evaluates and institutes technologically appropriate solid waste management systems; reduces volume of solid waste for disposal by maximizing recycling and separation opportunities thereby minimizing the land area required; and prevents solid waste having adverse effects on the terrestrial and marine environments. In the Strategic Development Plan 2004-2023, the strategic goal 2 is to improve and enhance the human environment (improve waste management (reduce, reuse, recycle) and pollution control). The project is in line with the priorities of these policies.

SWM remained a critical development need, due to increasing and diversifying waste and the waste management systems that were fragmented and uncoordinated as they were largely in a small scale and lacking efficiency. The waste collection system was not functioning at an optimal level or at a low coverage in most states as municipalities in charge of waste collection often had limited budget and capacity, and there was a need to expand and improve the 3R + Return program. Based on the above, this project has been consistent with the regional and national development plans and FSM's development need. Therefore, the relevance of the project is high.

## Coherence

The overall coherence of the project is high, however, there seems to be room to seek more complementarity with other partners at the country level.

### (a) Coherence with Japanese aid policy

Under the Japan's Country Development Cooperation Policy for the FSM, one of the focus areas support for environmental conservation, such as improving the surrounding environment and public health by appropriately treating waste that also contributes to measures against marine plastic waste. As such, the project is consistent with the Japanese Official Development Assistance (ODA) Policy.

### (b) Coherence with other schemes of JICA and Japanese government

There was significant complementarity with other schemes and projects of Japan, including grant aid project, non-project grant aid, grassroots grant assistance for human security project.. The cooperation with these other assistance scheme was integral to the implementation of the J-PRISM II, including: the procurement of a compactor truck under grassroots grant assistance for human security project in Yap; the procurement of a press machine under the non-project grant aid and the construction of a recycling centre under the grassroots grant assistance for human security project in Pohnpei, the procurement of two compactor trucks for Kolonia town, Pohnpei, by the Embassy of Japan, the procurement of two press machines with support of the grassroots grant assistance for human security project in Chuuk, and the procurement of a compactor truck with the support of non-project grant aid in Kosrae. Based on the above, it can be said that the project is coherent with other schemes and projects of JICA and the Japanese government.

### (c) Coherence with other partners

Followings are the list of development partners who include FSM as a target country in the waste management sector.

- PacWastePlus: organic waste (Yap, Chuuk), waste audit
- Global Environment Facility: waste oil
- Pacific Regional Infrastructure Facility (PRIF): Regional Resource Circulation and Recycling Network
- Pacific Ocean Litter Project (POLP): plastic waste
- Moana Taka partnership: waste oil transport (Pohnpei)
- World Bank: marine pollution (FSM), recycling facility (Chuuk)

There was some exchange with PacWastePlus, including their participation in JCC and Steering Committee. There has not been extensive synergistic cooperation with other development partners at the field level, but there have been coordination to complement activities and avoid duplication at the level of the Project Office and SPREP, such as creating matrix to map out activities, and coordinating the contribution of different development partners towards waste surveys.

Based on the above, it can be said that the coherence of this project is high, however, there seems to be room to seek more complementarity with other partners at the country level.

## Effectiveness

The project is largely assessed effective

### (a) Achievement of Project Purpose

The project has achieved all indicators under the Project Purpose in the four states and mostly achieved at the federal government. However, the Project Purpose is not considered to be fully achieved due to the level of achievement of some Outputs. In particular, it was not possible to evaluate the Output 3 in Yap, and the Output 3 was expected to be mostly achieved in Chuuk and Pohnpei if the necessary documents for CDL introduction and improvement are developed by September 2022. As such, the Project Purpose is mostly achieved in the federal government, Yap and Kosrae, and expected to be mostly achieved in Chuuk and Pohnpei.

### (b) Contribution of Outputs to Project Purpose

Logical relation between Outputs and Project Purpose is confirmed. However, the indicators of the Project Purpose in the four states are achieved largely through Output 1. It is desirable to have included indicators which also relates to Outputs 2 and 3.

### (c) Other Promoting and Inhibiting factors

<Promoting factors>

- The C/Ps were well engaged, as seen in an activity that was outside of the PDM that received the technical guidance of the project in every state.
- Good partnership between JICA expert and C/Ps helped smooth implementation of the project. The short-term experts were highly responsive to the request of C/Ps for technical guidance, within and outside of the PDM. C/Ps were well-accompanied with their questions and doubts clarified promptly as they advanced on the project implementation.
- Departments in charge of infrastructure and waste operations were part of the main C/Ps. The operational nature of their mandate helped to formulate SSWMSs that were concrete and operations-oriented.
- The project could effectively make use of Japan's grant aid and technical cooperation projects to promote the achievement of the project outputs. In technical cooperation projects such as J-PRISM II, the input of equipment and other hardware is very limited. In order to achieve certain results, grant aids, grant assistance for grassroots human security projects and provision of equipment from the embassy, were very effective and timely.

<Inhibiting factors>

- The country's economy is highly dependent on financial support from US compact funds. The Small Sector Grant (Environment) in the fund had been used for waste management in each state. However, the policy in Small Sector Grant was changed in 2019, which necessitated each state to find its own budget source, requiring difficult adjustments. In Yap, the waste collection in Colonia area had been covered by the Small Sector Grant (Environment) until it was cut back. The state fund was to be used for this purpose, but the state budget had not been approved. This had a direct impact on the Output 3.
- COVID-19 forced the project to adopt remote support by the experts. This made it difficult to give greater support to activities that were encountering difficulties (for example: Output 3 in Yap and Chuuk). Delays in activities often required understanding and support from institutions above the C/Ps, but due to COVID-19, the experts were not able to travel to FSM to accompany the C/P in lobbying with policy makers at the state legislature to facilitate the process.
- Frequent personnel change (e.g. in Pohnpei EPA) and long absence of key personnel (e.g. in Yap) slowed down the progress in the implementation of activities.

**Efficiency**

(Due to the extraordinary situation with COVID-19 pandemic, the degree of "Efficiency" was not determined.)

(a) Production of Outputs

Output 1 was achieved at the federal government and four states. Output 2 was achieved at the federal government and mostly achieved in the four states. Output 3 were achieved in Kosrae and expected to be achieved in Chuuk and Pohnpei if the necessary documents for CDL introduction and improvement are developed by September 2022. It was not possible to evaluate the Output 3 in Yap due to external factors severely inhibiting the project implementation.

(b) Appropriateness of Inputs

<FSM side>

Overall, inputs by FSM side have been mostly appropriate in producing Outputs. The personnel with adequate competency have been assigned to the project. Local costs have been largely provided timely and adequately.

Personnel: 29 C/Ps including 14 management personnel. Necessary human resources were provided to run the operations of IMCS in Kosrae.

Facilities: Necessary office facilities were provided to the project.

Local cost: C/Ps of Kosrae were largely able to secure necessary budget for the project activities. As mentioned above, Yap encountered the budget constraints that stalled the project activities under Output 3.

<Japanese side>

Overall, inputs by the Japanese side have been appropriate in producing Outputs.

Experts: Five short-term experts supported the three countries in Micronesia region (Palau, FSM and RMI). Each expert assisted in different thematic areas, horizontally across the three countries. The thematic support provided by the experts was well coordinated to provide necessary assistance to each country. This team set-up, together with the good coordination within the team, made it possible to broaden of the scope of support provided by the expert team as a whole. This set-up helped sharing and learning among the three participating countries of the Micronesia region, where there was a similarity across the three countries in terms of its small size of the territory and population, and of project activities. The work of the JICA short-term experts was highly appreciated by C/Ps, for their availability and responsiveness to the request for technical guidance, on matters within and outside of the PDM. Additionally, one expert on CDL and one expert of vehicle and heavy machinery maintenance

provided support to the project. The COVID-19 and the resulting border closure rendered the on-site support impossible. Remote support was provided since the onset of the COVID-19. The impact of the lack of onsite support was considered to be lowered as the trust and working relationship were already built before the project switched to remote support. The collaboration with the Project Office was more evident under the Output 2 as it required collaboration by design, but it was less clear in other outputs. In terms of timing, quantity and quality, the dispatch of JICA short-term experts was appropriate.

Local cost: Necessary amount of the local operation was disbursed in time.

(c) Utilization of external resources

It was identified that effective utilization of external resources such as other Japanese grant aid scheme has increased the efficiency of the project.

(d) Promoting and Inhibiting factors

<Promoting factors>

- The country and states of Micronesia are very small, without too much hierarchy in the decision-making process. Actors stated that it was relatively straightforward to have the approval of SSWMS (Output 1) in this sense.

<Inhibiting factors>

- An outbreak of little fire ants in Yap, including in part of the target areas of the pilot project, and it became prohibited to transport the waste from the affected area. This prevented the implementation of the Output 3.
- The difficulty with the budget was also a key factor that prevented the implementation of the Output 3 in Yap.
- There was a delay in law amendment for CDL in Chuuk, which inhibited the development of a guideline (an implementation plan that includes implementing regulations).
- The arrival of the press machine in Pohnpei is delayed, which inhibited the development of a guideline (an implementation plan that includes implementing regulations).

**Impact**

Overall Goal at the country level was not identified during the planning stage, therefore N/A in the survey. Various positive impacts have been observed. Negative impacts have not been observed.

**Other activities outside of PDM**

There were a number of activities undertaken and support provided by the project outside of the PDM, which contributed to further improving the sustainable management of solid waste in the country, which in turn contributed to the project goal. These activities are described under this section.

**1) Waste collection in Kolonia Town, Pohnpei**

In the main land of Pohnpei, six municipal governments were responsible to implement waste management. Among them, the most populous KTG faced severe problems. The Embassy of Japan provided two 4-ton compactor trucks to the KTG. The project hired a local consultant and assisted the KTG, though this activity was not included in the PDM. KTG did not have a collection plan yet, but formulated a collection plan with the support of the project, using the two newly provided compactor trucks. Following activities were conducted:

- Study on locational information of existing containers (approx. 350 locations) was conducted using GPS
- Collection routes and weekly collection schedule were established, based on the result of the above study and an actual driving test.
- The existing heavy steel containers were replaced with 780 garbage bins (32-gallon in size) with wheels procured by the project. Numbered bins were distributed to each subscribing households/ business entities. This represented a major reduction in work hazard for collection workers, and a more frequent collection became possible.
- A leaflet was prepared and being distributed for proper disposal methods, collection schedule, unaccepted items to prevent damages to the compactor trucks. Same content was broadcasted on the radio to further reach the public.

At the time of evaluation, the new collection system was to start as soon as a training on the new vehicles and above-mentioned preparations were completed.

**2) Improvement of the disposal site in Kosrae**

As a result of the implementation of the IMCS, the disposal volume has increased in Kosrae. The need to improve the final disposal site was identified: the existing entrance was not safe for the truck to access from the primary

road, and it needed to be elevated as the landfill approached its full capacity, which was originally estimated to be 2025 but it was likely to be before 2025 with the increased waste collected by the IMCS. The improvement of the final disposal site was planned and underway with the technical guidance of the project, including a change of the entrance location and the construction of embankment.

**3) Improvement of the disposal site in Yap**

Improvements in the final disposal site were implemented to extend the life of the disposal site, including: vertical extension of the landfill gas venting pipes; and raising the access road to expand the disposal capacity. In addition, continuous recording of incoming waste data to the disposal site has enabled better planning and management of the disposal site based on the data. This support has continued since the J-PRISM I.

**4) Support to a remote island in Chuuk**

Chuuk EPA was requested from a remote island of Oneisom, to support formulating Solid Waste Management Plan (SWMP). An EPA Officer conducted waste audit in the Oneisom Island, and based on the result and through a series of discussion among the Executive Officer of the Oneisom Island, EPA and J-PRISM experts, a first draft of SWMP for Oneisom Island was being prepared. This is an example of application and scaling-up of the SSWMS.

**5) Formulation of the National Waste Management Strategy**

DECEM was formulating the National Waste Management Strategy that covers both solid and hazardous wastes. A series of discussion was held among DECEM, SPREP and the project virtually. The first draft was under preparation at the time of the evaluation, to be circulated for consultation with state representatives.

**Contribution to the overall goal**

Overall goal and the indicator of the region-wide PDM as follows:

Overall Goal (Common):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

It is impossible to examine possibility to achieve the overall goal at the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for the FSM.

**Positive impacts**

A number of positive impacts have been observed.

- There has been improvement in terms of waste management strategies with the development of the SSWMS in each state, clarifying the challenges, priorities and measures to be taken.
- Knowledge of the waste operators was improved, including data collection, which was used to visualize improvements in waste collection.
- The project brought opportunities for the C/P to discuss with communities on their responsibilities for SWM through community outreach. Communities gained awareness and they were much more mindful and concerned about better disposal of waste (Yap).
- Due to the weekly collection by the IMCS, the collection rate was improved (according to the collection data of the first week of the operation), and it was observed that the littering in the communities has been reduced (Kosrae).

Negative impacts have not been observed nor foreseen.

**Sustainability**

Sustainability is assessed to be medium.

**(1) Policy and Institutional aspects**

At the federal government level, Department of Environment, Climate Change and Emergency Management (DECEM) is responsible for drafting national environmental policies and coordinating among state environmental departments. Actual waste management is carried out by the state agencies in each state based on the state laws and regulations. The federal government was in the process of creating a National Waste

Management Strategy at the time of the evaluation. Based on the above, policy and institutional aspects of waste management is expected to be sustainable.

#### Yap

Major regulations governing waste management include: Recycling Program Regulations 2014; Plastic Bag Prohibition Regulations 2014; Solid Waste Management Regulations 2015; and Hazardous Substance Regulations 2015. Yap State Solid Waste Management Strategy 2018-2027 was developed and approved. It has been serving as a reference document in solid waste management.

The operation and management of waste collection, transportation, and disposal are outsourced to a private company under the supervision of the Department of Public Works and Transportation (DPW&T), while Yap Environmental Protection Agency (EPA) is in charge of environmental policy, environmental education, and recycling. Based on the above, policy and institutional aspects of waste management is expected to be sustainable.

#### Chuuk

Major laws governing solid waste management are compiled in the Chuuk State Code in: Title 21, Chapter 13: Sanitation Act; Title 22, Chapter 1: Chuuk State Environmental Protection Act; and Title 22, Chapter 3: Littering Act. The Clean Environmental Act was passed at the state legislature in 2018, which included the clause prohibiting plastic shopping bags. Chuuk State Solid Waste Management Strategy 2019-2028 was developed and approved, and it has been serving as a reference document in solid waste management.

Chuuk Environmental Protection Agency (EPA) is in charge of environmental policy and environmental education, while waste collection and transportation, and operation and management of disposal site is the responsibility of the Department of Transportation and Public Works (DT&PW). Based on the above, policy and institutional aspects of waste management is expected to be sustainable.

#### Pohnpei

Major laws related to solid waste management are compiled in the Pohnpei State Code in: Title 27, Chapter 1: Pohnpei State Environmental Protection Act; Title 27, Chapter 2: Littering in public places and premises; Title 27, Chapter 3: Beverage Container Recycling; and Title 27, Chapter 4: Prohibition of Importation and Use of Single-Use Plastic Bags. Pohnpei State Solid Waste Management Strategy 2020-2029 was developed and approved. It has been serving as a reference document in solid waste management.

Pohnpei environmental protection agency (EPA) is responsible for environmental policies, environmental education and recycling, while the Office of Transportation and Infrastructure (T&I) oversees the operation and management of the final disposal by a private company. Waste collection and transportation is carried out by each municipality. Based on the above, policy and institutional aspects of waste management is expected to be sustainable.

#### Kosrae

Related laws are compiled in the Kosrae State Code in: Title 19, Chapter 5: Hazardous Substances and Pollution; Title 19, Chapter 6: Waste Management and Recycling; and Title 11, Chapter 9: Control of Plastic Wastes. Kosrae State Solid Waste Management Strategy 2018-2027 was developed and approved, and it has been serving as a reference document in solid waste management.

Kosrae Island Resource Management Authority (KIRMA) oversees environmental policy, environmental education and recycling, while the Department of Transport and Infrastructure (DT&I) manages the waste collection, transportation and operation of disposal sites. In Kosrae, a beverage container deposit system is in place. A private company commissioned by KIRMA is carrying out the recycling activities.

Based on the above, policy and institutional aspects of waste management is expected to be sustainable.

#### (2) Organizational aspects

The project saw some changes in the C/P officials (in Yap, Chuuk and Kosrae) as well as long absence of some key personnel (in Yap). In Kosrae, it was observed that the project management structure was not necessarily clear to all actors. There was a shortage of technical personnel, as well as outflow of human resources (retirement of the person in charge). Many C/Ps stated that the organizational capacity of C/Ps needed to be built further to sustain the project. At the same time, the ownership of the project is considered to be generally high, as exemplified in initiatives such as: landfill management and improvement by Yap DPW&T; initiative-taking to for the procurement of equipment for CDL by Pohnpei EPA; and Kosrae continuing with proper management of IMCS as well as taking initiative to improve the final landfill site. The sustainability of organizational aspects is medium.

#### (3) Financial aspects

The country's economy is highly dependent on financial support under the Compact of Free Association. The Small Sector Grant (Environment) in the fund had been used for waste management in each state. However, the

policy in Small Sector Grant was changed in 2019, which necessitated each state to find its own budget source, requiring difficult adjustments. The state fund was to be used, but in case of Yap, the state budget had not been approved, which directly impacted the implementation of the project activities. The project intended to support lobbying with policy makers but it was not possible due to the COVID-19. While it is unclear whether the United States will continue to provide financial support to the national government, mechanisms for sustainable financing need to be explored in the field of SWM. The financial sustainability is considered to be low.

(4) Technical aspects

There was shortage of technical personnel, with personnel leaving the positions due to retirement, among other reasons. Technical advice of the experts helped develop the capacity of the C/P, but there was still a need for continued technical capacity development by the technical experts, including in analyzing, planning and implementation of waste collection, disposal, recycling as well as community outreach. Technical sustainability is considered to be medium.

**Influence on the COVID-19**

(How it affected, any changes created, etc.)

Due to the COVID-19 pandemic, from February 2020 onward no experts have been dispatched to FSM. Experts worked from their home countries, and experts basically communicated through regular web-meetings and provided counterpart officials with needed technical advices. The challenge was not only brought by the lack of on-site presence of the experts, but also as the resources and focus were concentrated for COVID-19 response, leaving other issues including SWM on hold. It was stated by the C/Ps and experts that if the experts had been on site to provide greater support to activities that encountered difficulties (e.g. Output 3 in Yap and Chuuk), these activities may have progressed further. COVID-19 also caused a delay in the arrival of the press machine to Pohnpei. COVID-19 also pushed some innovations, such as: online training combining video and online session; and virtual meetings and consultations that enabled further exchange and sharing among the three Micronesian countries. These innovations can be replicated for future activities

**IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is highly relevant, and the overall coherence of the project is high. The project was found to be implemented effectively. Some positive impacts are observed, and sustainability is assessed to be medium.

Based on the above-mentioned findings and evaluation, the evaluation team considers that this project is expected to generally achieve the result as planned by the end of the project. Therefore, it is appropriate to terminate FSM scope of the J-PRISM II in September 2022.

**IV. Recommendations**

Consider identifying country specific verifiable indicator(s) of Overall Goal.

The Overall Goal and the indicator of Region-wide PDM are as follows:

Overall Goal (Region-wide):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for FSM may include:

- SSWMS is updated periodically based on monitoring and quantitative and technical analysis undertaken together with relevant authorities and stakeholders
- Project activities are included in organizational annual work plan and budget of C/Ps
- A mechanism for sustainable financing of SWM is introduced.

**To DECEM, DPW&T (Yap), DTPW (Chuuk), T&I (Pohnpei), DT&I(Kosrae) and EPA (Yap, Chuuk, Pohnpei), and KIRMA**

It is recommended to explore mechanisms for sustainable financing of SWM in the uncertainty of financial support to the national government based on the Compact of Free Association after the planned discontinuation

in 2023. This may include introducing user fees, introducing and expanding CDL, and expanding the mechanism of securing financial resources and returns by other economic methods.

It is also recommended to periodically update the SSWMSs based on monitoring and quantitative and technical analysis.

**To JICA Short-term Experts**

It is recommended to consider developing necessary documents for CDL introduction and improvement in Chuuk and Pohnpei, including draft implementing regulations, model Memorandum of Understandings to outsource an operating company, and a draft law amendment (this is in place in Chuuk) before the end of their engagement in September 2022. CDL is a component that will likely need further support in FSM.

It is also recommended to consider supporting monitoring of the financial aspect of the IMCS in Kosrae, to help ensure financial sustainability.

**To JICA Overseas Office**

There has been significant complementarity with other schemes and projects of Japan. As well, in the past years, many international donors started working in the waste management sector in the region. It is recommended to continue coordinating within JICA and with the Embassy of Japan as well as other development partners, to find synergies with different schemes and projects.

**Attachment:**

1. Project Design Matrix (PDM Version 1)
2. Plan of Operation (PO Version 1)



**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Republic of the Marshall Islands (RMI)</b>
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**I. Project Outline**

Background	Solid waste management (SWM) has become a major issue of concern in the Republic of the Marshall Islands (RMI) due to the significant amount of waste generated, through changes in livelihoods and high dependency in imported goods. In Majuro, the final disposal site has reached its capacity and needed urgent actions to find short, mid, and long-term solutions. In Kwajalein atoll, open burning at the dumpsite was an issue that required urgent actions. The waste disposal capacity is limited in the country comprised of atolls and small islands, and it is essential to reduce the amount of waste through promoting 3R (Reduce, Reuse, Recycle) + Return. Building on the efforts of J-PRISM Phase I to lay down the basic foundation of the human and institutional capacity for sustainable SWM, J-PRISM II was implemented with the aim of creating sustainable solid waste management and strengthen the recycling system in line with the vision of the Cleaner Pacific 2025.
Summary of the Project	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	Creation of solid waste management system is promoted (see attached: Summary of the Terminal Evaluation Survey)
Outputs	Output 1: Policy documents necessary to improve SWM system are officially submitted to the relevant authorities Output 2: Good practices of solid waste management /3R are promoted in the country and the region Output 3: CDL mechanisms suitable to RMI are explored by relevant authorities
Implementing Agency	(Main) Ministry of Works, Infrastructure and Utilities (MWIU) / Majuro Atoll Waste Company (MAWC) / Kwajalein Atoll Local Government (KALGOV) (Supporting) Office of Environment Planning and Policy Coordination (OEPPC) / Environmental Protection Authority (EPA)
Project Duration	February 2017 – September 2022 (5.5 years)
Target Group	13 counterparts (C/P) (as of February 2022) Management C/P: 1 Project Director (MWIU), 1 Project Manager (MAWC), 1 Project Manager (KALGOV) C/Ps: 2 (MAWC), 3 (KALGOV), 2 (EPA), 1 (OEPPC)
Target Area/ Target Population	Majuro atoll, Kwajalein atoll Approx. 53,158 (2011)

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of April 2022)</b>	
<b>Japanese Side</b> 1) Experts (MM) - 7 Short-term Experts (52.64MM in country and 34.40MM in remote for the three countries of Micronesia), including 1 expert of Container Deposit Legislation (CDL) and 1 expert of vehicle and heavy machinery maintenance held several remote workshops  2) Training - Follow-up Seminar and On-site Training on Sanitary Landfill Design and Operation by Fukuoka Method - Regional Disaster Waste Management Guideline Development Consultation	<b>RMI Side</b> 1) Allocation of Counterparts Three (3) management C/Ps and eight (8) C/Ps were assigned as C/Ps for the Project.  2) Local Cost: The counterpart organizations provided appropriate facilities and bore local costs to ensure smooth implementation of the activities.  3) Office spaces were not provided to JICA experts due to the lack of space and office facilities (photocopy, wifi connection, etc.) in the C/P office.

<p>Workshop</p> <ul style="list-style-type: none"> <li>- Online Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries</li> </ul> <p>3) Local cost support JPY 15,352,000 (approx. USD132,854)<sup>1</sup> for Palau, RMI and FSM Major expenses are as follows: Consultants (JPY 6,166,700 approx. USD 53,366) Hiring cars (JPY 4,182,000 approx. USD36,190)</p>	
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**(2) Outputs**

Output 1: Policy documents necessary to improve SWM system are officially submitted to the relevant authorities	Degree of Achievement: Mostly achieved.
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Indicator	
[MAJURO] 1-1 The SWM Plan for MAWC (final version) is submitted to the relevant authority.	<p><u>Status: Achieved</u> Solid Waste Management Plan (SWMP) for Majuro was officially endorsed on 28th July 2020, by the Minister of MWIU, Mr. Jiba Kabua. SWMP for Majuro covers the period of 2019-2028, and an Action Plan covers the period of 2019-2023. It provides guidelines to MAWC, a state owned company, for addressing issues and challenges of SWM.</p> <p>MWIU/MAWC are implementing the action plans to improve the final disposal site based on the priorities set in the SWMP on their initiatives and with their own resources, with the technical support of the project. This demonstrates strong ownership and pertinence of the SWMP for Majuro.</p>
1.2 [KALGOV] 1-2 The SWM Plan for KALGOV (final version) is submitted to the relevant authority.	<p><u>Status: Achieved</u> SWMP for KALGOV, “Kwajalein Atoll Solid Waste Management Plan 2019-2028” was approved by the Mayor on 18th October 2018.</p> <p>SWMP serves as a key reference in identifying SWM actions, including with other donors, and KALGOV is implementing activities identified in the SWMP, including awareness raising.</p>
[National] 1-3 The NWMS (final version) in line with CP2025 is formulated and submitted to the Cabinet.	<p><u>Status: Not possible to evaluate</u> OEPPC was initially formulating National Waste Management Strategy (NWMS) with the assistance of SPREP and J-PRISM, carried over from the Phase I. Initially, it was scheduled to complete the final draft of NWMS by May 2019 according to the OEPPC officials, however, since then, no progress was made. Due to restructuring of government agencies, this task has been assigned to RMI EPA, for which NWMS formulation was not necessarily a priority among many other responsibilities and duties. It was not clear who the official in charge of this Output was from the EPA. Within SPREP too, there was absence of the personnel in charge of advancing this activity.</p> <p>At the time of the evaluation, the project was inquiring SPREP via the Project Office about their intention regarding the formation of the NWMS, and was planning to discuss with EPA as to whether this activity was a priority need. In fact, there was a question as to whether this Output still corresponded to the priority needs in RMI. SWMPs for Majuro and Kwajalein atoll are owned by implementing agencies of SWM, and cover areas where 90% of the population resides. NWMS was not particularly intended to support the remaining population in remote islands. Now that the SWMPs were developed at the level of atolls, the pertinence of developing this strategy at the national</p>

<sup>1</sup> JICA Official rate in March 2022 (1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

level was less clear. Discussion with SPREP and EPA to determine the pertinence of this activity at the national level would have been necessary. Had there been a mid-term project evaluation or a face-to-face JCC, the project may have had an opportunity to assess the pertinence of this indicator and modify the PDM at an earlier stage.

It should be noted that the need to address SWM issues in remote outer islands was expressed by C/Ps, though appropriate measures of support need to be determined, which may not readily relate to the need for NWMS. This indicator is not likely to be achieved before the end of the project.

Overall

This output was fully achieved at the level of Majuro and Ebeye atolls. SWMPs have been serving as reference documents for SWM. At the national level, the pertinence of NWMS was considered questionable, and as such, it was not possible to evaluate the indicator. Given that SWMPs for Majuro and Kwahalein atoll were developed, which cover the majority of the populations, overall, the Output is considered to have been mostly achieved.

Output 2: Good practices of solid waste management /3R are promoted in the country and the region	Degree of Achievement: Mostly Achieved.
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Indicator	Results
2-1 What is learned from the training organized by J-PRISM II Project Office is utilized	<p><u>Status: Mostly achieved</u></p> <p>The following training sessions were carried out with the participation of C/P officials.</p> <ul style="list-style-type: none"> <li>- Training on Sanitary Landfill Design and Operation by Fukuoka Method (February 2018/Palau): Ms. Jacqueline Lakmis of MAWC from Majuro and Mr. Wesley D. Lemari of KALGOV from Ebeye participated. It was found difficult to readily apply the knowledge acquired in RMI due to the particular situations of its final disposal sites. The situation of the final disposal site in Majuro was so critical that an Emergency Proclamation was issued, declaring it a health threat to the general public, as it long exceeded its design capacity with waste being pushed up high against a sea wall. In Ebeye too, it was considered difficult to readily apply the knowledge acquired as the disposal site was partially submerged during the spring tide.</li> <li>- Regional Disaster Waste Management Guideline development consultation workshop (February 2019/Palau): Three counterpart officials from Majuro, Mr. Kenny Paul, Ms. Jacqueline Lakmis and Mr. Timmy Langrine, and two officials from Ebeye, Mr. Scott B. Paul and Ms. Abacca Anjain Maddison, participated. The C/P has successfully secured the budget for disaster waste management in Ebeye after attending this workshop, through which the knowledge gained could be utilized.</li> <li>- The first session of On-Line Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries for Ebeye (December 2021, - / Online): Due to travel restrictions from COVID-19, the training which was originally conceived as on-site training was modified into online training. An innovative approach was taken to provide training in remote on a topic that would normally require on-site interventions, by combining video and online workshop. The training was provided jointly with the Project Office in Samoa. Information on how the acquired knowledge was utilized, was difficult to obtain because the primary beneficiaries were operators of these vehicles and machineries rather than officials of the C/P organizations. It will be necessary to have a follow up mechanism to monitor the utilization of the knowledge gained.</li> <li>- Online Training on Daily Inspection (Pre-&amp; Post- Operation Inspection) of Waste Collection Vehicles and Heavy Machinery (5 October, 2021, Ebeye, RMI),</li> <li>- Regional Workshop on Waste Collection Vehicles and Heavy Machinery, (2 March, 2022, Online)</li> <li>- Regional Workshop on Waste Collection Vehicles and Heavy Machinery (18</li> </ul>

March, 2022, Online)

The introduction of CDL system inaugurated in July 2018 and the lagoon-side landfill operation were compiled and shared as good practices of SWM from the RMI in the Lessons Learnt/Good Practice website of the SPREP.

Overall

It was verified that the knowledge gained from some training was utilized, though more information is needed to verify this for other training. This output is considered to have been mostly achieved.

Output 3: CDL mechanisms suitable to RMI are explored by relevant authorities Degree of Achievement: Achieved.

Indicator	Results
3-1 Guideline on implementation procedure such as measurement, accounting and data collection is prepared.	<p><u>Status: Achieved</u></p> <p>The amendment to the "Styrofoam Cups and Plates, and Plastic Products Prohibition, and Container Deposit Act 2016" was passed at the parliament in January 2018, and the CDL Regulations in line with the amendment was approved by the Cabinet in June 2018. As a result, deposit collections at the custom office started in July 2018.</p> <p><u>Majuro</u></p> <p>CDL in Majuro was inaugurated on 10th August 2018, refunds and recycling at redemption center located at final disposal site started in 13th August 2018. The CDL operation in Majuro has continued smoothly and has been functioning well. In Majuro, residents have been accustomed to bringing PET bottles and aluminum cans to waste disposal sites in order to cash them. In addition, aluminum cans have been stably exported overseas (Korea), and progress has been made such as using the Moana Taka Program to export colorless and transparent PET bottles to Australia. Notable change was observed in the public spaces: since the implementation of the CDL program: discarded drinking bottles were hardly seen in public places. The CDL provided financial support to MAWC's operation as well and job opportunities.</p> <p><u>Ebeye</u></p> <p>CDL operation in Ebeye commenced on 18th June 2021 but encountered a problem with the press machine breaking down shortly after the operation started. The breakdown occurred as the standard operating procedure was not followed properly. At the time of the evaluation, KALGOV was in the process of fixing the press machines, which involved importing spare parts from New Zealand. Since the breakdown, the workers had two trainings in Majuro, and a third training was being planned. Additional technical advice was provided to KALGOV on the repair of the press machine and how to correctly operate a redemption center. As such, the CDL program was not functioning in Ebeye at the time of the evaluation.</p> <p>There was a concern that incoming items from the US base may pose a problem in a long-run as deposit is not collected on these items (not taxed) but they could be redeemed. It would be necessary to explore solutions to this issue by engaging with relevant stakeholders.</p>

Overall

The Output is achieved according to the indicator, though it is pending the resumption of the CDL operations in Ebeye.

A critical voice was heard among relevant actors due to the limited items covered by the CDL program. For example, glass bottles were not part of the CDL program yet and were handled as waste. The RMI has been

considering to extend the legislated recycling system to other materials such as used cars and tires.

A question was raised as to the lack of information on the incomes generated by the CDL. One of the major contributions by the introduction of CDL was that the waste corporations could earn income from the export of aluminum cans, but there have been few reports on this revenue. It is necessary to compile information to clarify the change in income and expenditure due to the introduction of CDL.

Promotion of 3R+Return was considered to have strengthened the community involvement and public awareness.

**(3) Project Purpose:** Creation of solid waste management system is promoted

Degree of Achievement: Mostly Achieved.

Indicator	Results
1. Current SWM situation is technically as well as quantitatively analyzed and understood.	<u>Status: Achieved</u> In the process of formulating the SWMPs, the current status of SWM in Majuro and Ebeye, where 90% of the population lived, were technically and quantitatively analyzed in the baseline studies together with the C/Ps. This created a shared understanding of the current situations and urgent issues to be addressed among relevant officials of MAWC and KALGOV. This indicator was fully achieved.
2. SWM challenges are identified.	<u>Status: Achieved</u> For Majuro, the following four challenges have been identified, and written in the SWMP for Majuro (in order of priority). <ol style="list-style-type: none"> <li>1. Proper final disposal is a critical component of sustainable SWM</li> <li>2. Waste Reduction and Recycling</li> <li>3. Improvement of Collection Service</li> <li>4. Careful consideration on the applicability of new technologies</li> </ol> For Ebeye, the following four challenges have been identified, and written in the Kwajalein Atoll SWMP (in order of priority). <ol style="list-style-type: none"> <li>1. Waste Reduction and Recycling through the CDL Program</li> <li>2. Improvement of the Current Final Disposal Site</li> <li>3. Maintenance of Collection Service</li> <li>4. Financial Sustainability with Sound Institutional Setting</li> </ol>
3. Measures to tackle identified SWM challenges are proposed.	<u>Status: Achieved</u> In both the SWMP for Majuro and the SWMP for Ebeye, not only the challenges but also measures to tackle the identified challenges were proposed. One of the measures identified in the SWMPs was waste reduction and recycling through the introduction of CDL, which J-PRISM supported under the Output 3. Another measure implemented was the construction and operation of the lagoon-side landfill, which was implemented with the technical support of the project.

Overall

Though all indicators have been achieved, the achievement of the Project Purpose is not considered 100% as there were some pending issue regarding the Output 1 (clarification on the development of NWMP). The Project Purpose is considered to have been mostly achieved. The technical and quantitative analysis at the outset of the project was key to the SWMP formation and the project as a whole.

**(4) Project Implementation Process**

(a) Project Management

Joint Coordinating Committee (JCC) meetings were held annually, which served to provide overall guidance and direction of the Project. Since 2021, JCC meetings were held virtually, and jointly with the other two countries of the Micronesia region (Palau and FSM), due to the limitations of movement caused by the COVID-19. These three-country joint JCCs offered opportunities for experience sharing and learning that were mutually stimulating

among the three countries. At the same time, seven projects covering three countries, four states and two atolls had to be explained at a JCC meeting, which made the meeting long with many presentations and with many participants. For this reason, it was found more difficult to discuss individual projects in depth, for example, when needing to modify the PDM.

Regular meetings with C/P were held usually on a monthly basis. Monitoring was done every six months, using the monitoring sheet as a tool to compile information on the progress made in the activities. The monitoring sheet was prepared by the experts with the inputs of the C/Ps, and shared with the JICA country office and the headquarters. The revision to the project plan was considered at the JCC meetings.

[RMI Side]

The project had national, Majuro and Ebeye components, with the project director at the national level and a project manager in Majuro and Ebeye. Most of the key officials working in the SWM sector were assigned from the project outset, throughout the project period. A few other officials who joined the project in the middle of the implementation period also participated actively and demonstrated commitment and capacity to implement the planned activities. The two Program Managers in Majuro and Ebeye were actively engaged in the project, and both served as presenters at the JCC. At the national level, there was restructuring and the responsibility for formulating NWMS was transferred from OEPPC to EPA.

[Japanese Side]

Five short-term experts supported the three countries in Micronesia region (Palau, FSM and RMI). Each expert assisted in different thematic areas, horizontally across the three countries. This team set-up, together with the good coordination within the team, made it possible to broaden the scope of support provided by the expert team as a whole. This set-up and sub-regional approach helped facilitate mutually stimulating exchange and learning in the Micronesia region, where there was a similarity across the three countries in terms of its small size of the territory and population, and of project activities. The work of the JICA short-term experts was highly appreciated by C/Ps, for their availability and responsiveness to the request for technical guidance, on matters within and outside of the PDM. Some C/P officials expressed their wish to have a full time presence of experts in country to have greater accomplishments, though, in that case it would not be possible to benefit from broad range of expertise that were offered by the expert team. The collaboration with the Project Office was more evident under the Output 2 as it required collaboration by design, but it was less clear in other outputs.

#### (b) Method of Technical Transfer

Technical transfer was carried out by way of training and technical advice by JICA experts. The project emphasized the collaborative work between the C/P and the JICA experts, which contributed to the capacity development of the C/P and the technical knowledge transfer. The COVID-19 prevented the project to organize face-to-face training, but an innovative approach was made to provide necessary training using the combination of video and online sessions, in case of On-Line Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries

#### (c) Communication

Communication between C/Ps and the JICA short-term experts was smooth, and the relationships between the C/Ps and the experts were very positive. The experts gained the trust of the C/Ps by being responsive to their request for technical advice within and outside of PDM. Communication between the short-term experts and the Project Office, JICA headquarters and JICA branch offices was also smooth. Especially since the onset of the COVID-19, when meetings became online, Project Office and JICA branch office were always invited to the monthly project meetings, which helped them to follow the progress of activities. On the other hand, the information sharing regarding the project (e.g. sharing of monthly reports) between the headquarters and the branch office was sometimes irregular, possibly due to the high turnover of personnel.

#### (d) Participation in Region-Wide Activities of J-PRISM2

Following region activities were undertaken.

- Training on Sanitary Landfill Design and Operation by Fukuoka Method (February 2018/Palau): Ms. Jacqueline Lakmis of MAWC from Majuro and Mr. Wesley D. Lemari of KALGOV from Ebeye participated.
- Regional Disaster Waste Management Guideline development consultation workshop (February 2019/Palau): Three counterpart officials from Majuro, Mr. Kenny Paul, Ms. Jacqueline Lakmis and Mr. Timmy Langrine, and two officials from Ebeye, Mr. Scott B. Paul and Ms. Abacca Anjain Maddison,

participated.

- The On-Line Training for Proper Maintenance of Waste Collection Vehicles and Heavy Machineries (April 2021 - / On-line): Due to travel restrictions from COVID-19, the training was modified into on-line training. For Ebeye was conducted on 5th October 2021 jointly with the Project Office.
- Regional Workshop on Waste Collection Vehicles and Heavy Machinery (2 March 2022 for FSM, RMI and Palau, and 18 March for RMI, Online)

(e) Coordination with Other Japanese and International Projects/Partners

The project had a collaborative relationship with other aid schemes of Japan. Before COVID-19, two JICA volunteers were dispatched to MAWC and KALGOV. This helped build a good relationship with the C/P and facilitated the project activity through, for example, data gathering on CDL via the senior volunteer in MAWC. In addition, experts of another project on capacity development for the maintenance of heavy equipment for infrastructure development, also participated in the training on the maintenance of heavy equipment organized by the project. CDL in Majuro benefited from the recycling center built and equipped by the grant assistance for grassroots human security projects prior to the project.

Followings are the development partners who include RMI as a target country in the waste management sector.

- Asian Development Bank (ADB): Integrated Urban Services Improvement Project, a comprehensive package to improve the environmental sanitation in both Majuro and Ebeye that includes the Waste-to-Energy project in Ebeye. In the area of SWM, the project provides incinerator in Ebeye, recycling warehouse and reinforcing of the lagoon side wall of the final disposal site in Majuro.
- PacWastePlus (PWP): waste audits, organic waste, paper and cardboard
- Global Environment Facility (GEF): waste oil, bulky waste
- Government of Taiwan: provision of vehicles for public awareness raising and education at school and communities in Ebeye
- Pacific Ocean Litter Project (POLP): plastic waste

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

#### Relevance

The relevance of the project is high.

This project is consistent with the National Strategic Plan 2020-2030 that identifies as priorities in the area of SWM: enhanced community collection services; promotion of sustainable and sanitary landfill; promotion of local recycling; appropriate incineration for medical waste and waste to energy conversion; and exploration of effective facilities and schemes. Solid Waste Management Plans (SWMPs) 2019-2028 for Majuro and Kwajalein atoll were developed by J-PRISM and have been serving as reference documents for SWM actions. SWM remained a critical development need, especially in the urban centers, as the original final disposal site in Majuro posed a major environmental and health concern, overflowing and with risk of fire. It was urgent to reduce the amount of waste through 3R + Return. Based on the above, it can be said that this project has been consistent with the national development plan and RMI's development need. Therefore, the relevance of the project is high.

#### Coherence

The overall coherence of the project is high, however, there seems to be room to seek more complementarity with other partners at the country level.

(a) Coherence with Japanese aid policy

Under the Japan's Country Development Cooperation Policy for the RMI, sustainable improvement in waste management that also contribute to addressing marine waste is one of the priorities as part of support to environmental conservation and climate change countermeasures. As such, the project is consistent with the Japanese Official Development Assistance (ODA) Policy.

(b) Coherence with other schemes of JICA and Japanese government

Japan assists the promotion of a society with circular economy through technical cooperation including training programs in area such as environmental education. Before the COVID-19, there were two JICA volunteers stationed in MAWC and KALGOV. Recycling center in Majuro was constructed and equipped by the grant assistance for grassroots human security projects, which was complementary to the introduction of CDL by the project. The Japanese embassy is also in the process of forming a project to provide heavy machinery for waste management under the economic and social development plan of 2022. With the balance of the counterpart fund

from the FY2014, 920 household trash bins and 60 commercial trash bins were provided to MAWC since the beginning of 2022. Based on the above, the project is coherent with other schemes and projects of JICA and the Japanese government.

(c) Coherence with other partners

Followings are the list of development partners who include RMI as a target country in the waste management sector.

- Asian Development Bank (ADB): Integrated Urban Services Improvement Project, a comprehensive package to improve the environmental sanitation in both Majuro and Ebeye that includes the Waste-to-Energy project in Ebeye. In the area of SWM, the project provides incinerator in Ebeye, recycling warehouse and reinforcing of the lagoon side wall of the final disposal site in Majuro.
- PacWastePlus (PWP): waste audits, organic waste, paper and cardboard
- Global Environment Facility (GEF): waste oil, bulky waste
- Government of Taiwan: provision of vehicles for public awareness raising and education at school and communities in Ebeye
- Pacific Ocean Litter Project (POLP): plastic waste

There were some efforts to maintain the coherence among the development partners. For example, there was some information exchange with PWP, and ADB referred to SWMPs when formulating its activities. There has not been extensive synergistic cooperation with other development partners at the field level as yet, but there have been coordination to complement activities and avoid duplication at the level of the Project Office and SPREP, such as creating matrix to map out activities, and coordinating the contribution of different development partners towards waste surveys.

Based on the above, it can be said that the coherence of this project is high, while there seems to be room to seek more complementarity with other partners at the country level.

### **Effectiveness**

This project is assessed as effective.

(a) Achievement of Project Purpose

The project has achieved all indicators under the Project Purpose. Given that there was a pending issue related to the Output 1 (the formation of the NWMS), the Project Purpose is considered to have been mostly achieved.

(b) Contribution of Outputs to Project Purpose

Logical relation between Outputs and Project Purpose is confirmed. However, the indicators of the Project Purpose are achieved largely through Output 1. This is likely because the Output 3 was added at a later stage as a result of the Output 1. It is desirable to have included indicators which also relates to Output 2 and 3.

(c) Other Promoting and Inhibiting factors

<Promoting factors>

- The two Program Managers (Majuro and Ebeye) had a good understanding of the needs and were actively engaged. Strong leadership of the new project manager at MAWC helped accelerate the project progress, including the approval of the Majuro SWMP and the implementation of the action plans regarding the improvement of the final disposal site.
- Good partnership between JICA expert and C/Ps helped smooth implementation of the project. The short-term experts were highly responsive to the request of C/Ps for technical guidance, within and outside of the PDM. C/Ps were well-accompanied with their questions and doubts clarified promptly as they advanced on the project implementation.
- The main C/Ps are in charge of infrastructure and waste operations. The operational nature of their mandate helped to formulate SWMP that is concrete and operations-oriented.

Specifically for the CDL component, following promoting factors facilitated good results and progress.

- There was a strong political will. CDL was an activity of high interest and priority of the EPA.
- There was very few stakeholder. Few industry and commerce existed in the country that may have been affected by the CDL: two supermarkets as importers of bottles and a local bottler of water (Pacific Pure Water). There was no local recycling business neither. The few local commerce was accommodating to the CDL. As such, there was virtually no opposition to the introduction of the CDL system.
- Recycling center (building and equipment) in Majuro was built with the grant assistance for grassroots



human security projects. This meant that the infrastructure was ready to support the CDL operations as soon as the legal system and implementation procedures were set.

- Initial budget (seed fund) for CDL was successfully secured from other sources
- Lessons learned from other countries could be utilized to lay a foundation of the CDL introduction. This was made possible by the CDL expert with significant experience in the waste management sector in the region.

<Inhibiting factors>

- COVID-19 forced the project to adopt remote support by the experts.
- The breakdown of the press machine forced the suspension of the CDL system in Ebeye shortly it was started. Due to the difficulty in repair (spare parts from New Zealand), the CDL has not been functioning.

**Efficiency**

(Due to the extraordinary situation with COVID-19 pandemic, the degree of “Efficiency” was not determined.)

(a) Production of Outputs

Output 1, Output 2 and Output 3 have been achieved or mostly achieved already.

(b) Appropriateness of Inputs

<RMI side>

Overall, inputs by RMI side have been mostly appropriate in producing Outputs.

Personnel: 6 C/Ps including 3 management personnel. A small number of committed and capable C/Ps in Majuro and Ebeye made it possible to achieve the project outputs. Necessary human resources were provided to run the operations of CDLs and the waste disposal site.

Facilities: Office spaces for JICA experts were not available due to the lack of space and office facility (photocopy machine, Wi-Fi, etc.).

Local cost: MAWC and KALGOV secured necessary budget for the project activities, most notably, for the improvement of the Batkan final disposal site.

<Japanese side>

Overall, inputs by the Japanese side have been appropriate in producing Outputs.

Experts: Five short-term experts supported the three countries in Micronesia region (Palau, FSM and RMI). Each expert assisted in different thematic areas, horizontally across the three countries. The thematic support provided by the experts was well coordinated to provide necessary assistance to each country. This team set-up, together with the good coordination within the team, made it possible to broaden of the scope of support provided by the expert team as a whole. This set-up and sub-regional approach helped facilitate opportunities for mutually stimulating exchange and learning in Micronesia region, where there was a similarity across the three countries in terms of its small size of the territory and population, and of project activities. The work of the JICA short-term experts was highly appreciated by C/Ps, for their availability and responsiveness to the request for technical guidance, on matters within and outside of the PDM. Additionally, 1 CDL expert and 1 expert of vehicle and heavy machinery maintenance supported the project. The collaboration with the Project Office was more evident under the Output 2 as it required collaboration by design, but it was less clear in other outputs. The COVID-19 and the resulting border closure rendered the on-site support impossible. Remote support was provided since the onset of the COVID-19. The impact of the lack of onsite support was considered to be lowered as the trust and working relationship were already built before the project switched to remote support. In terms of timing, quantity and quality, the dispatch of JICA short-term experts was appropriate.

Local cost: Necessary amount of the local operation was disbursed in time.

(d) Utilization of external resources

It was identified that effective utilization of external resources (Japanese grant aid scheme, Japanese volunteers who were stationed at the C/P) has increased the efficiency of the project.

**Impact**

Overall Goal was not identified at the country level during the planning stage, therefore it is not applicable in the Terminal Evaluation. Various positive impacts have been observed. Negative impacts have not been observed

**Other activities outside of the PDM**

The provision of technical advice by JICA experts to improve the final disposal site was an important activity of the project, although it was not included in the PDM, which contributed to further improving the sustainable management of solid waste in the country, which in turn contributed to the project goal.

### Improvement of the final disposal site

MWIU/MAWC has been implementing action plans on the final disposal site, based on the priorities set by the Majuro SWMS formulated in the Output 1, on their own initiative and with their own resources, with the technical advice of the project. Aerial photos of the current final disposal site at Batkan were taken by the drone and three-dimensional drawings with contour line were made in order to show clearly and visually the critical situation of the final disposal site to the counterpart officials. As described in the Majuro SWMP, MWIU planned to take the following three countermeasures to improve the situations.

- Lagoon side disposal site: Construct sea wall at shallow lagoon opposite side of the Batkan disposal site and reclaim land for extension of the current disposal site (Short-term solution)
- Ocean-side extension of the current final disposal site: Construct a sea wall at the ocean side of the current disposal site and extend landfill area (Mid-term solution)
- Construction of a new final disposal site (Long-term solution)

The related activities carried out with the technical advice of the project were as follows, implemented also in cooperation with JICA volunteer.

- Construction of the lagoon side disposal site

As for the lagoon side disposal site, construction of sea wall at the first cell was commenced in early 2020 and completed in January 2021. Upon the approval of EPA for using landfill operation, it started operation in March 2021. Based on the project's advice, before starting landfilling operation, sea water sample was taken and sent to New Zealand for the water quality test including heavy metals. Therefore baseline data was recorded and periodical water quality test was to be carried out by EPA. At the moment of the evaluation, filling operation in the first cell was on-going, and sea walls for the second cell had been constructed. The permission to fill in the second cell was issued by RMI EPA.

- Extension of the current disposal site.

As for the extension of ocean-side sea walls, basic design was completed and it went through tendering to select contractors to construct sea walls at ocean side near Batkan landfill site. The budget was allocated by MWIU and the construction work was in progress by a selected contractor.

These actions involved a series of large-scale undertakings including budget, design, outsourcing, process management and coordination with other agencies (e.g. EPA for the permit and testing). It is worthy of note that MWIU has been implementing the action plans on their own initiative and with their own budget, which demonstrated the ownership of SWMS by the C/P, as well as the enhanced capacity of the C/P, to which the technical advice and capacity development through collaborative work by the project experts were essential.

### Contribution to the overall goal

Overall goal and the indicator of the region-wide PDM as follows:

Overall Goal (Common): Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).
Verifiable Indicator: Solid waste management issues are improved through collaborative assistance in the Pacific region.

It is impossible to examine possibility to achieve the overall goal at the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for the RMI.

A number of positive impacts have been observed.

- Raised awareness and political commitment to continue improving solid waste management, exemplified in the improvement of the final disposal site.
- Improved technical capacity in waste management (on the CDL operations and improvement of the final disposal site)
- Reduced littering through the introduction of CDL system
- Environmental protection through preventing water pollution due to the expansion of the disposal sites to the inland sea

Negative impacts have not been observed nor foreseen.

### Sustainability

Sustainability of the project is medium.

(1) Policy and Institutional aspects

Major regulations governing waste management include: National Environmental Protection Act 1984; Solid Waste Regulation 1989; and Styrofoam Cups and Plates and Plastic Products Prohibition and Container Deposit Act 2016. With the support of the project, the amendment to the Styrofoam Cups and Plates and Plastic Products Prohibition and Container Deposit Act was passed at the parliament in January 2018, and the Recycling Program Regulation in line with the amendment was approved by the Cabinet in June 2018, detailing the beverage containers covered by the law and the rates of deposit and refund. Solid Waste Management Plan for Majuro (2019-2028) and Kwajalein Atoll Solid Waste Management Plan (2019-2028) were developed and approved. National Waste Management Strategy was not developed, and its pertinence needs to be determined in discussion with the EPA and SPREP. The Solid Waste Management Plans for Majuro and Kwajalein atoll have been serving as important reference documents in solid waste management.

The EPA administers the CDL as the designated Recycling Agent, but contracts MAWC in Majuro and KALGOV in Kwajalein atoll as system operators. In Majuro, the MAWC, a state-owned enterprise, is in charge of household waste collection and CDL. In Ebeye, collection and CDL are handled by the local government, KALGOV.

Based on the above, policy and institutional aspects of waste management is expected to be sustainable.

#### (2) Organizational aspects

The organizational capacity of the C/Ps has been significantly enhanced through the project. The management level of the MAWC and KALGOV have high awareness on the importance of SWM, current challenges, and actions needed, and demonstrated competencies and leadership in advancing the improvement in the SWM. There is a high ownership of the project, as seen in the implementation of the action plans of the SWMPs, including the improvement of the final disposal site in Batkan. Based on the above, organizational sustainability is expected to be high.

#### (3) Financial aspects

MAWC operations are highly subsidized by the government. The CDL recycling system provides income to MAWC through the 1 cent handling fee (the difference between the deposit and the refund), and the sale of aluminum cans also generates an additional revenue. MAWC uses the surplus generated through the CDL recycling operation to support other waste services of MAWC. MAWC charges nominal gate fees at the Batkan dumpsite, and also charges for commercial dumpster waste collections. For Kwajalein, the waste collection and dumpsite are operated by the local government, KALGOV, which receives a subsidy from the RMI government. No income has been raised from waste management services in Ebeye, since the redemption center has not been operating under the CDL, and neither collection fee nor disposal fee for waste has been collected. While it may be likely that the United States will continue to provide financial support to the national government based on the Compact of Free Association in some form, the financial sustainability will be required in the field of SWM. The existing arrangements whereby waste collection is free to residents may need to be reviewed. The financial sustainability is considered to be medium.

#### (4) Technical aspects

Technical capacity of the C/Ps was enhanced in terms of practical knowledge regarding to the extent that the C/Ps were able to take initiatives to improve solid waste management outside of the PDM, such as the improvement of the final disposal site at Batkan. There was a concern that technical capacity gained can be easily lost with personnel change in the small operational structure. It will be necessary to ensure the handover at the time of personnel turnover as well as regular sharing of knowledge gained so that the technical capacity is maintained at the organizational level. The sustainability of technical aspects is considered to be medium.

#### (5) Others

Awareness on SWM has been raised among the residents and the CDL program in Majuro has taken root in the general public.

### **Influence on the COVID-19**

(How it affected, any changes created, etc.)

Due to the Covid-19 pandemic, from February 2020 onward no experts have been dispatched to RMI. Experts worked in their home countries, and communicated through regular web-meetings and provided counterpart officials with needed technical advices. Due to the lack of on-site support, it was stated that the process of the project implementation took longer. Weak internet connection also made communications difficult. It was also found more challenging to discuss some issues in depth, for example, issues that may require modification of the

PDM, through online discussions. COVID-19 also pushed some innovations, such as: online training combining video and online session; virtual meetings and consultations; and the use of drone for the improvement of the final disposal site. These innovations can be replicated for future activities.

#### IV. Conclusions

After careful examination of the Project Performance and the Project Implementation Process, the Project is highly relevant, and the overall coherence of the project is high. The project was found to be implemented effectively. Some positive impacts are observed, and sustainability of the project is medium.

Based on the above-mentioned findings and evaluation, the evaluation team considers that this project is expected to generally achieve the result as planned by the end of the project. Therefore, it is appropriate to terminate RMI scope of the J-PRISM II in September 2022.

#### IV. Recommendations

Consider identifying country specific verifiable indicator(s) of Overall Goal.

The Overall Goal and the indicator of Region-wide PDM are as follows:

Overall Goal (Region-wide):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for RMI may include:

- SWMPs are periodically updated based on quantitative and technical analysis and monitoring.
- Project activities are included in organizational annual work plan and budget of C/Ps
- A mechanism for sustainable financing of SWM is introduced in each state.

##### **To MWIU, EPA, MAWC and KALGOV**

It is recommended to explore mechanisms for sustainable financing of SWM in the uncertainty of financial support to the national government based on the Compact of Free Association after the planned discontinuation in 2023. The existing arrangements whereby waste collection is free to residents may need to be reviewed. This also needs to go hand in hand with regulations regarding uncontrolled dumping onto beaches and coasts.

Building on the successful introduction of the CDL, it is recommendable to consider including other items (e.g. glass bottles, tires, end of life cars) in recycling systems.

SWMPs are used as reference documents to guide SWM related interventions. It is recommended to periodically update the SWMPs based on monitoring and quantitative and technical analysis.

##### **To Short-term Experts**

The pertinence of the NWMS became unclear as SWMP for Majuro and Kwajalein atoll were developed and the government restructuring changed the responsible agency for developing NWMS. It is recommended to discuss with SPREP and EPA to determine the pertinence of NWMS before the end of engagement in September 2022.

##### **To JICA Overseas Office**

There has been significant complementarity with other schemes and projects of Japan. In addition, in the past years, many international donors started working in the waste management sector. It is recommended to continue coordinating within JICA, and with the Embassy of Japan as well as other development partners, to find synergies with different schemes and projects.

#### **Attachment:**

1. Project Design Matrix (PDM Version 2)
2. Plan of Operation (PO Version 2)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Independent State of Papua New Guinea</b>
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**I. Project Outline**

Background	The original J-PRISM project preceding J-PRISM II helped to strengthen the capacity of the Waste Management Division (WMD) staff at NCDC through the development of the NCD Waste Management Plan. On the other hand, although PNG’s Conservation and Environment Protection Agency (CEPA), the central government agency responsible for national waste and chemical management, had recognized the importance of formulating a strategy for waste management at the national level, the human and financial resources necessary to develop such a policy and strategy were lacking. Under these circumstances, J-PRISM II started to support CEPA in formulating the National Waste Management Policy and Strategy (NWMPS), which would enable stakeholders such as line ministries, local governments, communities, and the private sector to act in line with their respective responsibilities. J-PRISM II’s support is focused on the provision of assistance that takes existing local resources into account from a sustainable viewpoint, rather than just helping to develop policy documents.
Summary of the Project	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	Institutional framework and implementing capacity in SWM are enhanced at national and major urban local level governments (ULLGs) level.
Outputs	Output 1: Institutional capacity on SWM is enhanced through development of a National Policy, Strategy and Implementation Plan in line with the Cleaner Pacific 2025. Output 2: Planning capacity to tackle with the issues on SWM of some ULLGs is enhanced. Output 3: NCD WM Plan 2016–2025 is implemented sustainably as scheduled.
Implementing Agency	Conservation and Environment Protection Authority (CEPA), National Capital District Commission (NCDC), Urban Local Level Governments: Kokopo, Lae, Goroka and Alotau
Project Duration	February 2017 – September 2022 (five years and six months)
Target Group	32 counterparts (as of February 2022) Management C/Ps: Project Director (1), Project Manager (2), C/Ps: 4 (CEPA), 11 (NCDC), 1 (Alotau ULLG), 1 (Goroka ULLG), 3 (Kokopo ULLG), 1 (Lae CA), JCC members (6, CEPA and ULLGs)
Target Area/ Target Population	Port Moresby, Lae., Kokopo, Goroka, and Alotau Approx. 550,000

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of February 2022)</b>									
<b>Japanese Side</b> 1) Experts (M/M) - 10 Short-term Experts (22.42 M/M)  2) Trainings (21 C/Ps) Training courses participated in are as follows. ➢ Design and Maintenance of Semi Aerobic Landfill Site (Fukuoka Method) ➢ Enhancement of Solid Waste Management Capacity (Advance, Planning & Policy) (A) ➢ Enhancement of Solid Waste Management Capacity (Advance, Planning & Policy) (B) ➢ Comprehensive Waste Management(D)	<b>PNG Side</b> 1) Allocation of Counterparts (32 persons) One Project Director, One JCC member Project Position, two Co-Project Managers, 23 C/Ps and 5 JCC members were recognized as C/Ps for the Project.  2) Local Cost:								
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 25%;">Items (Works)</th> <th style="width: 25%;">Local Price (PGK)</th> <th style="width: 25%;">Date of Expenditure</th> <th style="width: 25%;">Location</th> </tr> </thead> <tbody> <tr> <td>Weighbridge (Access road,</td> <td style="text-align: center;">599,454</td> <td style="text-align: center;">April 2020</td> <td style="text-align: center;">NCDC</td> </tr> </tbody> </table>	Items (Works)	Local Price (PGK)	Date of Expenditure	Location	Weighbridge (Access road,	599,454	April 2020	NCDC
Items (Works)	Local Price (PGK)	Date of Expenditure	Location						
Weighbridge (Access road,	599,454	April 2020	NCDC						

<ul style="list-style-type: none"> <li>➤ Improvement of Solid Waste Management Technologies (Basic Technique) (A)</li> <li>➤ Collection, Analysis and Dissemination of Data regarding Solid Waste Management</li> <li>➤ Sustainable Solid Waste Management in Islands Areas(A)</li> <li>➤ Urban Solid Waste Management (Emphasis on Collection, Transportation and Final Disposal) (C)</li> </ul>	Ramp fence, etc.)																					
	Miscellaneous (Drainage, Wiring, etc.)	339,423	March 2020	NCDC																		
	Total	938,876																				
	<p>3) Office space The office for experts has been provided as necessary.</p>																					
<p>3) Provision of Equipment</p> <table border="1"> <thead> <tr> <th>Name of property (Specifications)</th> <th>Purchase Price (JPY)</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>Laptop PC (HP250, 4GB, 500GB)</td> <td>120,921</td> <td>CEPA</td> </tr> <tr> <td>Weighbridge (Model: INDO560-Metler Toledo, Serial No.: B750135735, Size: 12m x 3m Capacity: 20 kg – 40 ton)</td> <td>21,533,604</td> <td>NCDC</td> </tr> <tr> <td>Water Quality Meter (Water Quality Multimeter (HACH4943), Dissolved Oxygen Detector (HACH2785), PH Measurement Electrode (HACH2837), Electrical Conductivity Cell (HACH2845))</td> <td>786,800</td> <td>NCDC</td> </tr> <tr> <td>Landfill Gas Monitor (GX2012: CH4, H2S, CO, O2)</td> <td>164,400</td> <td>NCDC</td> </tr> <tr> <td>Total</td> <td>22,605,725</td> <td></td> </tr> </tbody> </table>					Name of property (Specifications)	Purchase Price (JPY)	Location	Laptop PC (HP250, 4GB, 500GB)	120,921	CEPA	Weighbridge (Model: INDO560-Metler Toledo, Serial No.: B750135735, Size: 12m x 3m Capacity: 20 kg – 40 ton)	21,533,604	NCDC	Water Quality Meter (Water Quality Multimeter (HACH4943), Dissolved Oxygen Detector (HACH2785), PH Measurement Electrode (HACH2837), Electrical Conductivity Cell (HACH2845))	786,800	NCDC	Landfill Gas Monitor (GX2012: CH4, H2S, CO, O2)	164,400	NCDC	Total	22,605,725	
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Total	22,605,725																					
<p>4) Local cost support: 53,343,200 JPY (approx. 461,626 USD)<sup>1</sup> Major expenses are as follows:</p> <ul style="list-style-type: none"> <li>- Local reconsignment: 21,620,000 JPY (approx. 187,097 USD)</li> <li>- Local consultants: 7,785,000 JPY (approx. 67,371 USD)</li> <li>- Hiring cars: 6,546,000 JPY (approx. 56,648 USD)</li> <li>- Holding meetings: 6,227,000 JPY (approx. 53,888 USD)</li> </ul>																						
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<sup>1</sup> JICA Official rate in March 2022 (1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

status on SWM in local levels are monitored by CEPA.	CEPA continuously communicates with ULLGs for the preparation of the Regional Consultation Workshop and updating of "National Waste and Chemical Management Policy 2020-2030". All regional consultations (four consultations planned) have been completed and the draft National Waste Management Policy will be finalized and submitted to the Parliament in August for legislation. While it is difficult to measure the level of achievement of the Indicator quantitatively, CEPA has been continuously communicating with ULLGs and have understood the current status and challenges. In this sense, it can be said that the Indicator has been mostly achieved. The National Waste Policy needs to be discussed at the Parliament and legislated as soon as possible.
1.2 Final draft of SWM Implementation Plan is incorporated into the National Policy, Strategy and Implementation Plan to be submitted to the parliament for endorsement	<u>Progress: Mostly achieved</u> The draft of SWM Implementation Plan is in the process of finalization after the four regional consultation meetings and will be submitted to the parliament by the end of the project period. The Indicator has been mostly achieved, and the final progress needs to be monitored and described in the project completion report in September 2022.
<u>Overall</u> Based on the achievement of the two Indicators above, it can be said that Output 1 has been mostly achieved.	
Output 2: Planning capacity to tackle with the issues on SWM of some ULLGs is enhanced.	Degree of Achievement: Partially achieved
<b>Indicator</b>	<b>Results</b>
2.1 Four (4) ULLGs can set numerical targets based on waste management improvement plans.	<u>Status: Partially achieved</u> The waste management improvement plans in three target ULLGs (Goroka, Alotau and Lae) are under preparation while Kokopo has done all the waste audits on their waste flow and the waste generators and have approved their waste plan. Alotau ULLG did the same but are currently in the process of drafting their waste plan. For Goroka and Lae ULLGs, studies have been done but no progress have been made on the formulation of the waste plans as there are land issues that need to be dealt with between the landowners and the ULLGs regarding the terms for the land to be rented as landfills.. The Indicator has been partially achieved. The remaining activities need to be expedited so that the waste plans will be prepared and approved by the end of the project period in all ULLGs. In Lae and Goroka, landowners should be consulted and involved in the formulation of the waste plans.
<u>Overall</u> Output 2 has been partially achieved at the time of the terminal evaluation. Three ULLGs need to set numerical targets in their waste management improvement plans by the completion of this project.	
Output 3: NCD WM Plan 2016–2025 is implemented sustainably as scheduled.	Degree of Achievement: Partially achieved
<b>Indicator</b>	<b>Results</b>
3.1 Solid waste of NCDC is quantitatively managed.	<u>Status: Mostly achieved</u> Collection areas, collection volumes, and payments to collection contractors are aggregated monthly to allow quantitative evaluation of collection services. The Indicator has been mostly achieved.

3.2 Main SWM Planning Targets (Collection, Recycling, Disposal) at a mid-term point in NCD WM Plan 2016-2025 are achieved.	<p><u>Status: Partially achieved</u></p> <p>The amount of collection and disposal is close to the planned value and is almost achieved. The recycling activities for market waste compost and recyclable waste sorting planned at Baruni landfill have not started yet. Waste reduction is expected through home compost promotion activities at settlements. The indicator has been partially achieved.</p>
3.3 Draft revision edition of NCD WM Plan is developed.	<p><u>Status: Mostly achieved</u></p> <p>The framework for the proposed revision of the WM Plan will be prepared and submitted to the management in August 2022. The current statuses are as follows.</p> <ul style="list-style-type: none"> <li>➤ The Baruni Landfill has been developed as a sanitary landfill with the Fukuoka method and now into the 3rd cell development.</li> <li>➤ The leachate circulation system is not fully completed, due to non-installation of a pump.</li> <li>➤ Compost facility foundation has been constructed but full works have not been carried out.</li> <li>➤ The data management system at Baruni Landfill site is fully operational. However, the weighbridge installed has not been recording daily vehicle entries due to power outages. NCDC has recently purchased a 150kVA generator to be installed at Baruni Landfill in August 2022 to enable constant recording of vehicle data.</li> <li>➤ An incinerator for medical wastes will be installed in 2023.</li> <li>➤ New Environment Permit for Generator and Incinerator has been formulated.</li> </ul> <p>The Indicator has not been achieved and efforts need to be made to ensure the submission of the WM Plan by August 2022.</p>
<p><u>Overall</u></p> <p>Based on the partial achievement of the Indicators above, Output 3 has been only partially achieved and the activities need to be expedited to achieve the Output.</p>	

<b>(3) Project Purpose:</b> Institutional framework and implementing capacity in SWM are enhanced at national and major urban local level governments (ULLGs) level.	Degree of Achievement: Mostly achieved
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Indicator	Results
1. The roles and responsibilities of related agencies for SWM are determined at the national and local level.	<p><u>Status: Mostly achieved</u></p> <p>Through an experience of the regional consultation workshops for the development of national waste policies, central and local waste stakeholders have become more aware of their respective roles and responsibilities. It will be essential that the roles and responsibilities need to be stipulated in the waste plans of each local-level government. The Indicator has been mostly achieved.</p>
2. A coordination and monitoring mechanism for ULLGs in SWM is established.	<p><u>Status: Mostly achieved</u></p> <p>Based on the agreement of City-to -City Cooperation programme, waste audits were implemented and landfill improvement planning in the target four ULLGs was supported under the technical support of NCDC. As a result, the monitoring system for solid waste management of ULLGs by CEPA has been mostly established. The Indicator has been mostly achieved.</p>
<p><u>Overall</u></p> <p>The Project Purpose has been mostly achieved and the remaining work needs to be completed by the end of the project period.</p>	

<p><b>(4) Project Implementation Process</b></p> <p>- Project Management</p> <p>The PNG side has participated in the decision-making process. The Joint Coordinating Committee (JCC) has been held annually during the first three years of this project, although the 4<sup>th</sup> meeting was held in April 2022 only after the border opened..</p>
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- Implementation/Monitoring System

The activities of the project have been properly monitored once every six months through the monitoring sheet. Each monitoring sheet was approved officially at the JCC meeting.

- Method of Technical Transfer

An approach of transferring the technologies to C/Ps by the project experts has contributed to the development of solid waste management. Although there have been cases in which the technical transfer was interrupted due to the transfer of C/Ps to other divisions, this has been handled by creating the manual, etc. so that the new staff can follow the basics based on the manuals.

In terms of technical transfer to the local-level governments, based on the City-to-City Cooperation programme the staff members of NCDC conducted their transferring activities on waste management skills smoothly by mainly utilising the PowerPoint presentation materials after their analysis or regional training on Baruni landfill.

- Communication within the project

Communication among the implementing agencies (CEPA and NCDC), JICA, JICA experts, local stakeholders and other development partners has been generally well, although it was often difficult for JICA experts to obtain the opportunities to meet with the top management of CEPA due to their busy schedule.

- Collaboration with Local Stakeholders

At Baruni landfill, it has been difficult to collect the data of weighbridge continuously due to frequent power outages. In response, local governor secured the budget for a generator and installed it for the Baruni landfill.

- Participation in Region-Wide Activities of J-PRISM II

In J-PRISM II, the Fukuoka Method has been recommended as an appropriate waste disposal site. The Baruni landfill adopted the Fukuoka Method, and sharing this good practice and experiences with the participants from other countries in training programmes etc. can be considered as the merit of the region-wide activities.

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

#### Relevance

Relevance of the project is high.

This project is consistent with the Cleaner Pacific 2025 and national development plan such as Papua New Guinea Medium Term Development III 2018-2022. Although there are no comprehensive waste management plans or other plans at the municipal level, the NCD Waste Management Plan 2016-2025 (NCD WMP) was prepared at J-PRISM I based on the NCD Waste Policy (approved in May 2017), and J-PRISM II has been implemented in accordance with the NCD WMP.

This project is also consistent with the development needs of PNG. It can be considered that the needs to deal with solid waste has been high due to the rapid economic development and growth all around the country.

Based on the above, this project has been consistent with the regional and national development plans, PNG's development needs to provide adequate waste collection services in many areas of the country. Therefore, the relevance of the project is high.

#### Coherence

Coherence of the project is high.

The project is also consistent with the Japanese ODA Policy in which the environment and climate control is one of the high priority issues.

Regarding the coherence with other programmes of Japan, some JOCVs were involved in this project. For example, they worked on the public awareness campaign in rural areas with closely communicating with the project and participated in JCC meetings as well. In addition, a survey on a medical waste incinerator through Public-Private Partnerships scheme was conducted and the experts of the project also participated as the members of the survey. Therefore, there were several examples observed in terms of the coherence of this project with other Japanese ODA schemes.

As for the coherence with assistance from other development partners, UN Environment Programme (UNEP) has contributed to the development of a national waste management plan for hazardous chemical waste. Also, the EU-funded PacWastePlus (PWP) supported the implementation of a waste quantity and quality survey.

Based on the above, it can be said that the coherence of this project is high.

### **Effectiveness**

Effectiveness of the project is high.

#### Achievement of Project Purpose

As mentioned above, the Project Purpose has been mostly achieved while the remaining work needs to be completed by the end of the project period.

In order to conduct the activities necessary for the achievement of the Project Purpose, local assistants were hired to work under the C/P for the duration of the project to cover the shortage of personnel in CEPA. In addition, financial support was also provided for Regional Consultation Workshops, etc., by sharing the costs of travel and accommodation of attendees with UNEP.

#### Contribution of Outputs to Project Purpose

Three Outputs are necessary and sufficient components to achieve the Project Purpose and logical relationship between Outputs and Project Purpose is confirmed.

#### Other promoting/inhibiting factors

Promoting factors: Effective coordination among the Japanese Embassy, JICA PNG Office and the project experts led to a successful exhibition of this project, in which a Baruni Landfill inspection tour was organised for the C/P agencies and the Governors to raise their understandings on the significance of waste management. This resulted in the allocation of some additional budget for purchasing a generator to collect the data of weighbridge continuously.

Inhibiting factors: While the budget for the weighbridge generator was additionally secured, the budget for the installation of intermediate treatment facilities in Port Moresby has not been sufficient and it is difficult to achieve the Output in terms of the recycling component. The key factor was that the operation of the weighbridge leads to the income generation through collection of disposal fees, while the composting had not been prioritised. It will be important to introduce a income-generating mechanism for composting activities.

### **Efficiency**

(Due to the extraordinary situation with COVID-19 pandemic, the degree of "Efficiency" was not determined.)

#### Production of Outputs

The Outputs have been generally as planned. Additional efforts are needed to fully achieve all the Outputs.

#### Appropriateness of Inputs

##### ➤ From PNG

The personnel with adequate technical background and competency have been assigned to the Project. Local costs and office space have been also provided timely and adequately.

##### ➤ From Japan

Inputs from Japan are fairly appropriate in terms of the quantity and quality though experts could not visit PNG according to the plan due to COVID-19. There were some delays observed and some of the techniques have not been fully transferred to the C/Ps due to the lack of face-to-face training sessions, particularly in terms of the support to some ULLGs in formulating the plans within the project period while the possible efforts were made by conducting various meetings and training programmes remotely utilising online meeting tools. However, the delays ~~due to~~, since the COVID-19 pandemic can be regarded as an external factor which could not be foreseen during the planning stage of the project.

#### Utilization of external resources

It was identified that effective utilization of external resources has increased the efficiency of the Project. Some JOCVs were involved in this project and they collaborated in educational activities of waste management for residents and promoting market waste composting. The Public-Private Partnerships scheme was introduced and

the experts of the project also participated in it as the members of a feasibility study on introduction of medical waste incinerator. Other development partners such as UNEP have also provided support to waste management in PNG.

#### Other promoting/inhibiting factors

Inhibiting factors: The resignation of the Co-project manager delayed the progress of activities. Additionally, due to the delay in the installation of the weighbridge (Activity 3-1), which was caused by the delay of process of import from Australian company and the government of PNG could not secure the budget for the installation timely, the timing of the implementation of Activities 3-2 to 3-4 could not be predicted.

#### **Impact**

Impact of the project is high.

#### Impact at the Overall Goal level

Overall Goal is likely to be achieved in three years after the end of the Project.

#### Other impacts

##### ➤ Positive impacts

There has been lots of improvements in terms of waste management policies and strategies. Moreover, the project also has elevated a standard of living especially around the landfill sites. In terms of positive impact to social aspect, according to the comment from NCDC, the linkages and collaboration with schools such as “3R Eco School Project” has been able to change the culture from “Waste Ignorant Society” to “Waste Conscious Society”.

In the case of Kokopo municipality, the importance of collecting and analysing waste information at the landfill site has become more recognized than before. It was observed that 50% of waste in Kokopo was of organic origin, and the waste composting activity in Kokopo was smoothly promoted and the soil manure has been produced and used in the gardens in Kokopo for beautification.

##### ➤ Negative impacts

There has been no specific negative impact caused by the project.

#### **Sustainability**

Sustainability of the project is fair.

##### (1) Policy and Institutional aspects

Although the National Waste Management Act exists, related legal regulation such as treatment of recycling and hazardous waste has not been established. C/Ps have highly recognized the importance of waste management such as the promotion of 3R and waste reduction, etc.

Despite the additional need to formulate some regulations as mentioned above, there is a National Waste and Chemical Management Policy in place and the local governments are responsible for the provision of waste collection services, which has remained and will remain unchanged. Therefore, policy and institutional aspects of waste management can be said to be sustainable.

##### (2) Organizational aspects

There is no notable problem on the sustainability of the implementation of the project in terms of organizational aspects. However, CEPA does not have enough staff members to undertake administrative matters related to the project and employed local assistants to support the C/Ps in this project. It will be important to secure the staff within CEPA in supporting ULLGs to enhance their capacities on waste management in the long term. NCDC is also expected to play a vital role in supporting other ULLGs through the City-to-City Cooperation programme.

##### (3) Financial aspects

It can be considered that NCDC will be able to secure the budget for the waste management project. However, other local governments have difficulties in the financial aspect and setting the priority of financial allocation for waste management activities is often a challenge.

##### (4) Technical aspects

Technical capacity of the C/Ps has been gradually enhanced in terms of practical knowledge regarding solid waste management, landfill management, waste collection, and promotion of 3R. Especially, in the aspect of technical

transfer to local municipalities, the staff members of NCDC could implement smoothly their transferring activities on waste management through the city-to-city cooperation programme agreed between NCDC and four Urban Local Level Governments.

(5) Others

There is no possibility or likelihood that the lack of attention to vulnerable groups will prevent the effects of the implementation of the project. The waste management services will benefit all residents of PNG by creating hygienic living environment.

**Influence on the COVID-19**

COVID-19 made it difficult for JICA experts to communicate smoothly with C/Ps especially in 2020, when the pandemic expanded in the world and PNG closed its border, because they could not visit PNG as planned and could not transfer their techniques through face-to-face communications.

Although a waste survey and consultation meetings were postponed due to COVID-19, it is expected that these activities will be implemented and achieve the expected results by extending the project period.

**IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is still relevant, the overall coherence of the project is relatively high, it is effective, and positive impacts are observed, and sustainability is likely ensured.

The Project Purpose is expected to be achieved before completion of the project. Therefore, it is projected to terminate PNG's scope of the J-PRISM II in September 2022.

**IV. Recommendations**

**To the Project**<Identifying country-specific verifiable indicator(s) of Overall Goal>

The Overall Goal and the indicator for the region-wide PDM are as follows.

Overall Goal (Region-wide):

Sustainable management of solid waste management in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025)

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for PNG

- NCDC and other ULLGs targeted in J-PRISM II implement waste management services based on the SWM implementation plan.
- Local-level waste management plans are formulated in XX ULLGs that were not targeted in J-PRISM II
- NCDC or other ULLGs targeted in J-PRISM II provide technical assistance to other ULLGs on waste management including waste audit, collection and landfill management.

**To ULLGs**

<To achieve the Overall Goal after the completion of the project >

The effort of securing the budget for solid waste management

Although the balance of budget allocation with other sectors needs to be considered, it is necessary to ensure as much budget as possible allocated to waste management for effective and efficient implementation of the project. For this purpose, efforts such as improving presentation skills will need to be made, and an independent source of income such as waste collection fees might need to be considered.

**To JICA Short-term Experts**

<Toward the completion of the project >

Strengthening the project management system by utilising the region-wide cooperative mechanism developed in the J-PRISM projects

When expanding the project activities geographically into an increased number of ULLGs in PNG (more municipalities or districts in other countries in the Pacific), it is often difficult for a small number of experts to cover all areas to improve various aspects of waste management such as organization, system, and technology

(collection, transportation, intermediate treatment, final disposal, environmental education, etc.). As the ultimate goal of this region-wide project is to enhance the capacities of those in charge of waste management in respective countries, it is important to do so by utilising the human network of experts fostered in PNG and other countries through the long-term cooperation of J-PRISM projects, rather than increasing the number of experts all the time. Therefore, it is important for the project experts to firmly establish a network in which the waste management officers in the target ULLGs will maintain the favourable working relationship to exchange their opinions and information all the time and also those officers will get access to external resources outside PNG to seek any technical advice required.

**Attachment:**

1. Project Design Matrix (Latest version)
2. Plan of Operation (Latest version)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Solomon Islands</b>
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**I. Project Outline**

<b>Background</b>	Solid Waste Management (SWM) in the Solomon Islands is still a huge challenge. The challenges include, but are not limited to: a lack of coordination and management; ineffective legislations, waste collection, waste receptacles and minimization of waste for disposal; insufficient disposal space, the lifespan of sanitary landfills and land tenure problems; rapid growth of the urban population, and limited data on waste volumes. Of the challenges, some made the progress through the J-PRISM Phase I project but one of the biggest is the ever-growing population’s attitude towards waste. Improving SWM is a long-term and continuous exercise, to which, changing attitudes will be crucial. JICA has assisted in strengthening waste management in the Solomon Islands for the past decade. Initially, through the J-PRISM Phase I project (2011-2016), and J-PRISM II followed aiming to further strengthen human resources, organizational and institutional infrastructure for sustainable waste management and the recycling system, by implementing Cleaner Pacific 2025.
<b>Summary of the Project</b>	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	Institutional capacity for SWM is strengthened at the national and provincial centers' levels.
Outputs	Output 1: Capacity of Solid Waste Management of HCC is strengthened Output 2: Lessons learnt from the activities related to SWM in Honiara and Gizo are promoted and practiced in the targeted provincial centers. Output 3: Economic measures for sustainable SWM in the SI are specified.
Implementing Agency	Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM), Honiara City Council (HCC)
Project Duration	February 2017 – March 2023 (six years)
Target Group	28 counterparts (as of April 2022) Management C/Ps: Project Director (1), Co-Project Managers (2), C/Ps: 3 (MECDM), 13 (HCC), 5 (Ministry of Health and Medical Services), 2 (Western Provincial Government), 1 (Gizo Town Council), 1 (Guadalcanal Provincial Government)
Target Area/ Target Population	Honiara, Gizo (Western Province), Tulagi (Central Province), Auki (Malaita Province) : Approx. 71,000 <sup>1</sup> (direct beneficiaries)

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of April 2022)</b>	
<b>Japanese Side</b> 1) Experts (MM) <sup>2</sup> - Dispatch of 7 Short-term Experts: 18.31 M/M - (1 Long-term Expert (Coordinator/3R+Return, Melanesia): Approx. 8 M/M <sup>3</sup> )  2) Trainings in Japan: 2 persons - Training course for “Comprehensive Waste Management(D)” (CP from the HCC), and “Enhancement of Solid Waste Management Capacity (Advance, Planning&Policy) (A)” (Environmental Health Officer, Central	<b>Solomon Side</b> 1) Allocation of Counterparts Three (3) management C/Ps and 25 C/Ps were recognized as C/Ps for the Project.  2) Local Cost: The MECDM and the HCC bore appropriate local costs throughout the project period to ensure smooth implementation of the activities while experts were dispatched.  3) Office space for a regional coordinator (February

<sup>1</sup> World Population Review: <https://worldpopulationreview.com/countries/solomon-islands-population> obtained 20 June, 2022

<sup>2</sup> Input of Experts (remote support) during the travel ban was in place, will be in main report as a total figure for 9 countries.

<sup>3</sup> Total assignment period of the expert was 24M/M, and divided in three. This coordinator was for PNG, Vanuatu and the Solomon Islands, based in the Solomon Islands.

Province)  3) Provision of Equipment A laptop computer for the coordination and administrative work related to the Project activities.  4) Local cost support: JPY 4,643,000 (approx. 40,180USD) <sup>4</sup> Major expenses are as follows: - Transportation (car hire) (JPY 2,247,000 approx. 259,650USD)	2017 – February 2019) at MECDM and short-term experts (February 2019 to current, MECDM and HCC)
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**(2) Outputs**

Output 1: Capacity of Solid Waste Management of HCC is strengthened.	Degree of Achievement: Mostly achieved
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Indicator	Results
1-1 Draft SWM plan is submitted to the city council.	<p><u>Status: Achieved</u></p> <p>Based on discussions in the SWM Plan Committee meeting, a draft SWM plan was developed.</p> <p>With the approval of the Waste Management &amp; Control Standing Committee, the draft SWM plan was submitted to and approved by the Executive Committee meeting on November 14, 2019, and became the official plan of the HCC.</p>
1-2 Landfill management and waste collection service are carried out in accordance with the developed SWM Plan. (Numerical target indicators will be set based on the plan)	<p><u>Status: Reported as achieved.</u></p> <p>It was reported in the 10<sup>th</sup> monitoring sheet that the Ranadi landfill site had been managed based on the developed landfill operation manual for disposal sites and high priority actions were implemented in accordance with the SWM plan.</p> <p>However, numerical targets were never set, and the condition of the site is questionable, as the experienced landfill supervisor has left the HCC. Moving forward, there is a great need to enhance the technical skills/knowledge of the landfill site staff.</p>

Based on the Action Plan indicated in the SWM Plan, actions have been taken to improve waste management, and the actions are being monitored and followed-up. In terms of monitoring, the Waste Management and Control Division (WMCD) has been implementing various activities in accordance with the Action Plan such as improving landfill management and collection services and creating performance reports.

After confirming the SWM Plan, the verifiable indicators to assess the attainment of the Output 1 should have been reviewed and adjusted accordingly, so that significant actions such as the establishment of a solid waste management division, could have been recognized as an indicator.

Apart from achieving indicator 1-1 and 1-2, the WMCD in the HCC was established in late 2019 and commenced activities from January 2020. Another priority action, prior to its enactment, the tipping fee system started in September 2020. Moreover, a new collection schedule has been introduced in order to improve waste collection, and a draft concept/design developed for the construction of a new disposal site.

**<Overall>**

Output 1 has been mostly achieved. However, indicators of Output 1 were insufficient and required more clarification and there still is a great need to enhance technical skills/knowledge on landfill management.

Output 2: Lessons learnt from the activities related to SWM in Honiara and Gizo are promoted and practiced in the targeted provincial centers.	Degree of Achievement: Partially achieved.
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<sup>4</sup> JICA Official rate in March 2022 (1SBD=14.3288JPY, 1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

Indicator	Results
2-1 Training material is developed and revised at least once during the project	<u>Status: Partially achieved.</u> The lessons learnt from SWM activities implemented in Honiara and Gizo were compiled as a report and the training material to implement activities in other provincial centers have been finalized.
2-2 SWM plans are prepared in at least two provincial centers	<u>Status: Partially achieved. (Expected to be achieved by September 2022.)</u> A workshop for the development of the SWM plan was held at Tulagi (the provincial center of Central Province). The SWM plan of Auki (the provincial center of the Malaita Province) was commenced to discussed with Auki's C/Ps, and a workshop has also been undertaken followed by the development of a draft SWM plan in Auki.
2-3 SWM plans are monitored in at least two provincial centers.	<u>Status: Partially achieved.</u> The number of provincial centers to be monitored was changed from three to two at the 4 <sup>th</sup> JCC meeting held on the 20 <sup>th</sup> of April 2022. In the 10 <sup>th</sup> Monitoring Report, it was stated that the indicator “planned to be achieved by September 2022”.

Main activities related to this output can be separated into two groups; one is creating training materials and the other is helping other provincial centers, with the support of project experts and/or counterparts, create their own SWM plans through workshops.

The latter was particularly affected by COVID-19 and C/Ps expressed that it was very difficult carrying out activities themselves without the physical support of project experts. Other issues brought up by C/Ps were that the budget cut was a great constraint and that newly recruited staff members in the WMCD, HCC needed more technical training before assisting other provinces.

**<Overall>**

Output 2 has been partially achieved. The good practices and lessons learnt from the HCC and the GTC were compiled; however, such lessons were practiced in Tulagi and Auki. Furthermore, due to COVID-19 pandemic, it seems unlikely that SWM plans will be prepared and monitored in at 2 or more provincial centers.

Output 3: Economic measures for sustainable SWM in the SI are specified.	Degree of Achievement: Expected to be achieved before completion of the project.
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Indicator	Results
3-1 Feasible options of economic measures are identified through the basic study.	Status: Mostly achieved. The budget data of the central government and HCC was obtained and compiled into a report. Based on the results of a basic survey, effective economic measures were discussed and options considered to be effective were extracted.
3-2 The documents necessary to legally process the economic options are prepared.	Status: Reported to be achieved before the end of September 2022. Most activities relating to this indicator will be implemented in the project experts' next visit.

The financial information of the Government of the Solomon Islands and the HCC was collected and analyzed. A study on effective economic measures for SWM was conducted and effective options were extracted. The study results were compiled into a draft basic study report.

**<Overall >**

Output 3 is expected to be attained before completion of the project.

<b>(3) Project Purpose:</b> Institutional capacity for SWM is strengthened at the national and provincial centers' levels.	Degree of Achievement: Partially Achieved
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Indicator	Results
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1. Activities proposed in the SWM plan are revised annually.	<u>Status: Mostly Achieved.</u> It is reported as “Achieved” in the 10 <sup>th</sup> Monitoring Sheet. Although the Waste Management and Control Division (WMCD) was established and its activities implemented and monitored according to the SWM plan, there is no evidence that the activities in the action plan have been revised annually.
2. SWM activities reflecting lessons learned are practiced in at least two provincial centers during the project period.	<u>Status: Partially Achieved (50%).</u> The lessons learnt from SWM activities implemented in Honiara City and Gizo Town have been compiled as a report and training material for SWM activities reflecting the report were finalized to utilize in other provincial centers. Subsequently, two provincial centers (Tulagi, Central Province and Auki, Malaita Province) held workshops, conducted a waste audit survey and is developing a SWM plan.
3. Necessary actions are taken for legalization of selected economic measures.	<u>Status: Partially Achieved.</u> Options for economic measures that would be effective in maintaining SWM at the nationwide and city level were extracted (Attainment of Output 3). However, the indicator is not sufficiently verifiable, as there is no clarification as to what exactly “necessary actions” refers to.

Due to the border closure following the outbreak of COVID-19, short-term experts have not been able to enter SI since March 2020, causing delays in project activities. Despite the challenges, good progress has been made under the project, such as: the creation of the SWM plan, the establishment of the WMCD and the introduction of the tipping fee system under HCC.

In the terminal evaluation, the SI’s Country Project Purpose was assessed as “Partially Achieved”. Potentially, the project purpose could be “Mostly Achieved” or “Achieved” by the end of the project, if the following conditions are met:

[Indicator 1. Activities proposed in the SWM plan are revised annually.]

If evidence is provided that shows the activities in the action plan have been revised, it will be considered as “Achieved”.

[Indicator 2. SWM activities reflecting lessons learned are practiced in at least two provincial centers during the project period.]

If all verifiable indicators of Output 2 are achieved in a second provincial center, this indicator will be considered “Achieved”.

[Indicator 3. Necessary actions are taken for legalization of selected economic measures.]

Unfortunately, the indicator is unverifiable and thus, has been considered inappropriate. If the C/Ps and JICA can agree on what “necessary actions” means, it will be possible to assess the indicator.

To be considered “Achieved”, Indicator 2-3 Output 3 “the documents necessary to legally process the economic options are prepared” must be fulfilled and the agreed necessary actions taken.

#### **(4) Project Implementation Process**

##### **(a) Project Management**

Joint Coordinating Committee (JCC) meetings had been held almost annually, other than year 2021, which has been effective in giving overall guidance and direction of the Project. Before COVID 19 pandemic, regular C/P meetings has been held usually monthly basis, however, during COVID, it was not held except on one or two occasions.

The work of the JICA short-term experts was generally appreciated by C/Ps, and, during the pandemic, the long-term experts based at SPREP gave technical support, and the MECDM proceeded more regional work than the domestic tasks. However, C/Ps expressed their needs to have at least two JICA Experts throughout the project time-frame, and/or, longer dispatchment of experts is preferred as this enable the project C/Ps to be able to have more discussions and be able to accomplish more activities.

[Solomon Side]

There were problems, particularly at the beginning of the Project, due to changes in key positions for the Solomon side C/Ps. Also, at the HCC, two divisions, the Works Division and the Environmental Health Division, are both taking parts of waste management, and no one was taking lead due to lack of clear demarcation at the beginning of the project.

However, strong leadership and interests on waste management in the MECDM together with the establishment of WMCD in HCC make the Solomon Islands one of the most committed countries on the waste management in the region.

[Japanese Side]

Almost all short-term experts changed in J-PRISM2, all experts had to start to understand the situation in the countries. To make greater support in each region, project coordinators had been assigned in Samoa (Polynesia), Palau (Micronesia) and the Solomon Islands (Melanesia) to assist project activities during the absence of short-term experts. Although the coordinator assisted the implementation of the project activities in some degree, the effect was limited, and the coordinators' positions were discontinued after a couple of years. Therefore, regrettably, the C/Ps in the Solomon Islands had to adjust once again to the changes on the Japanese side of project management.

Just as the project started to get back on track, the SI announced a State of Public Emergency (SOPE) as a prevention measure against COVID-19. The international border was closed for over two years and short-term experts were not able to visit the SI, affecting the project's management greatly.

(b) Method of Technical Transfer

JICA training has been taking place both in Japan and in third countries such as Samoa, as well as in the form of OJT and on-line workshops. Advice given by JICA experts in these settings, has played a major part in technical transfers. Previous training was mostly theoretical, including a look and learn study tour; however, it was expressed that future training needs to be more hands on, with practical exercises that provide an opportunity for the C/Ps to put into practice newly learnt concepts.

Both C/Ps and short-term experts expressed the difficulties to communicate each other after April 2020, and the Solomon C/Ps expressed their preference to have full time expert or expert(s) with longer attachment period.

(c) Communication

Communication between the Short-term experts and Project Office experts was minimal, since the short-term experts' report line is to the JICA Solomon Office and the Head Quarters not to the Project Office. Despite this, communication between C/Ps and the JICA Experts has overall been sufficient.

During the pandemic, communication became more difficult, and a comment was made that Solomon C/Ps expressed a strong preference for experts with longer attachment periods.in-country, since C/Ps could receive more support from experts in the Project Office in Samoa.

(d) Participation in Region-Wide Activities of J-PRISM2

	Year/Month	Training/Workshop	Host Country	Remarks
1	2017/10-11	Melanesia Landfill Operation and Management Training	PNG	
2	2017/11	Trainer Dispatch for Ranadi Rehabilitation Work	Solomon Is.	Trainer from Vanuatu
3	2018/10	Regional Disaster Waste Management Guideline Development Consultation Workshop	Samoa	
4	2022/02	Regional Workshop on Waste Collection Vehicles and Heavy Machinery	FSM, Palau and RMI (Virtual)	On-line
5	2022/6	Solomon Islands Kobotoolbox Training for Disaster Waste Management	Solomon	On-line

Although its national project activities have been delayed, the ministry's project counterparts continue to communicate with the Project Office to support the project's regional activities

(e) Coordination with Other Japanese and International Projects/Partners

Several projects and activities hosted by the HCC and MECDM are supported by other donors, some activities on-going since the J-PRISM Phase I Project.

Japan's NGO LEAF is continuing support activities in the SWM field (environmental education) of the HCC.

The PacWastePlus Programme funded by the EU and implemented by SPREP is supporting the development of a Container Deposit Legislation following recommendations of the Pre-Feasibility Study undertaken by

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

<p><b>Relevance</b> This project is still relevant.</p>
<p>(a) Necessity There is an on-going population flow from rural areas to urban and semi-urban areas. Waste management has become an urgent issue for urban areas, due to the scarcity of land and an increasing amount and variety of waste. There are great development needs as waste management directly affects health issues, tourism and the environment in the Solomon Islands and solving the problem of waste management is an urgent matter.</p> <p>(b) Priority Waste management is included in several of Solomon's development strategies (i.e. NDS: National Development Strategy (2016-2035) and National Waste Management and Pollution Control Strategy (2016-2025). NDS 2016-2035 has identified waste management as a part of improved programs to effectively develop and manage the environment sustainably and in the longer term under "Mid-Term Strategy 11: Manage the environment in a sustainable way and contribute to climate change mitigation." The NWMPCS (2016-2025) was endorsed and gazette for that year (2017- 2026). The strategy was now approved and being implemented and is prioritized in national development plans domestically, and also aligned with cleaner Pacific 2025; Pacific regional waste and pollution management strategy 2016-2025.</p>
<p><b>Coherence</b> The overall coherence of the project is relatively high; however, more alignment with other partners is necessary at national level.</p>
<p>(a) Coherence with Japanese aid policy According to Japan's Country Development Cooperation Policy for the Solomon Islands (2019), "Basic Policy of Assistance" is: "Support for sustainable economic development and improving a living standard through the assistance for the economic and the social sectors", and one of the priority areas is Environmental conservation". In the latest Rolling Plan for Solomon Islands (April, 2020), J-PRISM is a project under "Program for Supporting Recycling Society Establishment in Islands" under the Development Issue "Environmental Conservation".</p> <p>(b) Coherence with JICA's other schemes Before the outbreak of COVID-19, there were volunteers in Environmental Education and JICA Training scheme on Solid Waste Management. Moreover, the Project for Sustainable Community Development through Promoting Environmental Learning Activities in Cooperation with Public and Private Sectors planned to be implemented under the JICA Partnership Program by Learning and Ecological Activities Foundation for children (LEAF). The projects were working closely to aim to create synergy effects; however, after the COVID-19 pandemic, all activities had ceased.</p> <p>(c) Coherence with other partners Following is the list of development partners that include the Solomon Islands as a target country in the waste management sector. Many partners are working with SPREP. However, aid coordination in this field is insufficient, and has potentially become a burden to C/Ps. PacWastePlus: Sustainable financing Agence Française de Développement: Used oil, Marine Debris(Cleanups), Sustainable financing, Disaster waste management Asian Development Bank: Honiara Sustainable Solid Waste Management Project Global Environment Facility 7/ISLAND: E-Waste</p>
<p><b>Effectiveness</b> This project is assessed as effective.</p>
<p>(a) Achievement of Project Purpose Despite serious delays during the COVID-19 pandemic and some of the indicators needing clarification, the project has had great success in bringing about organizational change and will most likely achieve two of the three indicators. Therefore, the Project Purpose is most-likely achieved before the completion of the Project.</p> <p>(b) Contribution of Outputs to Project Purpose Logical relations between the Outputs and Project Purpose are confirmed.</p>

The project had to reduce the number of target provinces from five to three (Output 2) on PDM 2 then two on PDM 3, and not much was done on Output 3. Indicator 3, “the necessary actions or steps to be taken for the implementation of a selected economic measure can be achieved by the end of the project period” can be presented to the government for further action. The legalization of the selected economic measure will take time and the further support will be needed.

### Efficiency

(Due to the extraordinary situation with COVID-19 pandemic, the degree of “Efficiency” was not determined.)

#### (a) Production of Outputs

Output 1 and Output 2 have mostly been produced.

#### (b) Appropriateness of Inputs

##### <Solomon side>

Overall, Inputs by the Solomon side have been mostly appropriate in producing Outputs.

- Personnel: MECDM have assigned competent personnel with good technical background to the Project, and the WMCD was established. However, the experienced landfill supervisor was resigned and many staff under the WMCD need to be trained. Also, most government employees got 50% salary cut, and the recruitment of staff in the HCC was scaled down. Staff turnover due to the scale down under HCC and resignation of two project counterparts under the MECDM have also had major setbacks to implementation of project's activities under outputs 2 & 3.

- Office space and equipment: There were no experts room as the office is setup in an open room, therefore the expert sits with other officers in the same room.

- Local cost: Necessary budget has been allocated for the project before the outbreak of COVID-19, however, it was reallocated towards measures to keep the country safe after April 2022.

##### <Japanese side>

Overall, Inputs by the Japanese side have been fairly appropriate in producing Outputs.

- Experts: In terms of timing and quantity, dispatch of JICA Short-term Experts was more or less appropriate before the pandemic. However, the border closure made it impossible for JICA Experts to travel and caused a major delay on the project activities, which were supposed to start after April 2020. (See “Implementation Process” for details). All C/Ps interviewed had high opinions of JICA experts and would have liked to have had a full time expert who could cover the whole assignment period.

In terms of quality, apart from the project coordinator stationed in the Solomon Islands, JICA Experts with adequate background, relevant experiences and sufficient technical level were dispatched. They are accessible and ready to answer the technical questions asked by the C/Ps.

- Equipment: Only one laptop computer was provided for project administrative purposes. When rehabilitating Honiara, a heavy machine (a loader) was available but not appropriate for landfill operation, therefore, a dozer, an excavator and a compactor are rented.

- Local cost: The necessary amount of the local operation was disbursed in time.

#### (c) Utilization of region-wide activities of J-PRISM2

During the pandemic, the long-term experts based at SPREP gave technical support and the MECDM did more regional work. However, the short-term experts did not particularly utilize region-wide activities of J-PRISM2.

#### (d) Promoting and inhibiting factors

##### <Promoting factors>

- The Permanent Secretary of MECDM has shown strong commitment towards Waste Management and had C/Ps educated to be specialists in the sector. The number of capable C/Ps has increased since they have assigned more personnels for project activities.

- The long-awaited Waste Management and Control Division of the Honiara City Council was fully established as a part of the SWM Plan of HCC. Newly recruited officers are eager to learn and committed to the project.

##### <Inhibiting factors>

- The trained and experienced supervisor of Ranadi Landfill resigned in 2019 and there is no reliable heavy machinery at the landfill making it very difficult to manage the landfill appropriately.

- The COVID-19 pandemic prohibited experts from supporting project activities and many activities were not implemented.

- After April 2020, most of the budget was reallocated towards measures to keep the country safe from the pandemic and there was not enough left to carry out project activities. Moreover, some C/Ps left their

- positions due to the radical salary cut (50%).
- Project personnel changes on both the Solomon side and Japanese side seemed to negatively influence the progress of the project.

### Impact

Overall Goal at the national level was not identified during the planning stage, therefore N/A in the survey. Various positive impacts have been observed. Negative impacts have not been observed.

Overall goal and the indicator of the region-wide PDM as follows:

Overall Goal (Common):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

However, the indicator above is not verifiable, and it is impossible to examine the possibility of achieving the overall goal at the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for the Solomon Islands and/or the Region-Wide.

Positive impacts observed as follows:

- Development of the Solid Waste Management Plan for HCC
- Formulation of the Waste Management and Control Division.
- Tipping fee system has been established under HCC, although the revenue is used for not only waste management but also other purposes.
- Not only the target provinces, but other provinces have started to gain awareness of the importance of waste management.

Negative impacts have not been observed nor foreseen.

### Sustainability

Sustainability could be ensured if the necessary resources are allocated and disbursed.

#### (a) Policy and institutional aspects

Despite the difficulties in carrying out project activities, C/Ps of the MECDM and the HCC have set a strategy and plan.

The NWMPCS (2016-2025) was endorsed and gazette for the year (2017- 2026). The strategy has now been approved and is being implemented and prioritized in national development plans. and also aligned with cleaner Pacific 2025; Pacific regional waste and pollution management strategy 2016-2025 for a cleaner Pacific.

Solid Waste Management Plan in provincial centers: Tulagi (Central Province) Provincial Centre developed part of a SWM plan and is expected to complete it before the completion of the project. Auki (Malaita Province) and Kirakira (Makira Province) are following suit.

#### (b) Organizational aspects

Some C/Ps of MECDM have been educated overseas and returned to take leading roles in the project.

In accordance with the SWM plan of the HCC, the WMCD was newly established and committed officers are working under the Director.

C/Ps are assisting other provinces in regards to waste management, even when the JICA experts are not in the country, and it shows the strong sign of the sustainability on the organizational aspects.

#### (c) Financial aspects

The establishment of the WMCD and introducing tipping fees will contribute to the sustainability of the project greatly. However, the revenue from the tipping fee is not exclusive for waste management, and securing budgets for project activities and the purchase of essential heavy equipment and its parts is still a major issue.

Due to the outbreak of COVID-19, many countries are faced with monetary problems. Therefore, it is expected that securing financial sustainability will not easily be achieved. Meaning the cause, desperately needs continuous assistance from JICA.

#### (d) Technical aspects

Despite the communication gap during the COVID-19 pandemic, the technical capacity of C/Ps has gradually been enhanced in terms of knowledge regarding SWM, landfill management, and 3R+Return. Some core C/Ps already possess the capacity to disseminate their skills and knowledge to provincial officers as well.

However, staff turn-over is one of the most serious issues in securing sustainability of the project and more training and technical transfer is necessary. Previously training was based on theories and included a look and learn study tour. However, future training will need to consider hands on, practical exercises that will provide an opportunity for the C/Ps to put concepts into practice.

#### **Influence on the COVID-19**

In response to the COVID-19 pandemic, the Government of Solomon Islands announced the State of Public Emergency (SOPE) and would maintain a border closure by March 2022 as a prevention measure against COVID-19. Given the circumstances, JICA couldn't allow the Japanese experts would stay and implement the project activities in Solomon Islands after April 2020, which causes a delay of the work schedule.

As it was stated in "Inputs", the Government of the Solomon Islands has been experiencing great shortage of public finance, and the radical budget cut in all sectors made it extremely difficult to continue project activities.

#### **IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is still relevant, the overall coherence of the project is relatively high, it is effective, some positive impacts are observed, and sustainability could be ensured if the necessary resources are well allocated and disbursed.

The Project Purpose is expected to be mostly achieved before the completion of the project. Therefore it is appropriate to terminate the Solomon scope of the J-PRISM2 in September 2022, in accordance with the next phase commencing.

#### **V. Recommendations**

##### **To the Project**<Identifying country-specific verifiable indicator(s) of Overall Goal>

The Overall Goal and the indicator for the region-wide PDM are as follows.

Overall Goal (Region-wide):

Sustainable management of solid waste management in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025)

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for Solomon Islands

- The creation/revision of the Waste Management Plan for each provincial center based on the Waste Management and Pollution Control Strategy.
- More than XX% of trained personnel remain working in the waste management sector.
- Project activities/implementation is included in the organizational annual work plan report.
- Number of reports/documentations produced by C/Ps is increased.

##### **To MECDM/HCC**

<To achieve the Overall Goal after the completion of the project >

##### **The effort to update the National Waste Management Pollution Control Strategy**

To follow-up the activities taken place by provincial canter to create the Waste Management Plan, and advice the implementation.

<To continue the effect of the project>

##### **Stronger aid coordination in waste management sector**

There are so many development partners are interested in supporting waste management in the Solomon Islands. To create synergy effect with the project outcome, it is recommendable that the MECDM make an even greater effort on aid coordination.

##### **To JICA Shor-term Experts**

<Before the completion of the project >

##### **The preparation of road map for the MECDM and the HCC to attain Output 3**

It may be necessary to spend more time on completing Output 3. It could potentially be useful for the short-term expert to prepare an elaborate road map of what steps the MECDM and the HCC to take beforehand, rather than try to complete documents in limited time.

**To JICA Solomon Office**

<To continue the effect of the project>

To support to reach main C/Ps of the Waste Management and Control Division (WMCD)

During the terminal evaluation survey, it was noticeable that the WMCD has a problem to access for on-line meetings due to poor internet connectivity, and the assistance given by the JICA Solomon Office was very helpful to contact main C/Ps to the project. Since there is not stable internet connectivity with WMCD, HCC, it will be helpful to support the division to provide on-line meeting venues when the project need to meet the C/Ps.

**Attachment:**

1. Project Design Matrix (PDM Version 3)
2. Plan of Operation (PO Version 3)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Republic of Vanuatu</b>
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**I. Project Outline**

<b>Background</b>	An increasing population and changing life styles has been influencing the volume of waste greatly, making waste management a particularly urgent issue, not only in Port Vila and Luganville but other provincial centers as well. JICA has been supporting waste management in Vanuatu since the Bouffa Landfill Improvement Project (2006-2008). From 2011 to 2016, J-PRISM was implemented in partnership with SPREP (Secretariat of the Pacific Regional Environment Programme) to support SWM (Solid Waste Management) in the Pacific region in accordance with the Pacific Regional Waste Management Strategy (2010-2015). J-PRISM II followed aiming to strengthen human resources, organizational and institutional infrastructure for sustainable waste management and the recycling system through the implementation of Cleaner Pacific 2025.
<b>Summary of the Project</b>	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	A foundation of implementing and monitoring SWM activities in line with the Vanuatu National Waste Management and Pollution Control Strategy (NWMPCS) is built.
Outputs	Output 1: Institutional capacity of DEPC to implement NWMPCS is enhanced with the cooperation of the Working Group. Output 2: SWM activities of PVCC are properly implemented and monitored in line with the SWM Plan. Output 3: Economic incentive scheme is initiated for promotion of 3R + Return in Vanuatu.
Implementing Agency	Department of Environmental Protection and Conservation (DEPC), Port Vila City Council (PVCC), Luganville Municipal Council (LMC), SHEFA Province (SHEFA)
Project Duration	February 2017 – September 2022
Target Group	27 counterparts (as of April 2022) Management C/Ps: Project Director (1), Project Manager(1), C/Ps: 4 (DEPC), 11 (PVCC), 5 (LMC), 5 (SHEFA)
Target Area/ Target Population	Port Vila, Luganville, SHEFA province Approx. 104,000 <sup>1</sup> (direct beneficiaries)

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of April 2022)</b>	
<b>Japanese Side</b> 1) Experts (MM) - Dispatch of 9 Short-term Experts: 22.75 M/M - (1 Long-term Expert (Coordinator/3R+Return, Melanesia): Approx. 8 M/M <sup>2</sup> )  2) Trainings (number of trainees) - Training course for “Enhancement of Solid Waste Management Capacity (Advance, Planning&Policy) (A)” (Former Pollution Control Officer, DEPC)	<b>Vanuatu Side</b> 1) Allocation of Counterparts Two (2) management C/Ps and 25 C/Ps were recognized as C/Ps for the Project.  2) Local Cost: The DEPC and the PVCC bore appropriate local costs throughout the project period to ensure smooth implementation of the activities while experts were dispatched.  3) Office space

<sup>1</sup> World Population Review: <https://worldpopulationreview.com/countries/vanuatu-population>, & VCAP Shefa Province Area Profile: <https://www.nab.vu/document/vcap-shefa-province-area-profile> obtained 20 June, 2022

<sup>2</sup> The total assignment period of the expert was 24M/M, and divided in three. This coordinator was for PNG, Vanuatu and the Solomon Islands, based in the Solomon Islands.



<p>3) Provision of Equipment</p> <ul style="list-style-type: none"> <li>- 1 Excavator (Bouffa Landfill): VUV 44,700,000 (approx. 398,600USD)<sup>3</sup></li> <li>- 1 set of equipment necessary for starting website (Vanuatu Recycle Association): VUV 313,950 (approx. 2,780USD)<sup>4</sup></li> <li>- Disaster response equipment: 5 Chainsaws, 5 Tablets for the assessment and Personal Protection Equipment (PPE): VUV 1,412,310 (approx. 13,360USD)<sup>5</sup></li> </ul> <p>4) Local cost support: JPY 15,811,000 (approx. 136,830USD)<sup>6</sup></p> <p>Major expenses are as follows:</p> <ul style="list-style-type: none"> <li>- Local consultants (JPY 10,617,000 approx. 91,880USD)</li> <li>-</li> </ul>	<p>The DEPC and the PVCC have provided appropriate office spaces and facilities.</p>
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**(2) Outputs**

Output 1: Institutional capacity of DEPC to implement NWMPCS is enhanced with the cooperation of the Working Group. Degree of Achievement: Achieved.

Indicator	Results
<p>1-1. Detailed action plan of the priority activity(ies) in the Implementation Plan of NWMPCS is processed through the relevant governmental agencies for implementation from 2019.</p>	<p><u>Status: Achieved.</u>            Priority activities in 2019 and 2020 were selected and approved by the second Joint Coordination Committee (JCC) and the third JCC respectively.            The detailed action plans of priority activities and the annual monitoring reports of NWMPCS 2019 and 2020 were developed. After processed through the relevant governmental agencies, they were published on the DEPC's webpage.            The detailed action plan was renewed annually, enables the DEPC to implement the NWMPCS by practicing the PDCA cycle.</p>
<p>1-2. The annual monitoring report of NWMPCS is made open to the public (through DEPC webpage, published reports, etc.)</p>	<p><u>Status: Achieved.</u>            The annual monitoring of the NWMPCS was done by the DEPC in November 2018 and October 2019, and was reflected in the detailed action plan of priority activities in the following years.            The monitoring results (2017, 2018, 2019 and provisional 2020) were made public on the DEPC's website.</p>
<p>1-3. With the support of WG as the priority activity, national SWM planning and monitoring system in provincial and municipal</p>	<p><u>Status: Achieved.</u>            The national SWM planning and monitoring system, as well a consultation form was developed by the DEPC in collaboration with the Department of Local Authorities.            As a wrap-up activity to habituate the new system and form, the 1st National Solid Waste Management Planning Workshop was held in Port Vila. The proceedings of the workshop were distributed to all provincial and municipal councils. It is also available on the DEPC website.</p>

<sup>3</sup> JICA Official rate in March 2022 (1VUV=1.03045JPY, 1USD=115.555JPY)

<sup>4</sup> ditto.

<sup>5</sup> JICA Official rate in March 2021 (1VUV= 0.94296JPY, 1USD= 115.555JPY).

<sup>6</sup> JICA Official rate in March 2022 (1VUV=1.03045JPY, 1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

government councils is established.	
1-4. With the support of WG as the priority activity, national waste minimization plan is developed.	<u>Status: Achieved.</u> The national waste minimization plan (2021-2025) was drafted.
1-5. With the support of WG as one of the priority activity, clean school program is promoted.	<u>Status: Achieved.</u> A new lessons guide based on the Luganville School Environmental Program was prepared and submitted to the Ministry of Education and Training (MoET) The Clean School Program was promoted on a small scale as a pilot project of the PVCC in Output 2.

Output 1 is designed to habituate the Plan-Do-Check-Act (PDCA) cycle to enhance the implementing and monitoring capacities of SWM in Vanuatu. Therefore, activities to select, plan and implement the priority activities (Activity 1-5 to 1-8) are repeated annually. Prior to the monitoring period, all activities have been completed, except for the implementation of the final Working Group (WG) meeting. This meeting is for the comprehensive PM Form 3-1 Monitoring Sheet Summary 13 evaluation of the NWMPCS 2016-2020 (Activity 1-1). During this term, as all WG members are JCC participants, the overall evaluation of the NWMPCS 2016-2020 was reviewed with C/Ps and relevant stakeholders, such as other donors. The revision, as well as the distribution of the final monitoring report for overall evaluation of NWMPCS 2016-2020 (May 2021) was held at the 4th JCC meeting on 30 November 2021.

A long consultation period with Vanuatu side was inevitable in the beginning of the project (see “Project Management” under “Implementation Process”) to overcome the in-continuity of the previous phase. Under the circumstances, the project team should have including an indicator such as “(Waste Management) Working Group is established with clear Terms of Conditions (TOR),” as it was one of the most important milestones in commencing the project.

**<Overall>**

Output 1 has already been achieved in 2021. Despite the challenges, such as, a lack of trained C/Ps in the beginning of the project, the COVID-19 pandemic and financial constraints, there are good achievements in this output.

Output 2: SWM activities of PVCC are properly implemented and monitored in line with the SWM plan.	Degree of Achievement: Mostly Achieved.
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Indicator	Results
2-1. Results of SWM pilot project(s) in line with a draft SWM plan are evaluated in a stakeholder's workshop.	<u>Status: Achieved.</u> The results of pilot projects were confirmed by the relevant department in the PVCC and reflected in the final SWM plan. Results of SWM pilot projects were shared with the SHEFA province and target areas were determined.
2-2. SWM Plan of PVCC (2021-2030) is submitted to the council.	<u>Status: Achieved.</u> The framework of the SWM plan was presented to the councilors of Port Vila City Council in March 2019, and the town planning committee decided and proposed to establish a waste management division with budget allocation in a business plan of the PVCC in 2020. The SWM Plan (2021-2030) was finalized in December 2020 and submitted to the council in May 2021.
2-3. Landfill management in Bouffa disposal site is improved	<u>Reported as Mostly Achieved. (Need to be checked the current condition of Bouffa Landfill)</u> A landfill operation manual has been finalized and a review by the PVCC is ongoing. The review is to be completed in June 2022; however, to certify the indicator, it is

following the landfill operation manual.	necessary to check that the Bouffa Landfill is managed in accordance to the operation manual and that the reviewed manual is effective.
2-4. Monitoring results of SWM activities are reflected to the annual SWM plan (2022).	<u>Status: Partially Achieved.</u> An action plan for 2022 was prepared. Ongoing data analysis of incoming vehicle records, monitors the activities based on the SWM plan. This information will be compiled into an Annual SWM plan of the PVCC (2022) and is expected to be submitted to the DEPC by July 2022.

This output was added after the project team became aware of the challenges that the PVCC was facing regarding Solid Waste Management and because having and implementing SWM plans in Municipal Councils is a very important priority in the NWMPCS.

At the time of the terminal evaluation, a landfill operation manual has been finalized and a review by the PVCC is on-going. The results of activities, included in the SWM plan for the PVCC and the SHEFA province (2021-2030) are also being monitored. The Annual SWM plan of the PVCC (2022) will be formed based monitoring results and submitted to the DEPC by July 2022.

**<Overall>**

Output 2 has mostly been achieved. The challenges regarding the COVID-19 pandemic, financial constraints, and the resignation of an experienced waste management officer were a blow to the output, slowing down its progress. However, the PVCC obtained an excavator for the J-PRISM2 project in 2022 and most C/Ps were hopeful that Output 2 would be attained before the completion of the project.

Output 3: Economic incentive scheme is initiated for promotion of 3R + Return in Vanuatu.	Degree of Achievement: Mostly Achieved.
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Indicator	Results
3-1. Documents necessary to process the container deposit legislation are prepared.	<u>Status: Mostly Achieved.</u> Documents necessary to process the container deposit legislation (i.e. drafting instructions) have been prepared. The drafting instructions were finalized through the WG discussion and submitted to the State Law Office (SLO). The Drafting Instructions (DI) have been finalized and an official letter to submit the DI to the SLO is about to be issued.

It seems that this output is a more elaborate version of the original Output 2 “A pilot study to establish a financial incentive scheme is conducted in a target site.”

The DI, documents necessary to process the container deposit legislation, are finalized and ready to be submitted to the SLO. However, due to the lockdown of Vanuatu’s capital city, under the State of Emergency, caused by COVID-19 in February 2022, the Director General of the Ministry of Climate Change was delayed in issuing the official letter .

**<Overall>**

Output 3 has mostly been achieved. PacWastePlus (PWP) signed the Memorandum of Understanding (MOU) with the DEPC, to implement 4 components regarding the Container Deposit System (CDS). Further coordination will be necessary for future cooperation.

<b>(3) Project Purpose:</b> A foundation of implementing and monitoring SWM activities in line with the Vanuatu National Waste Management and Pollution Control Strategy (NWMPCS) is built.	Degree of Achievement: Mostly Achieved
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Indicator	Results
1. Based on the monitoring results of NWMPCS 2016-2020, the gaps and issues of the Implementation Plan are evaluated	<u>Status: Mostly Achieved.</u> Progress of the NWMPCS 2016-2020 is monitored annually (2017, 2018, 2019 and 2020). Monitoring results were reflected into the detailed action plan of priority activities in 2019 and 2020 respectively. The final evaluation report on the NWMPCS 2016-2020 was compiled and the gaps and issues in the implementation plan evaluated. However, it is not yet clear how the evaluation results will be reflected in the next term

and reflected to the next term of NWMPCS.	of the NWMPCS.
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The verifiable indicators were modified as below. The current indicator is not clear on how the gaps and issues in the implementation plan will be reflected in the next term of the NWMPCS, as the next NWMPCS is not going to be created yet.

PDM 0	PDM 1, 2, 3
Project Purpose - Narrative part	
Foundation of <u>planning</u> and implementing SWM is established.	A foundation of implementing and monitoring SWM activities in line with the Vanuatu National Waste Management and Pollution Control Strategy (NWMPCS) is built.
Project Purpose - Objectively Verifiable Indicators	
<ol style="list-style-type: none"> <li>1. <u>Revised National Waste Management and Pollution Control Strategy 2016-2020 (NWMPCS) is submitted to the relevant authorities.</u></li> <li>2. Budget is allocated for implementing the priority activities identified in NWMPCS.</li> <li>3. At least one (1) priority activity in the Implementation Plan is carried out.</li> <li>4. Draft legislation of a financial incentive scheme is finalized to be ready to submit to the Council of Ministers.</li> </ol>	<ol style="list-style-type: none"> <li>1. Based on the monitoring results of NWMPCS 2016-2020, the gaps and issues of the Implementation Plan are evaluated and <u>reflected to the next term of NWMPCS.</u></li> </ol>

Even before the project was extended, the project would still be running when the NWMPCS 2016-2020 expires. The original indicator 1 could have taken this into consideration, and include statements such as “the waste management sections of the draft NWMPCS are prepared” or “working paper of the draft NWMPCS are prepared”.

Otherwise, the original indicators were heavy on making strategies, the budget and legislation, and it was highly commendable that the project team included more Outputs than it had originally planned, such as improving the Bouffa Landfill, to correspond to Vanuatu’s urgent needs.

At the time of terminal evaluation, it has been assessed that the Country Project Purpose of Vanuatu has been “Mostly Achieved”; however, the indicators of the Project Purpose have largely been achieved through Output 1. Since there were meaningful outputs and activities added/modified, indicators should have been changed accordingly to reflect the reality of the project.

#### **(4) Project Implementation Process**

##### **(a) Project Management**

Joint Coordinating Committee (JCC) meetings had been held twice pre COVID-19 pandemic (Nov., 2017, Jan., 2019), which has been seen as an effective tool in giving overall guidance and direction of the Project.

The work of JICA short-term experts and the local coordinator based in Santo was highly appreciated by C/Ps; however, many expressed that there were communication problems during the COVID-19 pandemic and the need to have full time experts or longer dispatchment of experts to enhance their capacities.

There were problems, particularly at the beginning of the Project, because the main C/Ps in the Port Vila Municipal Council (former name of the PVCC) became redundant at the end of J-PRISM Phase I. Phase II had to start from scratch in finding personnel, rather than building up from what had already achieved in the previous phase. To overcome the situation, the short-term experts had to spend longer time than normally expected discussing with DEPC and PVCC, and all parties agreed to set up a Working Group (WG), which consist of a larger range of C/Ps, including middle managers and accountants that belong to implementing organizations. It was expected that more people could become aware of and skillful regarding waste management, thus accumulate experience and know-how within the WG. At the same time, the project

experts made sure to include high-ranking officials who would have decision making authority in the project.

[Vanuatu Side]

Not only the DEPC and the PVCC, but also the LMC and the SHEFA province experienced frequent staff turnover due to political changes, resignations, and other reasons.

In Vanuatu, the main C/Ps of the J-PRISM Phase I became redundant and/or transferred to different Departments/Ministries at the end of the Phase I project. When the J-PRISM Phase II project commenced, there was almost no one who considered themselves C/Ps, as there was no system in place to insure that skills and knowledge were handed-over to the successors. Therefore, there was confusion in the beginning of the project, regarding project management. However, after the project experts established the WG of waste management, the C/Ps were identified, the current Director was assigned in 2019 and the PVCC established the Waste Management and Environmental Health Division in January 2020, human resources and concerned institutions were gradually enhanced. This enhancement included the recruitment of a manager in December 2020 and other staff in the newly created waste management division at the PVCC.

[Japanese Side]

For greater support in each region, project coordinators were assigned in Samoa (Polynesia), Palau (Micronesia) and the Solomon Islands (Melanesia). This was supposed to provide more support in implementing project activities, during the absence of short-term experts. However, the coordinator for Melanesia seemed to have a limited impact on project components in Vanuatu, and the coordinator's position was not extended. The dispatch of short-term experts was disrupted by the border closure; however, main experts did not change so often and hiring the national coordinator helped the project progress even when the experts were not able to visit and there was only remote support.

As a prevention measure against COVID-19, the Government of Vanuatu announced a State of Emergency (SOE), and maintained a closed border until October 19, 2021. Given the circumstances, JICA could not allow the Japanese experts to stay and implement the project activities in Vanuatu after March 2020, causing delays in the work schedule.

(b) Method of Technical Transfer

Moreover, OJT, on-line workshops and advice by JICA experts have also been major inputs for technical transfer. In particular, hands-on training sessions were very effective in enhancing the knowledge and skills of DEPC and PVCC staff members. However, there is still a great need to enhance the technical knowledge and skills of C/Ps, as most of them were not involved in J-PRISM Phase I.

Both C/Ps and short-term experts expressed difficulties in communicating with each other remotely. Furthermore C/Ps expressed preference for JICA Experts and project personnel with full-time or longer dispatch periods,

(c) Communication

<Communication between C/Ps and JICA Experts>

Overall, communication between C/Ps and the JICA Experts has been sufficient; however, during the pandemic, it was commented that there was not much communication due to the effect of COVID-19.

<Communication within JICA>

Short-term experts and the JICA Vanuatu Office worked closely and made significant differences during the COVID-19 pandemic, while the relationship between JICA Vanuatu Office and Project Office experts is just adequate.

(d) Participation in Region-Wide Activities of J-PRISM2

	Year/Month	Training/Workshop	Host Country	Remarks
1	2017/10-11	Melanesia Landfill Operation and Management Training	PNG	
2	2017/11	Trainer Dispatch for Ranadi Rehabilitation Work	Solomon Is.	Trainer from Vanuatu (former Landfill Supervisor)
3	2018/10	Regional Disaster Waste Management Guideline Development Consultation Workshop	Samoa	

4	2019/11	Disaster Waste Management Workshop, Trainers Training	Vanuatu	
5	2020/03	Disaster Waste Management Workshop, DWM Contingency Plans	Vanuatu	
6	2021/10	Kobotool Training for Disaster Waste Management	Vanuatu (Virtual)	

(e) Coordination with Other Japanese and International Projects/Partners

Several projects and activities in Vanuatu are supported by other donors. Most projects/programs are regional projects, and the project team in Vanuatu and Project Office J-PRISM II are advising and assisting donor coordination.

Agence Française de Développement (AFD) conducted a baseline survey and plans to start a regional project regarding used oil, marine debris(cleanups), sustainable financing, and disaster waste management.

PacWastePlus Project funded by the EU and implemented by SPREP, supports the development of a Container Deposit Legislation, following recommendations of the Pre-Feasibility Study undertaken by J-PRISM II with the Sustainable Financing scheme.

International Office of Migration (IOM) works on disaster waste management through the UNEP.

International Union for Conservation of Nature (IUCN)

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

<p><b>Relevance</b> This project is still relevant.</p> <p>(a) Necessity An increasing population and changing life styles has been influencing the volume of waste greatly, making waste management a particularly urgent issue, not only in Port Vila and Luganville but other provincial centers as well. During the major restructuring of the Vanuatu Government in 2015, many trained C/Ps became redundant. There are still many challenges in Vanuatu and an urgent need to support human resource development regarding waste management.</p> <p>(b) Priority It operates within a priority area in Vanuatu’s development strategies (i.e., Vanuatu 2030, the People’s Plan, the National Sustainable Development Plan (NSDP), the National Environment Policy and Implementation Plan (NEPIP) 2016-2030) and the National Waste Management and Pollution Control Strategy (NWMPCS) 2016-2021. Vanuatu 2030 aims “a stable, sustainable and prosperous Vanuatu”, and environment issue will be falling into “Blue-Green Economic Growth” under the “Environment Pillar”, and the objective is to reduce waste and pollution through effective waste management and pollution control. The NWMPCS 2016-2020 is the most-updated waste management strategy, and it’s implemented and prioritized in national development plans, and aligned with cleaner Pacific 2025; Pacific regional waste and pollution management strategy 2016-2025 for a cleaner Pacific.</p>
<p><b>Coherence</b> The overall coherence of the project is relatively high; however, more alignment is necessary with other partners in country level.</p> <p>(a) Coherence with Japanese aid policy According to the Japan’s Country Development Cooperation Policy for the Vanuatu (2019), “Basic Policy of Assistance” is: “Support for sustainable economic development and improving a living standard through the assistance for the economic and the social sectors”, and one of the priority areas is Environmental conservation”. In the latest Rolling Plan for Vanuatu (September, 2018), J-PRISM is a project under “Program for Circular Economy Development” under Development Issue, “Environment Conservation”, the Priority Area “Environment, Climate Change and Disaster Management”.</p> <p>(b) Coherence with JICA’s other schemes Before the outbreak of the COVID-19, there are volunteers in Environmental Education at the PVCC. They were working closely together to aim to create synergy effects, however, after the COVID-19 pandemic, all activities have been paused.</p> <p>(c) Coherence with other partners</p>

The following is a list of development partners that include Vanuatu as a target country in the waste management sector. Many partners are working with SPREP. The short-term experts made efforts to coordinate aid in Vanuatu; however, after the COVID-19 pandemic, assisting development partners and aid coordination slowed. Since there are many stakeholders and most partners have started to re-activate activities, more alignment is essential.

PacWastePlus: Sustainable financing

AFD: Used oil, Marine Debris(Cleanups), Sustainable financing, Disaster waste management

IOM: Disaster Waste Management through the UNEP.

Global Environment Facility 7/ISLAND: E-Waste

International Union Conservation of Nature (IUCN): Plastic waste-free islands concept solutions (Bottle-to-Bottle Recycling Working Group, Waste-to-Product Working Group)

### Effectiveness

This project is assessed as effective.

#### (a) Achievement of Project Purpose

Although there have been serious delay during the COVID-19 pandemic, all three Outputs have been attained and the indicator of the project purpose have mostly been achieved.

The verifiable indicators were changed into one indicator, which is “Based on the monitoring results of NWMPCS 2016-2020, the gaps and issues of the Implementation Plan are evaluated and reflected to the next term of NWMPCS”. The project clearly achieved the first half of the indicator, “the gaps and issues of the Implementation Plan are evaluated”. However, it is difficult to assess its attainment on how the gaps and issues of the Implementation Plan will be reflected in the next term of the NWMPCS, as there is no next NWMPCS yet.

#### (b) Contribution of Outputs to Project Purpose

A logical relation between Output 1 and the Project Purpose is clear, and the indicator of the Project Purpose has largely been achieved through Output 1. Since there were meaningful outputs and activities added/modified, indicators should have been changed accordingly, to reflect the reality of the project.

#### (c) Other promoting/prohibiting factors

Specific factors have not been identified.

### Efficiency

(Due to the extraordinary situation with COVID-19 pandemic, the degree of “Efficiency” was not determined.)

#### (a) Production of Outputs

Output 1 has been produced, and Output 2 and 3 have mostly been produced.

#### (b) Appropriateness of Inputs

##### <Vanuatu side>

Overall, Inputs by the Vanuatu side have been mostly appropriate in producing Outputs; however, there is not enough experienced staff in both the DEPC and the PVCC.

- Personnel: the Current Project Director, the Director of the DEPC, is a very competent and a committed C/P to the project; however, they are not able to solely commit to waste management. Without JICA experts on site, it has been very difficult to induce them to allocate their time towards the project. It used to be the situation at the PVCC; however, with the establishment of the Waste Management and Environmental Health Division, such issues were mitigated. High staff turnover is one of the biggest problems in Vanuatu, causing setbacks to the implementation of project activities.

- Office space and equipment: the DEPC and the PVCC have provided appropriate office spaces and facilities.

- Local cost: the DEPC and the PVCC bore appropriate local costs, throughout the project period, to ensure smooth implementation of activities while experts were dispatched.

##### <Japanese side>

Overall, Inputs by the Japanese side have been fairly appropriate in producing Outputs. An excavator, which was not originally included in the plan, was procured in March 2022, and it is expected to contribute the improvement of the Bouffa Landfill.

- Experts: In terms of timing and quantity, dispatch of JICA Short-term Experts was more or less appropriate before the pandemic. However, the border closure made it impossible for JICA Experts to travel, and caused major delays on the project activities which were supposed to start after April 2020. All C/Ps interviewed, thought highly of JICA experts, and expressed a strong desire for a full-time expert or experts who could

cover the whole project period.

In terms of quality, although the sub-regional project coordinator stationed in the Solomon Islands was not experienced as expected, other JICA Experts with adequate background, relevant experiences and sufficient technical level have been dispatched. They are accessible and ready to answer the technical questions asked by the C/Ps.

- Equipment: 1 Excavator (Bouffa Landfill), 1 set of equipment necessary for starting website (Vanuatu Recycle Association) and 5 Chainsaws, 5 Tablets for the assessment and Personal Protection Equipment (Disaster response equipment to DEPC) were provided under the project.

- Local cost: The necessary amount of local operation was disbursed. Local costs were mostly spent on the Local Coordinator hired under the COVID-19 pandemic in FY2021.

(c) Utilization of the region-wide activities of J-PRISM2

Among 6 Region-Wide Activities Vanuatu took parts, 4 are disaster waste related activities. Vanuatu is a land of natural disaster like Japan, and the Government of Vanuatu benefited from those trainings. The short-term experts did not particularly utilize region-wide activities of J-PRISM2.

(d) Promoting and prohibiting factors

<Promoting factors>

- The PVCC's Waste Management and Environmental Health Division was established in 2021, as a part of the PVCC's SWM Plan. Newly recruited officers are eager to learn and committed to the project.
- The JICA Vanuatu Office display very positive involvement in the project. Without the field office's determination and support, the provision of the excavator would not have been possible. Landfills need heavy equipment and the excavator will help the implementation of the PVCC's SWM plan. The JICA Vanuatu Office also helped with donor coordination and helped realize the dispatch of short-term experts from October to December 2021.

<Prohibiting factors>

- The PVCC had financial difficulties and not having heavy machinery made the Landfill situation worse. JICA provided the heavy equipment and it is expected to improve the landfill.
- Many officers in waste management have not yet been trained. Lacking the technical knowledge to deal with waste management is a big challenge. The resignation of the trained foreman of the Bouffa Landfill in 2020, combined with the fact that there had not been reliable heavy machineries at the landfill, could potentially have ruined the landfill.
- The COVID-19 pandemic prohibited experts from supporting project activities and there are still some delays.
- Project personnel changes, not only the Vanuatu side but the Japanese side, seemed to negatively influence the progress of the project.

## Impact

Overall goal and the indicator of the region-wide PDM as follows:

Overall Goal (Common):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

However, the indicator above is not verifiable, and it is impossible to examine the possibility of achieving the overall goal at the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for Vanuatu and/or the Region-Wide.

Positive impacts observed as follows:

- Positive impacts regarding the PVCC:

The management of the PVCC displayed a real interest in and made important commitments to waste management.

- (i) The establishment of the Waste Management and Environmental Health Division in the PVCC.
- (ii) The restructuring of the DEPC for further enhancement.
- (iii) The Solid Waste Management Plan 2021-2030 was approved by the PVCC.
- (iv) A collection system utilizing GPS saves fuel and allows better control over the movement of collection vehicles.
- (v) Starting to assist other parts of the country. With the facilitation of Department of Urban affairs, the



PVCC has provided training to the LMC and the SHEFA province regarding waste collection and landfill management, and conducted workshops to exchange ideas, weakness, etc. to the two groups.

• Positive impacts regarding the DEPC:

- (i) The Final Draft of the National Waste Minimization Plan (2021-2025) has been formulated.
- (ii) Lesson guidance for environmental education has been formulated (in partnership with the Ministry of Education).
- (iii) The technical capacity of disaster waste management and assisting the National Disaster Management Office has been strengthened.

• More aid coordination in waste management (Dialogue among the DEPC, the PWP and J-PRISM II regarding the Container Deposit System (CDS) was held in October 2021 to decide demarcations).

Positive impacts foreseen:

- Physical improvement on the Bouffa Landfill with the excavator provided in March 2022.
- The PVCC will potentially extend assistance to other provincial centers.
- The PWP will potentially increase budget allocation to the waste bottle collection campaign, which could have a positive impact on the CDS securing seed money.

Negative impacts have not been observed nor foreseen.

**Sustainability**

Sustainability could be fair if the staff turnover is kept in minimum level and the necessary resources are allocated and disbursed.

(a) Policy and institutional aspects

Sustainability of policy and institutional aspects is a mixed picture. Although there is no revised or updated version of the NWMPCS (2016-2020), many working and practical plans have been reviewed and created (Implementation Plan of NWMPCS, PVCC's Solid Waste Management Plan and the National Waste Minimization Plan), and the Port Vila City Waste Management Act was enacted in May 2021.

It is expected that after the organizational restructure is confirmed, results of the evaluation will be reflected to the updated/revised NWMPCS.

(b) Organizational aspects

The DEPC's organizational aspects have been gradually strengthening, and three permanent positions that were long vacant, have filled during the project period. It is under restructure, and under Environmental Protection, Waste Management & Pollution Control is expected to be enhanced further (from 3 officers including the chemical and ozone officer, to 9 officers of which, there are 4 waste management officers).

C/Ps are willing to assist other provinces in regard to waste collection and the creation of a SWM plan in the provincial level, even during the absence of JICA experts. Although there are constraints to the C/Ps' time, all C/Ps are committed to the project, and with the establishment of the WMEH Division in the PVCC, the organizational sustainability is expected to be high.

(c) Financial aspects

The PVCC had always faced financial difficulties; however, with the successful re-introduction of the pre-paid garbage bag scheme (Yellow Bag), the PVCC has secured some level of the financial security. Moreover, the Town Clerk has committed to waste management. With the SWM Plan formulated and endorsed by the PVCC, waste management has become a part of the Business Plan of the PVCC. However, the revenue from the Yellow Bag scheme and gate fees are not exclusively for waste management, and the deposit for replacing and/or purchasing essential heavy equipment and its parts should continue to be set aside.

Following the outbreak of COVID-19, almost all countries are suffering from a shortage of revenue. Therefore, it is expected that securing financial sustainability will not easily be achieved; however, it is possible for Vanuatu to secure some financial sustainability.

(d) Technical aspects

The technical capacity of the C/Ps has gradually been enhanced in terms of planning and knowledge regarding SWM, landfill management, and the 3R+Return concept, despite the communication gap during the COVID-19 pandemic. Staff turn-over is one of the most serious problems in securing sustainability of the project, and although several core C/Ps have already shown the competency to disseminate their skills and knowledge to provincial officers, more training and technical transfer is necessary. Previous training sessions were done using theoretical learning methods, including a look and learn study tour. However, future training sessions will include more hands-on practical exercises, that will provide an opportunity for C/Ps to put concepts into practice. In particular, training to enhance practical knowledge and skills

regarding landfill operations, such as how to create new cells and utilize and maintain heavy equipment is urgently needed.

#### **Influence on the COVID-19**

Due to the COVID-19 pandemic, short-term experts' travel has been restricted for almost two years since the end of March 2020. This has resulted in delays, in project activities, due to the inability to carry out plans. From October 2021 to December 2021, three experts were dispatched, and the progress of delayed activities was accelerated. However, the 3 month dispatch and the efforts of short-term experts to support project activities remotely were not enough, and Vanuatu is still in the stage of recovering to the level of pre-pandemic.

#### **IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is still relevant, the overall coherence of the project is relatively high, it is assessed as effective with good positive impacts are observed, and sustainability could be ensured if the staff turnover is kept at a minimum and the necessary resources are allocated and disbursed.

The Project Purpose is expected to be mostly achieved before the completion of the project. Therefore, it is appropriate to terminate the Vanuatu scope of the J-PRISM2 in September 2022, in accordance with the next phase commencing.

#### **V. Recommendations**

- 1) Identifying country specific verifiable indicator(s) of Overall Goal.

The Overall Goal and the indicator of Region-wide PDM are as follows:

Overall Goal (Region-wide):

Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).

Verifiable Indicator:

Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for Vanuatu

- The National Waste Management Pollution Control Strategy is up-to-date.
  - Waste Management Plans for Luganville and other provincial centers are created based on the Waste Management and Pollution Control Strategy.
  - Project activities/implementation is included in the organizational annual work plan report.
- 2) (DEPC) To try completing the
  - 3) (PVCC WM&EH) Once tourists return to Vanuatu, it is expected that the volume of waste brought into the Bouffa Landfill will increase greatly. It will be vital to find out the way to create the second cell as soon as possible. It is also necessary to utilize newly provided excavator properly. Therefore, it is worth considering to hire a reputable in-country and/or regional consultant to show how to create the second cell and how to use/maintain the heavy equipment.
  - 4) (PVCC Management) It is recommended that a detailed review on the revenue of the Yellow Bag scheme and gate fees is conducted. It will be necessary to include, not only recurrent costs related to waste collection and landfill management, but also deposit for replacing/purchasing equipment and parts and the cost of leasing equipment in an emergency.
  - 5) (The Government of Vanuatu/PVCC) Currently, the cemetery is maintained under the WM&EH Division; however, it is recommendable to review how to/who maintain the cemetery to improve efficiency in waste management.
  - 6) (JICA Vanuatu Office) To monitor the usage of the excavator, whether it is used appropriately and/or there are any problems.

#### **VI. Lessons Learnt**

- (a) COVID-19 related

- Hiring local coordinator:

it is difficult enough to get in contact with C/Ps in Vanuatu remotely, due to poor condition of the Internet,

but with staff shortages, a mounting work-load and activities with local pressure and assistance given in person being prioritized, it has been almost impossible to reach busy C/Ps. In Vanuatu, the short-term experts requested to hire a local coordinator through JICA Vanuatu Office, and it contributed to be lesser the negative impacts of the COVID-19.

Therefore, to mitigate those challenges, it is recommendable to find out a suitable solution with C/Ps, such as to hire local coordinator by JICA.

(b) Others

- Involving people in decision making positions from an early stage in the project:

If the people in high level positions are fully aware of the project and involved from the early stages, the project tends to get more assistance (strengthening the ownership of the project). It gives C/Ps confidence and potentially brings about the opportunity to get the necessary budget.

**Attachment:**

1. Project Design Matrix (PDM Version 3)
2. Plan of Operation (PO Version 3)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Republic of Fiji</b>
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**I. Project Outline**

Background	Fiji's national 3R policy has already been drafted through "the Waste Minimisation and Recycling Promotion Project", a JICA technical cooperation project implemented from October 2008 to March 2012. On the other hand, only Lautoka City Council (LCC) and Nadi Town Council (NTC) have developed a Solid Waste Management Master Plan (2009-2017) focusing on the 3Rs, while no other municipalities have not developed it. J-PRISM II has a focus on ensuring proper management of waste in accordance with National Waste Management and Pollution Control Strategy 2018-2028 by improving the waste management capacity of each municipality based on the 3Rs through strengthening the capacity of the Department of Environment.
Summary of the Project	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	Solid waste is managed appropriately based on the National Waste Management and Pollution Control Strategy 2018-2028
Outputs	Output 1: By the initiative of Department of Local Government, evidence-based policy making for waste management of local government is promoted based on 3R concept. Output 2: Pilot study(s) for 3R + Return program are implemented.
Implementing Agency	Department of Environment, Ministry of Waterways and Environment (DOE), which has a role of smooth implementation of whole waste management project and proceed with 3R+Return activity (Output 2).  Department of Local Government, Ministry of Local Government (DLG), which is expected to communicate well with municipalities and promote to develop waste management capacity in municipality level (Output 1).
Project Duration	February 2017 – September 2022 (five years and six months)
Target Group	14 counterparts (as of February 2022) Co-Project Directors (2), Co-Project Managers (2), C/Ps: DLG (5), DOE (3), All Municipal Councils (2)
Target Area/ Target Population	13 councils in Fiji (Suva, Lami, Nasinu, Nausori, Labasa, Savusavu, Levuka, Lautoka, Nadi, Sigatoka, Ba, Tavua, Rakiraki)  Approx. 499,300

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of February 2022)</b>	
Japanese Side 1) Experts (M/M) 2) 6 Short-term Experts (24.1M/M)  3) Trainings - Regional Disaster Waste Management Guideline Development Consultation Workshop - Kobotool Training for Disaster Waste Management - Regional Workshop on Waste Collection Vehicles and Heavy Machinery	Fiji Side 1) Allocation of Counterparts Two Co-Project Directors, Two Co-Project Managers and 10 C/Ps were recognized as C/Ps for the Project.  2) Local Cost: - Budget (Amount be confirmed) is provided from Ministry of Local Government to all municipal councils for waste collection service to extender area.

<p>4) Provision of Equipment There is no provision of equipment throughout the period of the Project.</p> <p>5) Local cost support: 7,297,000 JPY (approx. 63,147 USD)<sup>1</sup></p> <p>6) Hiring cars: 3,037,000 JPY (approx. 26,282 USD)</p> <p>7) Local consultants: 2,090,000 JPY (approx. 18,087 USD)</p>	<p>- In addition to that, municipal councils allocate budget to maintain waste management service to citizens.</p> <p>3) Office space - Office space with utilities for JICA experts.</p>
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## (2) Outputs

Output 1: By the initiative of Department of Local Government, Evidence-based policy making for waste management of local government is promoted based on 3R concept.	Degree of Achievement: Mostly achieved
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Indicator	Results
1-1. Format of Local Government Waste Management Plan is developed.	<u>Status: Achieved</u> The Indicator has been fully achieved. Format of the Local Government Waste Management Plan has been developed.
1-2. Training for developing Local Government Waste Management Plan is conducted by the initiative of DLG.	<u>Status: Achieved</u> The Indicator has been fully achieved. Training for developing the Local Government Waste Management Plan has been conducted by initiative of DLG. Technical guidance workshop for local government waste management master plan has been conducted twice in the project period and all 13 councils participated in the workshops.
1-3. Functional PDCA cycle for waste management between Department of Local Government and municipal councils is identified.	<u>Status: Partially achieved</u> The Indicator has been partially achieved. DLG started SWM monitoring in order to grasp the situations of SWM at each council, so that it would be possible to seek a good mechanism of Plan, Do, Check, Act cycle, which would be shared between DLG and municipalities through the waste management plan. A periodical monitoring report submission system has been in place. Municipal councils submit the monitoring report to DLG quarterly.
<u>Overall</u> Indicators 1-1 and 1-2 have been achieved as the format of the Local Government Waste Management Plan was developed and training was conducted by DLG. The Indicator 1-3, which is pertinent to the implementation of the PDCA cycle, is currently undertaken by municipal councils and it is too early to conclude that the cycle is firmly in place in all councils. Therefore, Output 1 has been mostly achieved.	

Output 2: Pilot study(s) for 3R + Return program are implemented.	Degree of Achievement: Partially achieved
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Indicator	Results
2-1. Recommendations for options of 3R+Return program are made.	<u>Status: Partially achieved</u> The Indicator has been partially achieved. DOE is in the main C/P position in the Output 2. Draft recommendations for options of regional 3R+Return program are made after the comprehensive information was collected through some separate recycling surveys, “Survey report on beverage business establishments (May 2021)”, “Survey report on recycling establishments (May 2021)” and “Data Collection Survey on promotion of recycling plastics and other materials in Pacific Island Countries (September 2021)”. The draft recommendations prepared on the basis of

<sup>1</sup> JICA Official rate in March 2022 (1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

	the above reports will be finalised after the comments and discussions among the stakeholders toward the end of project.
<u>Overall</u> Output 2 has been partially achieved.	
<b>(3) Project Purpose:</b> Solid waste is managed appropriately based on the National Waste Management and Pollution Control Strategy 2018-2028.	
Degree of Achievement: Mostly achieved	
<b>Indicator</b>	<b>Results</b>
1. Waste management plan of 8 municipal councils is formulated.	<u>Status: Mostly achieved</u> The indicator has been mostly achieved. Draft waste management plans of 13 municipal councils were prepared by February 2021. All the councils have been working with the project experts to update and finalise it as soon as possible.
2. Waste management indicators in NWMPCS 2018-2028 are figured out in Local government waste management plans.	<u>Status: Achieved</u> As the meaning of 'figured out' was not clear, the evaluation team interpreted it as the indicators being 'identified and set' in the local governments' waste management plans based on NWMPCS. Waste management indicators have been identified and set in the local government waste management plans. The achievement status of these indicators has been reported from the councils to DLG through regular monitoring reports introduced in 2021. While the reporting mechanism needs to be improved, waste management indicators have been figured out and therefore this Indicator can be said to have been achieved.
3. Roadmap for waste management coverage to rural area is identified based on Local government waste management plan.	<u>Status: Achieved</u> The indicator has been mostly achieved. A draft roadmap for waste management coverage to rural area was identified based on the local government waste management plan, which was presented in a virtual workshop on May 2021. This coverage plan will be further elaborated and finalised by July 2022.
<u>Overall</u> The indicators set for the Project Purpose were all related to the formulation of the plans or identification of indicators at the local government levels without any of them referring to the adequate implementation of such plans. Another indicator defining 'appropriate management' of solid waste should have been added to measure the level of achievement of the Project Purpose. Most of the planned activities have been carried out and the indicators for the Project Purpose can be said to have been mostly achieved. It is important to ensure that the local government waste management plan will be finalised in all 13 councils, including the procedure for monitoring and reporting of the indicators as well as the roadmap to cover rural areas.	
<b>(4) Project Implementation Process</b>	
- Project Management The project experts have found that the Joint Coordinating Committee (JCC) has not necessarily functioned as an effective decision-making body because of the lack of active participation by some stakeholders in the meeting. Although the JCC meetings were held more than once a year during the period before the spread of COVID-19, it was held only once after the Fijian border was closed due to COVID-19. It was also difficult to proceed with the activities needed to achieve the Outputs and the Project Purpose during the lockdown period, when even the virtual meetings and workshops could not be conducted.	
- Implementation/Monitoring System The monitoring of the project progress has been regularly conducted every six months by utilising the monitoring sheet. PDM and PO have been constantly referenced in the monitoring activity.	

Therefore, it can be said that there has been no problem in terms of the implementation and monitoring of the project activities and achievements. However, during the initial stage of the project, not everything was explained in the monitoring sheets and it was often difficult to capture the current status and challenges from the sheets though this issue was rectified during the course of the project.

**- Method of Technical Transfer**

The number of municipalities involved in the project is 13, covering the entire country and it was regarded as a big challenge to fully achieve the Outputs and the Project Purpose in all councils. To solve this issue, DLG and project assistants have been asked to take the lead in conducting the activities of technical transfer, especially during the period affected by COVID-19. A capacity assessment for C/Ps has been implemented with a check list created during the Phase 1 and the result of capacity assessment was fed back properly to C/Ps.

**- Communication within the project**

Communication between the project experts and C/Ps has been well managed but it would have been more desirable to maintain close communications between DOE and the project experts in promoting 3R+Return activities. Also, the COVID-19 has hampered travels of project experts and direct technical cooperation activities in Fiji since the end of March 2020. This has resulted in certain delays in project activities. However, the project team adopted an alternative method of training; remote online training programmes and regular web-based meetings. While it is best to conduct training programmes in person, the online programmes were still effective as it provided more flexibility in terms of the schedule of training sessions.

Despite these obstacles, those involved in the project tried to communicate with each other to proceed with the planned activities especially during the extended period of the project.

**III. Results of Analysis from the viewpoint of Six Evaluation Standards**

**Relevance**

Evaluation: Relevance of the project is high.

This project is consistent with the Cleaner Pacific 2025 and the National Waste Management and Pollution Control Strategy 2018-2028, though the latter has not been fully finalised yet within the Fijian Government. This project is also consistent with the development needs of Fiji. In Fiji, almost all imported goods such as consumer durables and daily necessities are left as waste in the island, including packaging materials. Therefore, the proper disposal and reduction of waste has remained as a major need for Fiji.

Based on the above, this project has been consistent with the regional and national development plans, Fiji's development needs to provide adequate waste collection services in all parts of the country. Therefore, the relevance of the project is high.

**Coherence**

Evaluation: Coherence of the project is high.

This project is consistent with the Japanese ODA Policy in which the environment and climate control is one of the high priority areas. The result of previous J-PRISM and 3R project has been utilised well for J-PRISM II. In addition, some JOCVs were involved in this project and grant assistance for grass-roots project has been provided. It can be said that this project is coherent with other Japanese ODA schemes.

The Pac Waste Plus program has been implemented by SPREP with the funding support from EU. Also, International Union for Conservation of Nature (IUCN), Pacific Regional Infrastructure Facility (PRIF), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and USAID have provided support for waste management and held meetings with J-PRISM II to share project-related information to avoid duplications and to complement each other's activities. Therefore, this project is highly coherent with activities of other development partners.

In light of the above, it can be said that the coherence of this project is high.

**Effectiveness**

Evaluation: Effectiveness of the project is moderately high.

**Achievement of Project Purpose**

As mentioned above, the Project Purpose has been mostly achieved.

#### Contribution of Outputs to Project Purpose

Two outputs have been contributing to the achievement of the Project Purpose in the following manner. Under Output 1, the format of Local Government Waste Management Plan has been developed and training for developing Local Government Waste Management Plan has been conducted with the initiative of DLG. Under Output 2, recommendations for options of regional 3R+Return program are made in collaboration with JICA recycling survey. The recommendations will be commented by the counterparts toward the end of project. Both Outputs have been effectively related to each other and also the Project Purpose to achieve expected outcome.

#### Other promoting/inhibiting factors

Promoting factors: Cooperation between DLG and municipalities has been favourable in the project, which contributed to the achievement of the Outputs and the Project Purpose. In addition, local staff hired in the middle of the project, who was a former officer of DOE, highly contributed to the achievement through her dedication to the activities such as following-up of project activities during the absence of short-term experts (supervision of implementation of outsourced waste surveys, etc.).

Inhibiting factors: A number of stakeholders have been involved in the project and it was sometimes difficult to communicate with each other to promote project-related activities, particularly during the period heavily affected by COVID-19.

### **Efficiency**

(Due to the extraordinary situation with COVID-19 pandemic, the degree of “Efficiency” was not determined.)

#### Production of Outputs

The Outputs have been mostly produced as planned.

#### Appropriateness of Inputs

##### ➤ From Fiji

Inputs from Fiji are generally appropriate in generating Outputs.

##### ➤ From Japan

Inputs from Japan are mostly appropriate in terms of quantity, quality and timing. Technical training of J-PRISM II that C/Ps and municipalities participated in has increased their capacity and motivation toward the project. As the promoting factors, provision of equipment from grant assistance for grass-roots project has also contributed to raising motivation of C/Ps. JICA experts could efficiently conduct online meetings and training as necessary in accordance with the plan during the period when they could not travel to Fiji due to COVID-19.

#### Utilization of external resources

It was identified that effective utilization of external resources has increased the efficiency of the Project. The project has made a good use of other scheme of Japanese assistance such as JOCVs. Other development partners such as EU, IUCN, PRIF, UNESCAP and USAID have provided support for waste management in Fiji.

Based on the above, the Project has had necessary inputs to generate expected Outputs (and Project Purpose) despite some delays caused by the factors unforeseeable at the time of project planning. Therefore, the efficiency of the project is high.

### **Impact**

Evaluation: Impact of the project is high.

#### Impact at Overall Goal level

Considering the current degree of achievement of Outputs and Project Purpose, the likelihood of achieving the overall goal for Fiji is high. However, it is important that the remaining activities be conducted by the end of the project period.

#### Other impacts

##### ➤ Positive impacts

Draft waste management plans of all targeted municipalities have been developed and continuously monitored



since then. This has resulted in the DLG being able to set a foundation for appropriate policies, such as the expansion of waste collection services in rural areas.

➤ Negative impacts

No negative impact was observed.

### **Sustainability**

Evaluation: Sustainability of the project is moderate.

(1) Policy and Institutional aspects

The policies pertinent to waste management, as seen in the section of 'Relevance' above, has been consistent and positioned as one of the key areas to be improved. While it should be noted that the National Waste Management and Pollution Control Strategy 2018-2028, the overarching policy on waste management in Fiji, has not been finalised, the importance of waste management has remained unchanged. Also, DOE has launched a 7R policy in March 2022 (rethinking, refusing, reducing, repurposing, reusing, recycling and recovering). Therefore, policy and institutional aspects of waste management can be said to be sustainable.

(2) Organizational aspects

DLG and municipal councils have positively participated in the project and have enough ability to manage it. In terms of ownership of the project, it should be well noted that DLG has played a role as the hub among municipalities and other stakeholders to promote the project although there is no expert officer on solid waste management in DLG. To expand and establish waste collection services in all of Fiji, the role of each council will be of great importance.

(3) Financial aspects

While the budget for waste collection services in Fiji is not generally sufficient, the Government also takes the budgetary measures on solid waste management each year and it is expected that the budget will be allocated for the next phase. There are no serious sustainability issues in terms of the financial aspects, but additional funding is needed in expanding the services and developing adequate landfills throughout the country.

(4) Technical aspects

It is confirmed that most of the knowledge and technologies transferred such as data management and monitoring through the project activities are appropriate and timely in the context of Fiji. In terms of training, some municipalities participated in the training such as web training on garbage truck held in Micronesia region or survey on quality and quantity of waste, in addition to the training workshop within Fiji. There are no major issues in terms of the sustainability of the technical aspects.

(5) Others

There is no possibility or likelihood that the lack of attention to vulnerable groups will prevent the effects of the implementation of the project. The waste management services will benefit all residents of Fiji by creating hygienic living environment.

### **Influence on the COVID-19**

The major issue was the impact of COVID-19 that caused hindrance to timely implementation of the project. COVID-19 made it difficult for JICA experts to communicate smoothly with C/Ps. In addition, JCC was held only once a year due to COVID-19.

## **IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is still relevant, the overall coherence of the project is relatively high, effective, some positive impacts are observed, and sustainability could be relatively ensured.

Outputs were mostly achieved, and the Project Purpose has been successfully achieved before completion of the project. Therefore, it is expected to terminate the J-PRISM2 on September 2022.

## **IV. Recommendations**

**To the Project (Implementing Agencies, JICA country experts, the Project Office experts and JICA Fiji Office)**

<Before the completion of the project in September 2022>

Announcement of the outcomes of the project to the public

It is clear that the project contributed to C/Ps in developing their capacity on solid waste management. However, since the main activities of the project were planning and monitoring, and there were not many remarkable activities that can be seen easily from those not involved in the project. There is a need to appeal for publicity opportunities during the remainder of the project period. It will be important to create an opportunity to unveil the municipality's master plan so that it can be widely publicized to the media, relevant organizations, and the general public.

<Identifying country-specific verifiable indicator(s) of Overall Goal>

The Overall Goal and the indicator for the region-wide PDM are as follows.

Overall Goal (Region-wide): Sustainable management of solid waste management in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025)
Verifiable Indicator: Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for Fiji

- A 3R+Return programme is developed in Fiji.
- Waste management services are expanded into rural areas (the nationwide population coverage exceeds 70%).
- Fiji's experiences in the programmes of 3R+Return and waste management in rural areas are shared in the Pacific region and at least one country adopt a component of the programmes.

**To all C/Ps**

<Before the completion of the project in September 2022>

Recommendations for options of 3R+Return program (Output 2)

In this project, a pilot study for 3R + Return was conducted and C/Ps are expected to comment on the program in order to finalize it within the end of project. It can be a foundation for the subsequent activities to be implemented for the next several years to firmly establish the 3R + Return system in Fiji.

**To DLG**

<To achieve the Overall Goal after the completion of the project>

Assigning an expert officer on solid waste management in DLG

To maintain and develop the organizational and personal capacity obtained through the project, it will be highly recommended to set an expert officer on solid waste management in DLG who can play a coordinating and directing role in building the capacities of the municipal councils.

**To DOE**

<Before the completion of the project in September 2022 and to achieve the Overall Goal after the completion of the project>

Commitment to the project on solid waste management

It is hoped that DOE will formulate and implement SWM policies and programmes in close collaboration with the project through frequent communications with JICA experts, DLG and municipal councils in order to promote an effective solid waste management system in Fiji. It is also desirable that DOE will provide technical advice to DLG as necessary when they promote waste management-related activities with local governments.

**To JICA Experts**

<Before the completion of the project in September 2022>

Ensuring the implementation of all the remaining activities to fully achieve the Outputs and the Project Purpose

While a lot of progress has been made through this project, particularly the expansion of more established waste management services throughout the country, the activities were heavily interrupted by COVID-19. Toward to the completion of the project, it will be highly essential to expedite the implementation of all remaining activities necessary to achieve the Outputs and the Project Purpose. It is also important to formulate a way forward for all the municipal councils to continue the activities based on the achievement in this project.

**Attachment:**

1. Project Design Matrix (Latest version)
2. Plan of Operation (Latest version)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>Kingdom of Tonga</b>
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**I. Project Outline**

Background	<p>J-PRISM I addressed the introduction of a community-based collection service system on Vava'u Island and the improvement of the Kalaka landfill site in Vava'u through the introduction of the Fukuoka Method.</p> <p>On the other hand, the Kalaka landfill site was still facing challenges in terms of proper waste management and maintenance system due to the limited processing capacity of the voluntary collection service and the lack of effective transfer of skills and knowledge. In addition, proper waste management services had not been introduced on remote islands such as Ha'apai and 'Eua, and the landfill sites were experiencing problems of open burning and mass dumping of rubbish, which had negative impacts on the local community.</p> <p>J-PRISM II has focused on improving the waste management capacity of Waste Authority Limited (WAL), the main waste management service provider in Tongatapu and Vava'u. The project is expected to strengthen the community participation collection system and improve the disposal capacity of the Kalaka landfill site, which was implemented in Vava'u in J-PRISM I, and also scope the expansion of the project to other remote islands such as Ha'apai and 'Eua.</p>
Summary of the Project	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	A foundation of sustainable solid waste management is built in the Tongan outer islands, with emphasis on practical implementation.
Outputs	<p>Output 1: WAL's 5 year business plan for expanding waste management services throughout Tonga is formulated.</p> <p>Output 2: WAL's capacity on implementation of sustainable SWM in the Tongan outer islands is strengthened through providing waste management service in Vava'u.</p> <p>Output 3: SWM action plans for the main islands of Ha'apai and 'Eua are developed.</p> <p>Output 4: WAL's capacity on implementation of sustainable SWM in the Tongan outer islands is strengthened through providing waste management service in Ha'apai and 'Eua.</p>
Implementing Agency	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), Ministry of Health (MOH), Waste Authority Limited (WAL)
Project Duration	February 2017 – September 2022 (five years and six months)
Target Group	17 counterparts (as of February 2022) Co-Project Directors (2), Project Manager (1), C/Ps: MEIDECC (6), MOH (3), WAL (5)
Target Area/ Target Population	Tongatapu, Vava'u, Ha'apai, 'Eua Approx. 99,000

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of February 2022)</b>	
<p>Japanese Side</p> <p>1) Experts (M/M)</p> <p style="padding-left: 20px;">- 6 Short-term Experts (14.8M/M)</p> <p>2) Trainings</p> <p style="padding-left: 20px;">- Regional Disaster Waste Management Guideline Development Consultation</p>	<p>Tonga Side</p> <p>1) Allocation of Counterparts</p> <p style="padding-left: 20px;">Two Co-Project Directors, one Project Manager and 14 C/Ps were recognized as C/Ps for the Project.</p> <p>2) Local Cost:</p> <p style="padding-left: 20px;">- WAL bore local costs throughout the project</p>

<p>Workshop</p> <ul style="list-style-type: none"> <li>- Kobotool Training for Disaster Waste Management</li> <li>- Workshop on Waste Collection Vehicles and Heavy Machinery</li> </ul> <p>3) Provision of Equipment</p> <ul style="list-style-type: none"> <li>- Four electronic tablet devices were provided in May 2022 through JICA Tonga Office to WAL in order to record data and information in the field during the assessment of waste generated by natural disasters.</li> <li>- Fuel required for heavy machinery to operate in the four landfill sites in Tongatapu, Vavau, Ha'apai, and 'Eua.</li> </ul> <p>4) Local cost support: 3,168,000 JPY (approx. 27,416 USD)<sup>1</sup></p> <ul style="list-style-type: none"> <li>- Hiring cars: 1,628,000 JPY (approx. 14,089 USD)</li> <li>- Travel fees: 1,179,000 (approx. 10,203 USD)</li> </ul>	<p>period to ensure smooth implementation of the activities while experts were dispatched.</p> <p>3) Office space</p> <ul style="list-style-type: none"> <li>- WAL has provided appropriate office spaces and facilities.</li> </ul>
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**(2) Outputs**

Output 1: WAL's 5 year business plan for expanding waste management services throughout Tonga is formulated.	Degree of Achievement: Already achieved
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Indicator	Results
1-1. WAL's 5 year business plan for providing waste management services in the Tongan outer islands is approved by WAL board meeting and submitted to Ministry of Public Enterprise.	<p><u>Status: Achieved</u>            WAL's 5 years business plan in the "Combined Utilities Business Plan 2018-2022", was approved by the combined utilities board, and submitted to Ministry of Public Enterprise in 2018.</p> <p>The Indicator has been achieved.</p>
1-2. Necessary human resources, technical support, infrastructure, capital are incorporated into the business plan.	<p><u>Status: Achieved</u>            Necessary human resources, technical support, infrastructure and capital are all stated in the "WAL's Business Plan" and "Waste Management Service Plan" for Vava'u, Ha'apai, and 'Eua.</p> <p>The Indicator has been achieved.</p>
1-3. Mid-long term of WAL's objectives and strategies are specified in 5 years Business Plan.	<p><u>Status: Achieved</u>            Mid-long term of WAL's objectives and strategies have been stated in the "Combined Utilities Business Plan 2018-2022" and "WAL's annual business plan".</p> <p>The indicator has been achieved.</p>
<p><u>Overall</u>            Output 1 has been achieved.</p>	

Output 2: WAL's capacity on implementation of sustainable SWM in	Degree of Achievement:
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<sup>1</sup> JICA Official rate in March 2022 (1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

the Tongan outer islands is strengthened through providing waste management service in Vava'u.		Achieved
<b>Indicator</b>	<b>Results</b>	
2-1. WAL collects solid waste in accordance with the collection schedule in Vava'u.	<p><u>Status: Achieved</u> WAL Vava'u Office has been providing collection services based on the collection schedule, since April 2018.</p> <p>The indicator has been achieved.</p>	
2-2 WAL operates and maintains Kalaka landfill site according to O&M manual to be updated through OJT.	<p><u>Status: Achieved</u> The indicator has been achieved. WAL drafted the O&amp;M manual of the landfill and has operated and maintained the Kalaka landfill site accordingly.</p>	
2-3 WAL Vava'u office manages waste collection and landfill activities in accordance with the monitoring sheet of service operation for Vava'u office.	<p><u>Status: Achieved</u> The indicator has been achieved. The manager of the WAL Vava'u Office monitors incoming waste volumes and the types of waste by using the monitoring sheet of service operation, and manages the operations.</p>	
<u>Overall</u> Output 2 has been achieved.		
Output 3: SWM action plans for the main islands of Ha'apai and 'Eua are developed.		Degree of Achievement: Achieved
<b>Indicator</b>	<b>Results</b>	
3-1 Actual situation of solid waste management in the main islands of Ha'apai and 'Eua is grasped.	<p><u>Status: Achieved</u> The indicator has been achieved. Baseline survey and stakeholder meetings were conducted in Ha'apai and 'Eua.</p>	
3-2 WAL identifies the issues to be solved for providing solid waste management service in the main islands of Ha'apai and 'Eua.	<p><u>Status: Achieved</u> Stakeholder meetings were held several times in Ha'apai and 'Eua. At those meetings, some issues related to waste management were identified and discussed, such as road conditions used for waste collection/landfill management and the procurement of equipment for waste management. With regards to the latter issue, WAL procured two trucks with open tray for Ha'apai. Another main issue that was raised in the meetings with stakeholders in Ha'apai and 'Eua, was regarding septic waste collection. As there was no regular service available in these islands for septic tanks, septic tanks and septic trucks need to be provided in the near future. It can be said that the indicator has been mostly achieved since the discussion to grasp the issues on waste management had been done and some measures to solve the issues were taken.</p>	
<u>Overall</u> Output 3 has been achieved.		
Output 4: WAL's capacity on implementation of sustainable SWM in the Tongan outer islands is strengthened through providing waste management service in Ha'apai and 'Eua.		Degree of Achievement: Partially achieved.

Indicator	Results
4-1 WAL collects solid waste in accordance with the collection schedule in Ha'apai and 'Eua.	<u>Status: Achieved</u> WAL started waste management services in 'Eua in October 2020, and Ha'apai in November 2020. During the period when the experts could not visit Tonga due to travel restrictions caused by COVID-19, WAL Vava'u office carried out waste collection, landfill management and monitoring in Ha'apai and 'Eua, based on the advice from the experts. Therefore, they were able to collect solid waste according to the collection schedule for more than one year after they commenced the services. The indicator has been achieved.
4-2: WAL office manages waste collection and landfill activities in accordance with the monitoring sheet of service operation.	<u>Status: 50%</u> The indicator has been partly achieved. WAL 'Eua and Ha'apai offices manage waste collection and landfill activities, based on one of the monitoring sheets of service operation, but there are difficulties in recording and compiling the recorded data. In order to understand the current monitoring system and data flow, experts conducted interviews with C/Ps of Ha'apai and 'Eua. In Ha'apai. However, as there are no staff members, gate and fence in the dumping site, it is difficult to record the number of incoming vehicles and types of waste in the monitoring sheet. In 'Eua, the records of monitoring sheets are not digitalized due to the lack of computer skills and awareness of the monitoring purpose.
<u>Overall</u> Output 4 has been partially achieved. Output 4 was added at the 3 <sup>rd</sup> JCC with the aim of expanding the waste management service by WAL to other outer islands following Vava'u island. Although Output 3 is limited to the activity of formulation of an action plan, Output 4 is considered to be an ambitious one as it even refers to activities to promote the service in outer islands. On the other hand, since Output 4 was added after the spread of COVID-19 infection, the activities for this Output were not necessarily carried out as originally planned.	
<b>(3) Project Purpose:</b> A foundation of sustainable solid waste management is built in the Tongan outer islands, with emphasis on practical implementation.	
Degree of Achievement: Achieved	
Indicator	Results
1. SWM action plan of Tongan outer islands is reflected in WAL's 5 year business plan.	<u>Status: Achieved</u> The indicator has been achieved. The action plans for service extension to the outer island (Vava'u, Ha'apai, and 'Eua islands) has reflected the existing WAL's five-year business plan.
2. 100% of households in the main island of Vava'u receive waste collection service provided by WAL by the end of the Project.	<u>Status: Achieved</u> The indicator has been achieved. All the households which discharge solid waste in the main island of Vava'u have been receiving the waste collection service.
3. The waste fee collection rate in Vava'u exceeds 80% due to the improvement of public awareness.	<u>Status: Achieved</u> The indicator has been achieved. The average monthly rate was 87% between July 2018 and June 2019.
<u>Overall</u> The Project Purpose has been achieved.	
<b>(4) Project Implementation Process</b>	
- Project Management The Joint Coordinating Committee (JCC) meetings were held once in each phase of the project and effectively worked to manage the project as a decision-making body although the 4 <sup>th</sup> meeting has not been held due to the COVID-19.	

Table 1 Date of the Joint Coordinating Committee (JCC)

Phase	Contents	Date
Phase I	The 1 <sup>st</sup> Joint Coordinating Committee (JCC) Meeting	April 18, 2018
Phase II	The 2 <sup>nd</sup> Joint Coordinating Committee (JCC) Meeting	July 10, 2019
Phase III	The 3 <sup>rd</sup> Joint Coordinating Committee (JCC) Meeting	October 22, 2020

**- Implementation/Monitoring System**

The monitoring for the project has been regularly carried out every six months by using the monitoring sheet. Weekly and monthly reports were also created for the monitoring purpose. PDM and PO have been constantly referenced during the monitoring period. As for the creation of the monitoring sheets, expert firstly drafted them and C/Ps confirmed them. When the PO needs to be changed, the JCC officially decided to change it after experts and C/Ps considered and discussed if the change is needed.

Therefore, it can be said that there has been no problem in terms of the implementation and monitoring of the project activities and achievements.

**- Method of Technical Transfer**

The approach to develop the technical capacity of C/Ps by JICA experts has highly contributed to transferring technologies on solid waste management by using appropriate materials for data management, training for maintenance of garbage collection trucks and capacity assessment check list, etc. Through the introduction and implementation of such activities, C/Ps generally enhanced their capacities to smoothly carry out their tasks.

**- Communication within the project**

No particular issues have been observed in terms of the communication among implementing agencies (WAL, MEIDECC and MOH), JICA, JICA experts, local stakeholders and other development partners. However, as the actual waste collection services have been provided solely by WAL, with MEIDECC and MOH being in charge of policy-related aspects, the majority of the project activities were carried out to develop the capacity of the WAL staff. However, the roles of the ministries and public enterprises are different, and while MEIDECC and MOH have not been involved in the activities all the time, they played their roles in managing the policies, and WAL enhanced their operational capacities in Vava'u and other outer islands.

Also, the COVID-19 has hampered travels of project experts and direct technical cooperation activities in Tonga since the end of March 2020. This has resulted in certain delays in project activities. However, the project team adopted an alternative method of training; remote online training programmes and regular web-based meetings. While it is best to conduct training programmes in person, the online programmes were still effective as it provided more flexibility in terms of the schedule of training sessions.

Another major factor affecting the communication between the project experts and the counterparts was the volcanic eruption which occurred in January 2022. The Internet connection became unstable soon after the eruption, resulting in the inability to communicate with each other to carry out planned remote activities including regular web-meetings.

Despite these obstacles, those involved in the project tried to communicate with each other to proceed with the planned activities especially during the extended period of the project.

**III. Results of Analysis from the viewpoint of Six Evaluation Standards**

**Relevance**

Relevance of the project is high.

This project has been consistent with the priorities of Cleaner Pacific 2025, Tonga Strategic Development Framework 2015-2025 (TSDF II) and Draft National Integrated Waste Management Strategy.

This project is also relevant with the development needs of Tonga because waste landfill sites have been available only in Tongatapu and Vava'u, and the one in Vava'u is now reaching its maximum capacity, requiring a new landfill site to be developed. In other outer islands, no adequate landfill has been developed and there is a lack of collection services,

Based on the above, this project has been consistent with the regional and national development plans, Tonga's development needs to provide adequate waste collection services in all parts of the country. Therefore, the



relevance of the project is high.

### **Coherence**

Coherence of the project is high.

The project is consistent with Japan's ODA Policy in which the environment and climate control is one of the high priority areas.

In relation to internal coherence within Japanese assistance, there has been a long-term cooperation in the field of waste management in the Pacific. In Tonga, assistance in this area started with the implementation of the previous phase (J-PRISM I), and the result of it has been utilized in J-PRISM II as the focused target area was the same (Vava'u). In addition, garbage collection trucks were provided in Vava'u and Ha'apai under the Grant Aid for Grassroots Human Security. Therefore, this project is highly coherent with other support extended through the Japanese ODA schemes.

From international perspective, ADB, Australian High Commission, Peace Corp (Small Project Assistance Fund) and USAID (Diplomatic Grants Program) have provided support in the area of waste management. J-PRISM II has been implemented without duplication the activities supported by other development partners.

In light of the above, it can be said that the coherence of this project is high.

### **Effectiveness**

Effectiveness of the project is high.

#### Achievement of Project Purpose

As mentioned above, the Project Purpose has been achieved.

#### Contribution of Outputs to Project Purpose

Four Outputs are necessary and sufficient components to achieve the Project Purpose and three Outputs have been already achieved. Although Output 4 is yet to be achieved because OJTs from JICA experts to Ha'apai and 'Eua have not been implemented, the counterpart in Vava'u has started to support solid waste management in these islands to achieve Output 4 with his own initiative.

Once Output 4 is achieved, the Project Purpose and all Outputs can be said to be fully achieved in all aspects.

#### Other promoting/inhibiting factors

Promoting factors: WAL has highly contributed to the achievement of the Project Purpose by taking the initiative to expand solid waste management system to outer islands in Tonga. The system has been well established in Vava'u, which is a great achievement, then the efforts are currently being made in Ha'apai and 'Eua despite the adverse influences of COVID-19 and the volcanic eruption.

Inhibiting factors: There are not inhibiting factors seriously affected to the achievement of the Project Purpose, apart from the two events mentioned above.

### **Efficiency**

(Due to the extraordinary situation with COVID-19 pandemic, the degree of "Efficiency" was not determined.)

#### Production of Outputs

The Outputs have been mostly generated as planned.

#### Appropriateness of Inputs

##### ➤ From Tonga

Inputs from Tonga have been appropriate in terms of quantity, quality and timing, particularly those from WAL as an organization directly providing the services.

##### ➤ From Japan

Inputs from Japan have been fairly appropriate in terms of quantity, quality and timing. JICA experts could efficiently conduct online meeting and training as necessary during the period when they could not be dispatched in accordance with the plan due to COVID-19.

#### Utilization of external resources

It was identified that effective utilization of external resources has increased the efficiency of the Project.

The project has made a good use of other schemes of Japanese assistance such as Grant Aid for Grassroots Human Security for garbage collection trucks. Other development partners such as ADB, Australian High Commission,

Peace Corp and USAID have provided support for waste management in Tonga.

Based on the above, the Project has had necessary inputs to generate expected Outputs (and Project Purpose) despite some delays caused by the factors unforeseeable at the time of project planning.

### **Impact**

Impact of the project is high.

#### Impact at Overall Goal level

Considering the current degree of achievement of Outputs and Project Purpose, the likelihood of achieving the Overall Goal in Tonga is high.

#### Other impacts

##### ➤ Positive impacts

The project has observed that the awareness on waste management has been raised among the local residents in Vava'u by establishing the waste collection system which had never existed before, which is represented in the high rate of waste fees paid to WAL. The same procedure is being established in other outer islands of Ha'apai and 'Eua, and it is expected that the awareness among the residents will be raised as well.

##### ➤ Negative impacts

Waste collection system has been established in targeted outer islands such as Vava'u, 'Eua and Ha'apai. However, there is a possibility that waste disposed at the dumpsite will negatively affect the environment and the people living near the dumpsites. In this regard, there is a need to improve the existing dumpsites or develop appropriate landfills in these islands as well.

### **Sustainability**

Sustainability of the project is high.

#### (1) Policy and Institutional aspects

The policies pertinent to waste management, as seen in the section of 'Relevance' above, has been consistent and positioned as one of the key areas to be improved. Also, Tonga has Waste Management Act 2005 and WAL has been effectively providing waste management services under the Act. Therefore, policy and institutional aspects of waste management can be said to be sustainable.

#### (2) Organizational aspects

There is no notable problem on the sustainability of the implementation of the project in terms of organizational aspects. MEIDECC and MOH have mainly handled the solid waste management policy/system in their jurisdictions. WAL has been positively taken the initiative on the overall solid waste management in Tonga as an implementation authority. It should be noted that WAL has spread their waste collection services and recently established their offices in three main islands (Vava'u, Ha'apai and 'Eua).

#### (3) Financial aspects

As the waste fees are now collected together with electricity bills, WAL has an independent means of financial income to enable their operations to proceed smoothly. The government will also secure the budget on solid waste management within current activities. If additional activities such as the development of a new landfill or purchase of new waste collection trucks are needed, additional funding from the government will be required. As the service coverage is planned to be expanded, this issue needs to be closely considered and discussed.

#### (4) Technical aspects

It is confirmed that a lot of knowledge and technologies have been transferred to C/Ps through the project. WAL has been actively promoting the waste management services in outer islands and they have sufficient technical skills for expanding the waste management system. There are no sustainability issues in terms of the technical aspects of the WAL staff.

#### (5) Others

There is no possibility or likelihood that the lack of attention to vulnerable groups will prevent the effects of the implementation of the project. The waste management services will benefit all residents of Tonga by creating hygienic living environment.

**Influence of the COVID-19**  
 COVID-19 made it difficult for JICA experts to communicate smoothly with C/Ps especially in 2020, when the pandemic expanded in the world and Tonga closed its border, because they could not visit to Tonga as planned, which also resulted that JCC was held only once a year after the pandemic of COVID-19.

**IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is relevant, the overall coherence of the project is relatively high, effective, some positive impacts are observed, and sustainability is expected to be ensured.  
 The Outputs were mostly achieved, and the Project Purpose has been successfully achieved before completion of the project.

**IV. Recommendations**

**To the Project**  
Identifying country-specific verifiable indicator(s) of Overall Goal  
 The Overall Goal and the indicator for the region-wide PDM are as follows.

Overall Goal (Region-wide): Sustainable management of solid waste management in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025)
Verifiable Indicator: Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for Tonga

- All households in the main islands of Tongatapu, Vava’u, Ha’apai and ‘Eua receive waste collection services provided by WAL.
- Landfills are developed and operated sustainably in Tongatapu, Vava’u, Ha’apai and ‘Eua.
- The waste fee collection rate exceeds 80% in Tongatapu, Vava’u, Ha’apai and ‘Eua.
- Possibility of the waste fee collection system (e.g. joint billing with electricity) in Tonga is explored in other countries in the Pacific region.

**To WAL**  
 <Before the completion date of the project in September 2022>  
Hiring expert on solid waste management for expanding the service to outer islands  
 WAL has been able to manage their own service currently. However, there is not a person who has expertise on waste management system or knowledge of engineering. WAL could spread their business more effectively and efficiently if such experts were hired.

**To MEIDECC and MOH**  
 <To achieve the Overall Goal after the completion of the project>  
Active involvement of the Ministries in charge of waste management  
 Waste management in Tonga is closely related to the Tongan environment and the healthy lives of its people, and it is expected that the environmental impacts need to be more closely monitored as the coverage of waste collection services expands and the landfills are improved/developed. Active involvement of MEIDECC and MOH will enable smooth expansion of waste management services in all islands in terms of coordination among various stakeholders, environmental monitoring and so on. It is recommended that MEIDECC, MOH and WAL maintain close communications so that any potential or emerging issues will be rectified appropriately.

**To Government of Tonga (financial aspect)**  
 <To achieve the Overall Goal after the completion of the project>  
Securing the budget for additional activities on solid waste management  
 The project has advanced waste management system in Tonga forward. As the waste collection services expand, the landfill needs to cater for an increased volume of waste collected in an environmentally-friendly method. While WAL has been collecting fees at a high rate, the improvement of the dumpsite or construction of a new landfill will require financial assistance from the government. It is considered to be essential to secure the budget for appropriate landfills in all islands. At the time of terminal evaluation, landfills are needed in Ha’apai and ‘Eua

as well as Vava'u. Therefore, it will be important to set aside the budget for landfill development in outer islands.

**Attachment:**

1. Project Design Matrix (Latest version)
2. Plan of Operation (Latest version)

**Terminal Evaluation Report for the Japanese Technical Cooperation Project  
for “Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II”  
(J-PRISM2)**

	<b>The Independent State of Samoa</b>
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**I. Project Outline**

<b>Background</b>	Waste Management has become a major issue in Samoa. The recycling component of the waste management system needs a lot of attention, as both the recovery of materials and the circular economy concept need to be promoted. Despite Samoa, like other PICs (Pacific Island Countries), being a small scale economy, the influx in the diversity of products/goods and packaging has resulted in diverse waste streams, which needed to be addressed. Furthermore, recycling is a critical component of the sustainable waste management process. Recovering, collecting, processing and exporting recyclable materials to overseas markets is essential for Samoa and the region. Promotion of the Circular Economy through recycling will enhance waste management in Samoa. JICA and SPREP have been actively assisting Samoa through various J-PRISM waste management programs. Regional and international cooperation between sustainable partnerships, not only to ensure appropriate and good practice for waste, but also building up the institutional capacity of the sector.
<b>Summary of the Project</b>	See Attachment 1 (PDM) and 2 (PO) for details
Country Project Purpose	Solid waste is appropriately managed based on the National Waste Management Strategy (NWMS). <sup>1</sup>
Outputs	Output 1: National Solid Waste Management Strategy (NSWMS) is developed. Output 2: Rubbish collection monitoring system is established. Output 3: Feasibility study on financial option (user pay system) is implemented.
Implementing Agency	Division of Environment and Conservation (DEC), Ministry of Natural Resources and Environment (MNRE)
Project Duration	February 2017 – September 2022 (five years and six months)
Target Group	9 Counterparts of MNRE (as of April 2022) (Total number of C/Ps including ended contract: 13) Management C/Ps: Project Director (1), Project Manager (1), C/Ps: 7 (MNRE)
Target Area/ Target Population	Samoa Approx. 198,000 <sup>2</sup> (2020)

**II. Accomplishment and Implementation Process of the Project**

<b>Inputs (as of April 2022)</b>	
<b>Japanese Side</b> 1) Experts (MM) <sup>3</sup> - Dispatch of 4 Short-term Experts: 22.99 M/M  2) Trainings (number of trainees) - Training course for the “Enhancement of Solid Waste Management Capacity” (2 C/Ps from MNRE)  3) Provision of Equipment Two sets of large monitors with stands were procured in October 2021 through the JICA Samoa	<b>Samoan Side</b> 1) Allocation of Counterparts Two (2) management C/Ps and seven (7) C/Ps were recognized as C/Ps for the Project. Both Project Director and Project Manager were replaced once. When the project commenced eight (8) staff members were recognized as C/Ps, however, the Senior Landfill Officer was assigned as an additional C/P from December 2018.  2) Local Cost: necessary costs for activities is met by the Government of Samoa.

<sup>1</sup> NWMS(National Waste Management Strategy) covers the component of solid waste management which was initially expected to be developed as NSWMS(National Solid Waste Management Strategy) in output 1

<sup>2</sup> Extracted from WB: <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=WS>, obtained 20 June, 2022

<sup>3</sup> Input of Experts (remote support) during the travel ban was in place and there will be a total figure for 9 countries in the main report.

<p>Office in order to assist the utilization of GIS system in regard to Output 2.</p> <p>4) Local cost support: 3,512,000 JPY (approx. 30,400USD)<sup>4</sup></p> <ul style="list-style-type: none"> <li>- Transportation (rent a car): 2,309,000 JPY (approx. 20,000 USD)</li> </ul>	<p>Apart from general contribution to the Project, the MNRE met costs on the Tafaigata Weighbridge Technical Assessment: 6,038.00 WST (approx. 2,255 USD)</p> <p>The MNRE also secures the budget for Rubbish Collection, Litter Maintenance, Landfill Maintenance and Lawn Maintenance: Ave. 645,912 WST (approx. 241,255 USD) per annual.</p> <p>3) Office space, etc.</p> <p>The MNRE has provided appropriate office spaces and facilities. It also bore local costs throughout the project period to ensure smooth implementation of the activities while experts were dispatched.</p>
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## (2) Outputs

Output 1: NSWMS is developed.

Degree of Achievement:  
Achieved

Indicator	Results
1-1 The draft final NSWMS with consensus among stakeholders is submitted to the Cabinet.	<p><u>Status: Achieved</u></p> <p>The scope of the National Solid Waste Management Strategy (NSWMS) was extended to include chemical and hazardous waste management, and the National Waste Management Strategy (NWMS) 2019-2023 was finalized and approved by the Cabinet in 2019.</p>

Output 1 originally aimed to development the NSWMS. However, as requested by the MNRE, chemical and hazardous waste management, in collaboration with the chemical and hazardous waste management section and relevant SPREP officials, was also integrated into the strategy. The strategy was finalized based on a series of discussions amongst stakeholders and submitted to the cabinet for approval. The strategy was approved in January 2019 as the “National Waste Management Strategy 2019-2023”.

### <Overall>

Output 1 was achieved in 2019. Activities assisting the implementation phase of the strategy were added and are ongoing.

Output 2: Rubbish collection monitoring system is established.

Degree of Achievement:  
Achieved

Indicator	Results
2-1 Data for rubbish collection monitoring system is collected on a regular basis.	<p><u>Status: Achieved.</u></p> <p>Data regarding the rubbish collection monitoring system is collected on a monthly basis.</p>
2-2 Supervision to the contractor is made based on the data collected from the system	<p><u>Status: Achieved.</u></p> <p>Necessary supervision is made based on the data collected from the system.</p>
2-3 Revised contract format is proposed based on	<p><u>Status: Achieved.</u></p> <p>Advice was given for the revision of the contract and the new format adopted several of the proposed points.</p>

<sup>4</sup> JICA Official rate in March 2022 (1WST=43.4160JPY, 1USD=115.555JPY). This figure does not include the local cost support disbursed for Region-Wide activities.

the rubbish monitoring system

A trial using the rubbish collection monitoring system was carried out from March to October 2020 and then fully introduced in November 2020. The operation has been taken on by the MNRE as of February 2022. Throughout the period, data regarding the monitoring system has been collected on a monthly basis.

Based data obtained from the monitoring system, the MNRE is providing necessary supervision to the contractor and service users.

The renewal of the contract was made for 15 zones (Except for 4 zones) in February 2021. The renewal of contract was made by the MNRE with limited remote support provided by the short-term experts.

**<Overall>**

Output 2 has already been achieved.

Although all verifiable indicators of Output 2 have already attained, Activity 2-7 Data analysis on waste collection monitoring system” is still on-going. (Details under “**Impacts**”.)

Output 3: Feasibility study on financial option (user pay system) is implemented.

Degree of Achievement  
Partially Achieved  
(Most-likely to be achieved before the completion of the Project)

Indicator	Results
3-1 Suitable system is consulted with public and stakeholders	<u>Status: Partially Achieved.</u> The 1st Steering Committee was conducted and options for a user pay system was discussed with relevant ministries and government agencies.
3-2 Suitable system is determined on steering committee	<u>Status: Expected to be achieved before completion of the Project.</u> It is expected that “Activity 3-8 Finalize the proposed system on steering committee” will be implemented by the newly hired technical assistant stationed in Samoa as well as a dispatched JICA Short-term Expert.
3-3 Recommendation and future direction on user pay system is summarized.	<u>Status: Expected to be achieved before completion of the Project.</u> The indicator was formally changed in the 3 <sup>rd</sup> JCC, and the related activities 3-9 has also changed respectively. The activity will be implemented by newly hired technical assistant stationed in Samoa as well as a dispatched JICA Short-term Expert.

This Output with related activities were also added in the 1st JCC held on 24th November, 2017. Due to restriction of public gathering caused by COVID-19 and also the situation awaiting the feedback on the technical proposal from the revenue board, public consultation as well as steering committee had been postponed until the 3<sup>rd</sup> JCC meeting held in the 22<sup>nd</sup> of June, 2022. One of the indicators (Indicator 3-3) was changed in the meeting.

**<Over All>**

Due to the COVID-19 pandemic, Output 3 has only been achieved partially at the time of the terminal evaluation. However, both JICA Experts and C/Ps are confident that this output will be achieved before the completion of the Project.

**(3) Project Purpose:** Solid waste is appropriately managed based on the National Waste Management Strategy (NWMS).

Degree of Achievement: Mostly Achieved

Indicator	Results
1. Top priority activities listed in the NWMS related to waste collection service are implemented.	<u>Status: Partially Achieved. (60%)</u> Top priority activities related to waste collection service are “establish rubbish collection monitoring system” and “implement feasibility study on financial option” (User Pay System). While a monitoring system for rubbish collection has already been introduced and is in operation, a feasibility study on the user pay system is still on-going.
2. Annual	<u>Status: Mostly Achieved.</u>

Management Plan is developed based on the NSWMS.	The Annual Management Plan for FY 2021 was developed based on the NSWMS. (Means of Verification: Annual management plan, NSWMS) The Annual Management Plan for FY2022 will be further developed with assistance from experts by the end of the project.
3. Basic data on SWM is updated as scheduled in the NSWMS.	<u>Status: Mostly Achieved.</u> 1) Waste audit, 2) Time and motion and platform survey 3) Landfill survey and 4) Weighbridge recording was conducted.

Due to the border closure caused by the outbreak of COVID-19, short-term experts have not been able to travel to Samoa since the end of March 2020. This has caused delays in the project activities.

The following activities have particularly been affected by the travel ban.

[Activity 1-10 Review the Action Plan based on the progress]

[Activity 3-6 Conduct public consultation meeting]

[Activity 3-9 Proposed system is submitted to cabinet.]

However, the following activities were successfully implemented with the support provided by JICA Short-term expert remotely.

[Activity 1-8 Assist Developing annual management plan and implementation plan]

[Activity 1-9 Coordinate and monitor the progress of implementation of the Action Plan]

[Activity 2-6 Commence operation of rubbish collection monitoring system]

[Activity 2-7 Summarize and analyze data obtained from rubbish collection monitoring system]

Despite the challenge, great achievements were observed under the project.

At the time of terminal evaluation, it has been assessed that the Country Project Purpose of Samoa was “Mostly Achieved”; however, it seems likely that all indicators before completion of the project will be achieved for the following reasons:

[Indicator 1. Top priority activities listed in the NWMS related to waste collection service are implemented.]

This indicator has been altered at both the 1<sup>st</sup> and 2<sup>nd</sup> JCC meetings.

The technical feasibility study of Output 3 has mostly been conducted and the suitable system (user pay system) has already been proposed by the MNRE with the support of JICA experts. The C/Ps and the JICA Short-term Expert are confident that the indicator will be achieved before completion of the Project.

[Indicator 2. Annual Management Plan is developed based on the NSWMS.]

The Annual Management Plan was developed based on the NSWMS for 3 years (FY2019 – FY2021), followed by Annual Management Plan for FY2022. The indicator did not specify frequency (every year), therefore, it has technically already been achieved. However, the project team is highly motivated and have set the goal higher, so through the determination of the C/Ps and the JICA Short-term Expert, it is almost certain that the indicator will be achieved before completion of the project.

[Indicator 3. Basic data on SWM is updated as scheduled in the NSWMS.]

Surveys addressed in the NWMS are, 1) Waste audit, 2) Time and motion and platform survey, 3) Landfill survey and 4) Weighbridge recording. The contents of these surveys were optimized to adjust the available capacity and resources of the MNRE. With the opportunities provided by other development partners Waste audit surveys were conducted more frequently than had been anticipated in the NWMS. The Time and motion survey was partially altered by remote monitoring with GIS system. The data collected from these surveys will be utilized in updating the SWM(Solid Waste Management) indicators in the NWMS FY2022.

#### **(4) Project Implementation Process**

##### **(a) Project Management**

Joint Coordinating Committee (JCC) meetings were held twice before the COVID-19 pandemic (Nov 2017, Jan 2019) and have been considered an effective tool for giving overall guidance and direction to the Project. There are two steering committees established for the NWMS and the user pay system. The NWMS committee meets annually and the user pay system committee meetings are held on-demand. They both play important roles; however, due to COVID-19 restrictions, the meetings have not been held regularly as planned.

The work of JICA short-term experts was highly thought of and very appreciated by C/Ps. The C/Ps



interviewed are happy working with the JICA short-term expert and express that if possible they would like to continue working with him in the next phase.

[Samoan Side]

Most C/Ps remained in the same positions throughout the project period. Major personnel changes were the Project Director (Chief Executive Officer: CEO, MNRE) and the Project Manager (Assistant CEO, MNRE); however, the vacancies were filled reasonably early and the new project management is committed to the Project.

The number of the C/Ps was eight when the project started; however, a Senior Landfill Officer was assigned as an additional C/P from December 2018.

[Japanese Side]

Total number of eight (8) short-term experts have been supporting the project team in Samoa. The main short-term expert was assigned much longer than other short-term experts (15.5 out of 36M/M) before the outbreak of COVID-19. It seemed that longer assignment helped the expert build up close relationship with C/Ps and JICA Samoa Office, and the project management had no problem in Samoa.

(b) Method of Technical Transfer

JICA trainings had been taking place in Japan and through activities such as study tours to other PICs such as Vanuatu, Fiji and Tonga. Moreover, OJT, on-line workshops and advice by JICA experts have also been major inputs for technical transfers. In particular, hands-on training was considered very effective in enhancing the knowledge and skills of staff members in the MNRE.

(c) Communication within the project

Communication within the project has been good throughout the project. However, there are many Japanese project personnel particularly in Samoa since the Project Office is attached to SPREP, and the communication and the coordination among JICA side (Short-term experts for each country, Long-term experts attached to SPREP, JICA country offices and JICA Headquarter) could be challenging.

(d) Collaboration with Local Stakeholders

In Samoa, collaboration with stakeholders (SRWMA and contractors) is crucial.

Samoa Recycling & Waste Management Association (SRWMA): Established in 2018, the partnership focuses on waste minimization initiatives and the promotion of the 3Rs concept.

Private contractors: In Samoa, rubbish collection, landfill operations and maintenance are outsourced to the private sector.

(e) Participation in Region-Wide Activities of J-PRISM2

Samoa hosted training sessions/workshops in G2 countries.

	Year/Month	Training/Workshop (Study Tour)	Host Country	Remarks
1	2018/03	Disaster Waste Management and Tafaigata Waste Disposal Site Risk Assessment Review	Samoa	
2	2018/10	Regional Disaster Waste Management Guideline Development Consultation Workshop	Samoa	
3	2019/09	Studied case from Vanuatu (Prepaid Bag) and Tonga (Electricity Bill)	Tonga, Vanuatu	
4	2021/12	Kobotool Training for Disaster Waste Management	Samoa	Virtual

(f) Coordination with Other Japanese and International Projects/Partners

Currently, no other Japanese projects are running in Samoa. Several projects and activities regarding waste management are supported by other donors (mostly on-going). Many development partners chose to work with SPREP, and it is relatively easy to collaborate with other donors in Samoa, as the MNRE is a capable C/P. and the Samoan Government is trying to coordinate donors' activities by themselves.

PacWastePlus Project funded by the EU and implemented by SPREP, supports the development of a Container Deposit Legislation, following recommendations by the J-PRISM II Pre-Feasibility Study.

UNDP (CERO Waste) supports policy formulation, waste surveys and the installation of an emission platform through Circular Economy for the Waste Recovery of Waste Programme.

### III. Results of Analysis from the viewpoint of Six Evaluation Standards

<p><b>Relevance</b></p>
<p>This project is still relevant.</p>
<p>(a) Necessity</p> <p>The National Waste Management Strategy (NWMS) 2019-2023 states that “Waste Management is Everyone’s Responsibility”. The changing consumption pattern has seen the proliferation of more wasteful, imported products. Constraints on land space and resources, and inadequacy in institutional and human capacity has made the increase in waste very challenging in Samoa, and there is a great need for development and continuous enhancement on waste management, such as the 3R+Return initiative.</p> <p>(b) Priority</p> <p>The project operates within one of the priority areas in Samoa’s development strategies (i.e. Pathway for the Development of Samoa (PDS) 2021/22 – 2025/26 and NWMS 2019-2023). One of the key strategic outcomes of PDS 2021/22 – 2025/26 is “Outcome 4: Secured Environment and Climate Change”. One of the Key Priority Area under the outcome is “Effective Environmental Protection and Management Frameworks” and it includes expected outcome of “Sustainable solid and chemical waste management enhanced”.</p> <p>The NWMS developed, now covering chemical and hazardous waste as well as solid waste. It has also aligned with cleaner Pacific 2025; a regional waste and pollution management strategy 2016-2025 for a cleaner Pacific. The strategy considers national obligations as stated in the SDGs Goal 11.6 and the SDS which are in line with the current National Environment Sector Plan (NESP).</p>
<p><b>Coherence</b></p>
<p>The overall coherence of the project is relatively high, however, more alignment is necessary with other partners in country level.</p>
<p>(a) Coherence with Japanese aid policy</p> <p>Under the Japan’s Country Development Cooperation Policy for the Independent State of Samoa (2019), “Basic Policy of Assistance” is: “Support for sustainable economic development and improving a living standard through the assistance for the economic and the social sectors”, and one of the priority areas is Environmental conservation”. In the latest Rolling Plan for the Independent State of Samoa (April, 2018), J-PRISM is a project under “Program for Circular Economy Development” under Development Issue, “Environment Conservation”, the Priority Area “Environment and Climate Change”.</p> <p>(b) Coherence with JICA’s other schemes</p> <p>Japan assists the promotion of a circular economy society, through technical cooperation, such as training programs in environmental education. Before the outbreak of COVID-19, there were JICA training sessions on SWM and recycling to enhance the capability of J-PRISM II C/Ps. Due to COVID-19, collaboration with other schemes has ceased. However, with a future dispatch of JOCV volunteers and the establishment of the Samoa Recycling and Waste Management Association (SRWMA), there could be potential for strong coherence with JICA’s other schemes.</p> <p>(c) Coherence with other partners</p> <p>Following is the list of development partners that include Samoa as a target country in the waste management sector. Too many partners could become a burden for C/Ps. However, as the MNRE is very capable, and the Samoan Government seems to deal with development partners well, this should not be a problem.</p> <p>PacWastePlus: Feasibility Study regarding on Container Deposit Legislation, E-Waste          Agence Française de Développement: Used oil, Marine Debris(Cleanups), Sustainable financing, Disaster waste management          UNDP (CERO Waste): Circular Economy for the Waste Recovery of Waste Programme          Global Environment Facility 7/ISLAND: Residual Waste          IUCN: Plastic waste-free islands concept solutions (Bottle-to-Bottle Recycling Working Group, Waste-to-Product Working Group)</p>
<p><b>Effectiveness</b></p>
<p>This project is assessed as highly effective.</p>
<p>(a) Achievement of Project Purpose</p>

Although the JICA short-term expert could not be dispatched during the COVID-19 pandemic, the project will most-likely achieve all indicators.

The narrative part of the Project Purpose changed from PDM0 to PDM1, then reverted to the original with revised, verifiable indicators.

(b) Contribution of Outputs to Project Purpose

A logical relation between Outputs and Project Purpose has been confirmed.

In the original PDM, there was only an All-In-One Output, regarding the enhancement of the SWM system of the MNRE. However, the narrative part of the original Output 1 “Solid waste management system of MNRE is strengthened” was vague and only focused on making a framework. The short-term expert worked with C/Ps to figure out what was actually needed, and the project team added new relevant outputs, such as Output 2 “Rubbish collection monitoring system is established” and Output 3 “Feasibility study on financial option (user pay system) is implemented”.

(c) Other Promoting and Inhibiting factors

<Promoting factors>

The transformation of the PDM in a way it best suited to implementation organization and C/Ps: It is a textbook example of good planning. The plan was adapted to what C/Ps really needed and wanted but executable.

The close relationship between JICA expert and C/Ps. The short-term expert is working very closely with the C/Ps, and it seems that the long assignment helped build-up a good relationship and strong personal ties. Also, success in the early stages of project boosted C/P’s confidence and ownership towards the project. The trust built and a strong sense of ownership helped the C/Ps commit to the project, even when the expert was unable to travel to Samoa for a long period of time.

<Inhibiting factors>

Although many activities were still carried out by C/Ps, experts only being able to support and give advice to C/Ps remotely, caused some delays.

**Efficiency**

(Due to the extraordinary situation with COVID-19 pandemic, the degree of “Efficiency” was not determined.)

(a) Production of Outputs

Output 1, Output 2 and Output 3 have been already mostly produced.

(b) Appropriateness of Inputs

<Samoa side>

Overall, Inputs by the Samoa side have been mostly appropriate in producing Outputs.

• Personnel: 8 C/Ps (later one more C/P added) including 2 management personnel is not a big number. However, as rubbish collection, landfill operations and maintenance services are outsourced to the private sector, a small number of capable C/Ps to manage to project has proved sufficient, as long as project activities are appropriate in quality and quantity.

• Facilities: The land and facilities necessary for project activities have been provided, as well as office spaces for JICA Experts at the MNRE.

• Local cost: The MNRE has managed to secure the necessary budget for project activities. Most activities have been carried out through cost-sharing. It should be noted that the Samoan Government is self-funding the feasibility study on the weigh bridge assessment.

<Japanese side>

Overall, Inputs by the Japanese side have been appropriate in producing Outputs.

• Experts: In terms of timing and quantity, dispatch of JICA Short-term Experts was appropriate until the pandemic. However, the border closure made it impossible for JICA Experts to travel, and caused delays in project activities which were supposed to start after April 2020. (See “Implementation Process” for details). A questionnaire and interviews showed that C/Ps thought highly of the JICA short-term expert, and strongly wanted them to continue their assignment in the next phase.

In terms of quality, JICA Experts with adequate background, relevant experiences and sufficient technical level were dispatched. They were accessible and ready to answer any technical questions asked by the C/Ps. The main short-term expert was stationed longer than usual assignment, and was welcomed by C/Ps.

• Equipment: Two sets of large monitors with stands were procured in October 2021, through the JICA Samoa Office, in order to assist in the utilization of the GIS system. the monitors are being fully utilized and have had no problem.

• Local cost: The necessary amount for the local operation was disbursed.

<p>(c) Utilization of region-wide activities of J-PRISM2          Samoa C/Ps hosted more training sessions/workshops than they attended. C/Ps attended a study tour in Tonga, Vanuatu and Fiji and expressed that they felt they could learn from Vanuatu's prepaid bag system of Vanuatu and Tonga's electricity bills. Utilization of region-wide activities of J-PRISM2          Samoa was hosting more training/workshop than they attend to training/workshops overseas. C/Ps attended the study tour to Tonga, Vanuatu and Fiji expressed the usefulness of learning prepaid bag system of Vanuatu and electricity bill of Tonga.</p>		
<p><b>Impact</b>          Overall Goal of the country level was not identified during the planning stage, therefore N/A in the survey. Various positive impacts have been observed. Negative impacts have not been observed.</p>		
<p>Overall goal and the indicator of the region-wide PDM as follows:</p> <table border="1"> <tr> <td> <p>Overall Goal (Common):            Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).</p> </td> </tr> <tr> <td> <p>Verifiable Indicator:            Solid waste management issues are improved through collaborative assistance in the Pacific region.</p> </td> </tr> </table> <p>However, the indicator above is not verifiable, and it is impossible to examine possibility to achieve the overall goal at the terminal evaluation. It will be necessary to set appropriate verifiable indicator(s) for Samoa and/or the Region-Wide.</p> <p>Positive impacts observed as follows:</p> <ul style="list-style-type: none"> <li>• Collection services are improved (number of complaints: 100 to 15 per month, collection coverage 63% to 75%, approximate time to solve a complaint 2-7days to immediate-2days, etc.)</li> </ul> <p>It is extraordinary impact at the time of the terminal evaluation, since positive impacts on end users normally only emerge so many years after the project implementation.</p> <ul style="list-style-type: none"> <li>• Endorsement and enforcing of the Waste (Plastic Bag) Management Regulations 2018 in which the effective date (30 January 2019) of banning single use plastic shopping bags, plastic packing bags and plastic straws.</li> <li>• Numbers of achievement on Waste Management are listed in Annual Report of the MNRE.</li> </ul> <p>Negative impacts have not been observed nor foreseen.</p>	<p>Overall Goal (Common):            Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).</p>	<p>Verifiable Indicator:            Solid waste management issues are improved through collaborative assistance in the Pacific region.</p>
<p>Overall Goal (Common):            Sustainable management of solid waste in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025).</p>		
<p>Verifiable Indicator:            Solid waste management issues are improved through collaborative assistance in the Pacific region.</p>		
<p><b>Sustainability</b>          Sustainability likely to be secured if the appropriate human and financial resources continue to be allocated.</p>		
<p>(a) Policy and institutional aspects          Policies and legal support for waste management are likely to continue.          The NWMS 2019-2023 was finalized and approved by the Cabinet in 2019. The formulation of the NWMS is one of mandates under the Waste Management Act 2010, and was also triggered by significant changes in the waste sector, in the Pacific Region and globally.          In Samoa, rubbish collection, landfill operations and maintenance services are outsourced to the private sector and the MNRE takes a management role. In this project, establishing a rubbish collection monitoring system (Output 2) was essential for the MNRE to take on its role, and manage and monitor private contractors properly.          The MNRE has started to prepare to update the NWMS 2019-2023 in 2023, and hopes that Samoa will be able to have the updated NWMS in place before the prior version expires.</p> <p>(b) Organizational aspects          All technical C/Ps are permanent staff members of the MNRE, and they are assigned to relevant positions. Since the J-PRISM 2 commenced in February 2017, there has been no change in the C/P's assignment. During the project period, a senior landfill officer was added to the list of C/Ps. In 2015, there were only 4 staff members (Principal Waste Management Officer, Senior Landfill Officer, Senior Waste Planning &amp; Policy Officer, and Landfill Officer) recognized as C/Ps; however, this phase started with 6 technical C/Ps and an additional position to be filled. There needs to be further enhancement, in order to meet all important demands, such as supervising/managing outsourced waste management, enacting and implementing legislations and attending international conferences.          As it had been committed by the MNRE, it enhanced the institutional set-up of waste management, including increase of the number of qualified staff. The MNRE is seen as a capable and committed counterpart organisation to work alongside. Therefore, the organisational sustainability is expected to be high.</p> <p>(c) Financial aspects</p>		

It is likely that the MNRE will continue to allocate the necessary budget to landfill operation, maintenance and waste collection services, which are outsourced. However, waste management is not cheap, as it requires land, infrastructure, heavy machines, collection vehicles, fuel and more. Therefore the MNRE recognizes that it must secure additional budgets for financial stability. As stated in Output 3 a “feasibility study on financial option (user pay system) is implemented”, the MNRE hopes to set up a user pay system, such as the “Prepaid Bag System”.

With the Samoan Government committing to install a user pay system, the financial sustainability of the project will most likely be high.

(d) Technical aspects

The NWMS is a working document, that guides the staff members in implementing of waste management activities and thus mainstreams the activities into the Annual Management Plan and the work plan. The technical capacity of C/Ps has been enhanced, not just in basic skills such as planning, implementing and reporting, but also as knowledge and understanding regarding the innovative development of the Rubbish Collection Monitoring System. Despite the C/Ps not getting physical support from the short-term experts during the COVID-19 pandemic, the C/Ps were able to continue what they could/should do with just with remote advice from the experts, and, with the technical knowledge and skills obtained during the first half of the project, the activities were still carried out.

**Influence on the COVID-19**

Samoa enforced a very strict travel ban from the early stages of the COVID-19 pandemic. This has resulted in the inability to carry out planned activities (Activity 1-10, 3-6 to 3-9) and certain delays. However other activities were successfully carried out on remote basis, even under the influence of the COVID-19.

To mitigate the challenges, the project employed technical assistant in February 2022. With r the short-term expert returning to Samoa, the remaining activities for Output 3 are expected to be accelerated.

**IV. Conclusions**

After careful examination of the Project Performance and the Project Implementation Process, the Project is still relevant, the overall coherence of the project is relatively high, it is highly effective, and remarkable positive impacts are observed, and sustainability is likely ensured.

The Project Purpose is expected to be achieved before completion of the project. Therefore, with the commencement of the next phase project, it is appropriate to terminate Samoan scope of the J-PRISM2 in September 2022.

**V. Recommendations**

**To the Project**<Identifying country-specific verifiable indicator(s) of Overall Goal>

The Overall Goal and the indicator for the region-wide PDM are as follows.

Overall Goal (Region-wide): Sustainable management of solid waste management in the Pacific region is enhanced based on Pacific Regional Waste and Pollution Management Strategy 2016-2025 (Cleaner Pacific 2025)
Verifiable Indicator: Solid waste management issues are improved through collaborative assistance in the Pacific region.

Examples of alternative indicators for Samoa

- A user pay system was chosen and has installed by 2026.
- The creation/revision of the Waste Management Plan for each urban center based on the Waste Management and Pollution Control Strategy.
- Rubbish collection monitoring system are still in use and continue collecting the data in 2026.

**To MNRE**

<To achieve the Overall Goal after the completion of the project >

**The continuous effort to establish user pay system**

Consultation was held to decide the modality of the user pay system in Samoa, and it will be recommendable for MNRE to implement the user pay system with utilizing the information collected from other countries.

**Strengthening the relationship with SRWMA and J-PRISM Project Office**

To continue working with SRWMA and J-PRISM2 Project Office to accelerate the activities for recycling PET

plastic bottles and used oil with enhancing the relationship with SRWMA and J-PRISM Project Office.

**To JICA Short-term Expert**

<Before the completion of the project>

The continuous effort to establish user pay system

The NWMS is expiring in 2023, and it is advisable to give more advice for the preparation to revise NWMS, where to start, so that the C/Ps will be able to prepare the revised NWMS in timely manner.

**To Project Office, J-PRISM2**

<Before completing the scope on Region-Wide activities of the project>

Accelerating stronger working relationship between the SRWMA and the MNRE

Recycle and Waste Management Association was established during the J-PRISM2 as a part of Region-Wide activities, therefore, the activities were not recognised the country PDM. However, the activities directly influence the waste management operation in Samoa, and it is advisable that the Project Office works with both SRWMA and MNRE for accelerating to strengthen their relationship. The national waste minimization plan (2021-2025) was developed under the J-PRISM2. It will need to complete other parts of the strategy and update the strategy.

**Attachment:**

1. Project Design Matrix (PDM Version 3)
2. Plan of Operation (PO Version 3)