

フィジー国 環境局、スバ市役所、ラウトカ市役所、ナンディ町役場、シンガトカ町役場、
バ町役場、タブア町役場、ラキラキ町役場
キリバス国 環境保全部、テイナイナノ町役場、ベシオ町役場
トンガ国 環境省、保健省

大洋州地域廃棄物管理改善支援プロジェクト (廃棄物管理B、F) (その2)

プロジェクト事業完了報告書

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国際航業株式会社

環境
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略語集

ALD	Agriculture & Livestock Division (Kiribati)
BTC	Ba Town Council (Fiji)
BTC	Betio Town Council (Kiribati)
TC	Town Council (Fiji)
CEO	Chief Executive Officer
CI	Capacity Inventory
CWM	Chemical Waste Management Unit
C/P	Counterpart Personnel
DLG	Department of Local Government
DOE	Department of Environment
ECD	Environment and Conservation Division (Kiribati)
EIA	Environmental Impact Assessment
FNU	Fiji National University
IWCRM	Integrated Water and Coastal Resources Management
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
JOCV	Japan Overseas Cooperation Volunteers
J-PRISM	Japan Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries
LCC	Lautoka City Council
MEIDECC	Ministry of Meteorology, Energy, Information, Disaster Management, Climate Change and Communications
MELAD	Ministry of Environment, Lands and Agricultural Development
MOE	Ministry of Education
MOH	Ministry of Health
MPAU	Media and Public Awareness Unit
MSW	Municipal Solid Waste
NGO	Non-Government Organization
NTC	Nadi Town Council
OISCA	The Organization for Industrial, Spiritual and Cultural Advancement – International
OJT	On-the-Job Training
PDCA	Plan – Do – Check – Act
PDM	Project Design Matrix
PO	Plan of Operation
RLA	Rural Local Authority
RTC	Rakiraki Town Council
SCC	Suva City Council
SPREP	Secretariat of the Pacific Regional Environment Programme
STC	Sigatoka Town Council
SWM	Solid Waste Management
TTC	Tavua Town Council
TTM	Taiwan Technical Mission
TUC	Teinainano Urban Council

UDP	Urban Development Project (by NZAID)
VEPA	Vava'u Environmental Protection Association
3R	Reduce, Reuse, Recycle (Return)

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プロジェクト写真集

- (1) フィジー国
- (2) キリバス国
- (3) トンガ国

1 プロジェクトの概要

1.1 はじめに（背景・経緯）

大洋州の島嶼国における廃棄物管理は、その国土の狭小性といった地理的条件や伝統的な土地所有制度等の社会的背景から適切な廃棄物処理が困難な上、急速な生活様式の近代化等に起因する廃棄物の多種・大量化が顕著となっており、大洋州地域島嶼国に共通する大きな課題のひとつとなっている。

上記を踏まえ、JICA は、2006年6月から2010年5月まで、地域国際機関である太平洋地域環境計画(SPREP)をパートナーとして、サモア国を拠点とした広域協力である技術協力プロジェクト「太平洋廃棄物管理プロジェクト」や、2008年10月から2012年3月までフィジー国にて技術協力プロジェクト「廃棄物減量化・資源化促進プロジェクト」を実施し、大洋州地域における適正な廃棄物管理や、3R(Reduce(リデュース)、Reuse(リユース)、Recycle(リサイクル))推進に取り組んできた。このような背景の下、さらなる継続的な廃棄物管理改善への支援の必要性を認識した大洋州11カ国(ミクロネシア国(以下FSM)、マーシャル国(以下RMI)、パラオ国、キリバス国、サモア国、トンガ国、ツバル国、パプアニューギニア国(以下PNG)、フィジー国、ソロモン国、バヌアツ国から、我が国に対し、それぞれ個別の技術協力プロジェクトが要請された。JICA は11件の技術協力プロジェクトの要請を取りまとめて一つの広域案件とし、これまでの協力で策定された大洋州地域廃棄物管理戦略(2010-2015)¹や国家廃棄物管理計画のもと、大洋州各国が適正な廃棄物管理体制を整え、その知識や経験が大洋州島嶼国内で共有され、大洋州全域の廃棄物管理が改善されることを目的として対象各国の廃棄物管理所管機関をカウンターパート(C/P)として「大洋州地域廃棄物管理改善支援プロジェクト(J-PRISM)」(以下「本プロジェクト または J-PRISM」)を2011年2月から2016年2月までの予定で実施中である。

本プロジェクトは、JICA の大洋州地域「島嶼における循環型社会形成支援プログラム」(以下「プログラム」)の基幹プロジェクトとして位置付けられており、他スキーム(ボランティア事業、草の根技術協力、草の根無償資金協力等)との一体的に実施している。これまでに、各国へ短期専門家(廃棄物管理)を派遣し、廃棄物管理の現状基礎調査、5年間の活動計画の精査、廃棄物管理計画策定ワークショップや処分場管理地域研修等を実施してきている。

また、本プロジェクトでは、SPREP と連携して案件を進めている。2014年度以降は、長期専門家([総括]、[廃棄物管理能力強化/研修計画業務調整、業務調整/援助協調、業務調整])をサモア国にある SPREP 本部内に派遣し、SPREP 廃棄物担当官とともにプロジェクト・オフィスを形成してプロジェクト全体の管理を行っている。

本プロジェクトの専門家の投入は、上記長期専門家以外に、対象国を比較的近隣の国々で3グループに分け、各グループ国に業務実施契約による専門家チームを派遣している。

本業務は、この広域プロジェクトのうち、3ヶ国(フィジー国、キリバス国、トンガ国)を対象とし、2014年3月までの3年間実施された活動を継続するものである。フィジー国においては、2008年10月から2012年3月までの「廃棄物減量化・資源化促進プロジェクト」(以下、「先行3Rプロジェクト」とする)で育成された人材や得られた知見・教訓を活用し、国内及び他国に普及するための支援を行っている。

本案件は、廃棄物の課題に対処することを通して、大洋州地域の廃棄物管理の人材、制度面でのキャパシティの向上を図り、域内の自立発展的な廃棄物管理を目指している。大洋州

11 カ国を対象とする 2011 年 2 月から 2016 年 2 月までの 5 年間の広域プロジェクトである。
本業務は、広域プロジェクトのうち 3 ヶ国（フィジー国、キリバス国、トンガ国）を対象とし、2014 年 3 月までの約 3 年間実施された活動を継続するもので、2014 年 5 月から 2015 年 12 月までの後半 2 年間実施した活動をまとめたものである。

1.2 プロジェクトの枠組み

上位目標

大洋州地域において、自立発展的な廃棄物管理が促進される。

プロジェクト目標

太平洋地域廃棄物対策地域戦略の実施を通じて、太平洋島嶼国の廃棄物管理にかかる総合的基盤（人材と制度）が強化される。

成果

フィジー国

成果 1：国家 3R 戦略の実施がフォローアップされる

成果 2：フィジーの 3R モデルが国内外に普及される

キリバス国

成果 1：家庭ごみ（特に庭ごみ）がごみ分別とチップ化によりリサイクルされる

成果 2：学校プログラム実施を通じて固形廃棄物についての啓発が改善される

トンガ国

成果 1：ババウ島の既存処分場施設が改善される

成果 2：ババウのごみ収集サービスが改善される

成果 3：ババウで長期的な固形廃棄物管理の基盤が確立する

1.3 プロジェクト対象地域

担当国および地域は以下のとおりである。

表 1-1: 担当国及び担当地域

国	フィジー国	キリバス国	トンガ国
地域	スバ市、ラウトカ市、ナンディ町、シンガトカ町、バ町、タブア町、ラキラキ町	南タラワとベシオ町	ババウ島

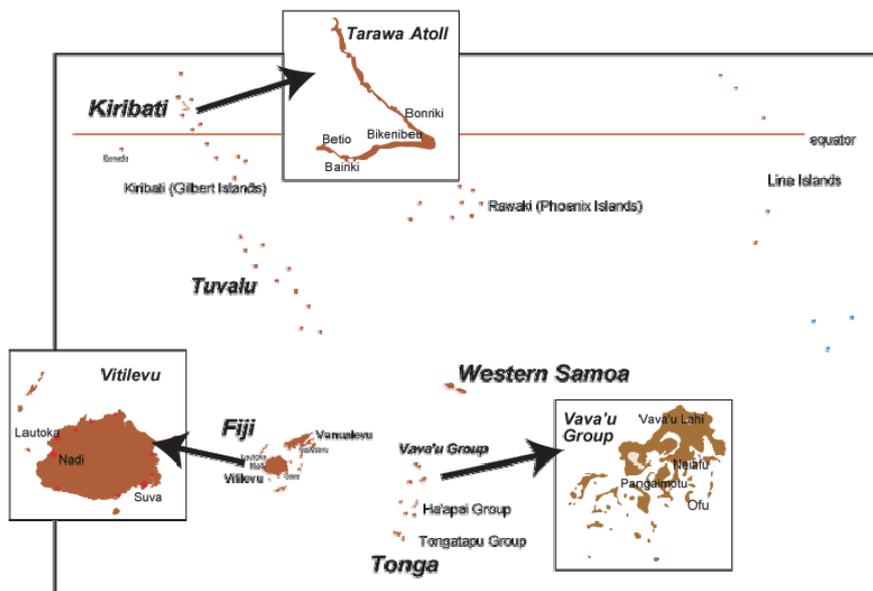


図 1-1: プロジェクト対象国と対象地域

1.4 プロジェクト対象廃棄物

本プロジェクトは、家庭系ごみ、商業ごみ、いわゆる都市廃棄物を対象とする。

1.5 プロジェクト関係機関

各担当国におけるカウンターパート機関は以下のとおりである。

表 1-2: カウンターパート機関

国	フィジー国	キリバス国	トンガ国
地域	環境局、スバ市役所、ラウトカ市役所、ナンディ町役場、シンガトカ町役場、バ町役場、タブア町役場、ラキラキ町役場	環境保全部、タイナイナノ町役場、ベシオ町役場	環境省、保健省

2 投入

2.1 日本側の投入

2.1.1 専門家派遣

本プロジェクトに投入された4名の日本人専門家とその担当分野（担当国）は以下のとおりである。延べ派遣月数は23.50M/M（現地作業22.50M/M、国内作業1.00M/M）であった。

表 2-1: 日本人専門家リスト

担当分野（担当国）	氏名
業務主任／廃棄物管理F（フィジー国、トンガ国）	坂井 友里江
廃棄物管理B（フィジー国、キリバス国）	可児 圭子
最終処分（フィジー国）	佐藤 尚文
モニタリング／キャパシティアセスメント（フィジー国）	ジェームズ・マクレーン

年度別の専門家の派遣実績表を以下に示す。

表 2-2: 日本人専門家派遣実績(第1年次)

担当	氏名	場所	2014年度												合計		
			5	6	7	8	9	10	11	12	1	2	3	現地	国内		
業務主任 / 廃棄物管理F	坂井 友里江	Fiji		■				■	■						■		
		Tonga					■							■	■		
				27				60						46	8	4.70	
廃棄物管理B	可児 圭子	Fiji		■				■	■						■		
		Kiribati			■		■							■	■		
				30				51						44		4.17	
最終処分場改善	佐藤 尚文	Fiji			■			■	■								
					20			34								1.80	
モニタリング・CA	ジェームズ・マクレーン	Fiji		■	■					■	■						
				26(+28)						26						1.73	
現地作業合計																12.40	
業務主任 / 廃棄物管理F	坂井 友里江			□											□		
				5											4		0.45
廃棄物管理B	可児 圭子														□		
															2		0.10
国内作業合計																	0.55
報告書		計画書(1) ▲								P/R(1) ▲						P/R(2) ▲	
																	12.40
																	0.55
																	12.95

表 2-3: 日本人専門家派遣実績(第2年次)

表 2-6: キリバス側の C/P リスト

#	Name	Assigned Period	Position	Organization	2014												2015											
					1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1	Nenenteti Teariki	Jan 2013 - Aug 2014	Director of ECD	ECD/MELAD	←																							
2	Taouea Reiher	Sep 2014 -	Acting Director of ECD	ECD/MELAD													←											
3	Taulehia Puefou	Jan 2012 -	Waste Management officer	MELAD	←												→											
4	Robite Teae	April 2012 -	Media & Public Awareness Officer	MELAD	←												→											
5	Takena Redfern Viala	Jan 2013 -	ALD	MELAD	←												→											
6	Eliza Tokalaake	Feb. 2011- Dec 2012, Feb 2015 -	CE O(BTC) -> Urban Management Officer	Bello Town Council -> Ministry of Internal Affairs (MIA)													←											
7	Rine Ueara	May. 2013- Dec. 2014	CEO	BTC	←																							
8	Teikarawa Amalia	Aug. 2015 -	CEO	BTC													←											
9	Bwaree Taorobwa	Oct 2013 - Mar 2015	Waste Supervisor	BTC	←																							
10	Kaiea Toromon	Mar 2015 -	Waste Supervisor	BTC													←											
11	Tekotaake Keariki	Jan 2013 -	Acting CEO	TUC	←												→											
12	Harry Langley	Jan 2013 -	Waste Supervisor	TUC	←												→											

表 2-7: トンガ側の C/P リスト

#	Name	Assigned Period	Position	Organization	2014												2015											
					1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1	Asipeli Palaki	Feb. 2011-Jul.2014	CEO/Director	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)*	←																							
2	Paula Ma'u	Aug. 2014 -	CEO/Director	MEIDECC													←											
3	Mrs. Lupe Matoto	Feb. 2011-	Director of Environment	MEIDECC	←												→											
4	Mafie'o Masi	Feb. 2011-	Senior Environmentalist	MEIDECC	←												→											
5	Mone Lapao	Apr. 2014 -	Environment Officer	MEIDECC					←								→											
6	Feauini Veikoso Laumanu	Feb. 2011-	Officer-In-Charge, Vava'u	MEIDECC, Vava'u	←												→											
7	Mele Finau	Sep. 2014 -	Environment Officer, Vava'u	MEIDECC, Vava'u													←											
8	Dr Siale 'Akau'ola	Feb. 2011-	CEO/Director	Ministry of Health (MOH)	←												→											
9	Dr Reynold 'Ofanoa	Nov. 2012-	Chief Medical Officer, Vava'u -> Head of Public Health Division	MOH	←								←				→											
10	Mrs. Sela Taniela Fau	Jan. 2015 -	Acting Supervising Public Health Inspector	MOH													←											
11	Manase Malua	Feb. 2011-	Health Inspector, Vava'u	MOH, Vava'u	←												→											
12	Leopino Fa'asolo	Feb. 2011-Jul.2015	Health Inspector, Vava'u	MOH, Vava'u	←												→											

3 活動

3.1 プロジェクト運営

プロジェクトは2011年2月から2016年2月の5年間で実施され、本業務はそのうち2014年5月から2015年12月までの約2年間に実施した活動にあたる。それぞれの活動は、PDMに示された成果を達成するために、添付資料2に添付したPlan of Operation (PO) に従って実施された。プロジェクトは概ね予定されたスケジュール通りに運営され、全ての活動を完了した。

作業項目	期間	2014年度												2015年度											
		5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
A 国内準備作業 (第1年次)																									
A.1	対象各国のこれまでの経緯、進捗、現状の把握	■																							
A.2	業務実施計画書案(和文・英文)の作成、出張計画・在外事業強化費の積み上げ	■																							
A.3	プロジェクトオフィスと活動方針・計画についての協議・合意	■																							
B 3カ国共通現地活動 (第1年次・第2年次)																									
B.1	業務実施計画書案の説明・協議・合意	■																							
B.2	廃棄物管理及びC/P機関・担当者のキャパシティ・アセスメントの実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
B.3	合同調整委員会(JCC)の開催時期、内容についての協議、実施支援																								
C スイジー国での現地活動																									
C.1 各成果共通の活動																									
C.1.1	C/P機関と共同でのキャパシティ・アセスメントの実施																								
C.1.2	プロジェクト終了後も3R活動が継続するような仕組みの検討・実現のための支援																								
C.1.3	プロジェクト終了前のキャパシティ・アセスメントの実施、活動実施時結果との比較分析																								
C.2 環境局での活動																									
C.2.1	国家廃棄物管理戦略及び国家3R政策に基づく3R活動推進のための制度構築に係わる助言	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
C.2.2	C/Pによる国内研修等の開催支援、継続的な3R普及体制についての助言	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
C.3 西部地域自治体																									
C.3 ラウトカ市及びナンディ町での活動																									
C.3.1	3R活動の継続に係わる助言、指導	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
C.3.2	国内及び他国に普及するための研修プログラムの計画立案、実施に係わる助言、指導	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
C.4 シンガト町での活動																									
C.4.1	市場ごみ及びホテルごみの減量化活動の実施支援	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
C.4.2	最終処分場の運営管理及び改善工事実施のための支援	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
C.7	その他の自治体での活動	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
C.7.1	環境局及び西部地域自治体の3R計画策定及び実施支援のための助言、指導	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
D キリバス国での現地活動																									
D.1	C/P機関と共同でのキャパシティ・アセスメントの実施																								
D.2	剪定ごみコンポストの実施支援	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
D.3	有機廃棄物利用の促進に係わる助言、指導	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
D.4	住民への啓発活動の実施支援	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
D.5	学校での3R啓発活動(クリーンスクールプログラム)の促進支援	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
D.6	プロジェクト終了後も活動が継続するような仕組みの検討、仕組みづくりの支援																								
D.7	プロジェクト終了前のキャパシティ・アセスメントの実施、活動開始時結果と比較分析																								
E トンガ国での現地活動																									
E.1	C/P機関と共同でのキャパシティ・アセスメントの実施																								
E.2	ババウ廃棄物管理計画の実施、モニタリング、分析、評価に係わる助言と指導	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
E.3	既存処分場の運営管理、環境影響評価や水質検査の実施状況のモニタリング、助言、指導	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
E.4	ごみ収集改善計画(案)の最終化支援・実施に係わるフォロー	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
E.5	草の根技術協力事業「美ら島ババウ・もったいない運動プロジェクト」との連携	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
E.6	プロジェクト終了後も活動が継続するような仕組みの検討、仕組みづくりの支援																								
E.7	プロジェクト終了前のキャパシティ・アセスメントの実施、活動開始時結果と比較分析																								
F その他の活動																									
F.1	サブリージョナルなワークショップについての提案																								
F.2	TV会議・電話会議によるプロジェクトオフィスへの進捗報告、今後の予定の確認	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
F.3	現地業務完了報告書(英文)の作成、報告・提出																								
G 国内作業期間 (第1年次・第2年次)																									
G.1	JICA地球環境部への実施計画及び今後の計画報告																								
G.2	メール等を通じてのC/P、プロジェクトオフィスへの活動進捗に関する情報収集・確認	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///			
G.3	業務実施計画書の修正、JICA地球環境部及びプロジェクトオフィスへの提出、活動計画の説明																								
G.4	各種報告書のJICA地球環境部への提出、報告																								

図 3-1: プロジェクト活動実績

3.2 活動の概要

活動の概要を以下に示す。

3.2.1 フィジー国の活動

a. 【成果1】 国家3R戦略がフィジーで実施される

a.1 活動1-1. 国家3R戦略実施のための活動計画が策定される

国家 3R 戦略とは、フィジー国の PDM では「国家固形廃棄物管理戦略（2011-2014）」および「国家 3R 政策（2015-2020）」を意味することとしている。

a.1.1 国家固形廃棄物管理戦略（2011-2014）

環境局は、現行の戦略（2011-2014）は 2014 年度で履行期間が終了となるため、2014 年中の戦略完成を目指していた。当初の予定では、環境局は 2014 年 3 月までにコンサルタントに外部委託し、新戦略の策定作業を開始する予定であったが、コンサル雇用に対する大臣の承認手続きに時間を要し、2014 年度中の策定完了に至らなかった。2015 年 3 月に開催した第 4 回 JCC にて、JCC メンバーが環境局に対し新戦略の策定を急ぐよう要請した。

これを受け、環境局は策定スケジュールを見直し、2015年11月までの策定を目指した。しかし、コンサルタントのTORの内容に関する省内の承認手続きに時間を要し、策定スケジュールに大幅な遅延が生じた。入札の結果、「Hydea S.p.A」というコンサルタントが新戦略策定業務を受注し、2016年2月15日より3ヵ月間策定業務を担う予定である。環境局は、2016年9月までの新戦略発行を目指している。

a.1.2 国家3R政策(2015-2020)

国家 3R 政策は、JICA の技術協力プロジェクト「廃棄物減量化・資源化促進プロジェクト」（2008 年 10 月～2012 年 3 月）の成果品として政策案を策定済であったが、最終化には至っていなかった。環境局は、2015 年 1 月までの最終化を目指し、外部コンサルタントを 2014 年 10 月に雇用し、2015 年 2 月に自治体および事業者等の関係機関を招集し、政策案の意見聴取を目的としたミーティングを地域別（ナンディ、スバ）に開催した。ミーティングには J-PRISM 専門家も出席し、コメントを行った。国家 3R 政策は既に最終化されているが、省内の承認手続きに時間を要している。環境局は 2016 年 3 月までの議会承認を目指している。

a.1.3 国家3R推進枠組み（「家庭用堆肥化容器の補助金制度」および「学校3R教育（CSP）の財政措置」）

（1）背景

フィジー国では、JICAの技術協力プロジェクト「廃棄物減量化・資源化促進プロジェクト（通称：3Rプロジェクト）（2008年10月～2012年3月）」の活動を通じて、3Rモデルの構築が試みられた。3Rプロジェクトでは、ラウトカ市、ナンディ町の2都市を対象に3Rのパイロット・プロジェクトを実施し、結果、「家庭用堆肥化容器（ホーム・コンポスト）の導入」が最も減量化効果が高く（厨芥ごみを排出源で25%減量化可能）、現地の生活様式および自然環境

に適した方法であることが結論づけられた。これを受け、ラウトカ市、ナンディ町では、家庭用堆肥化容器普及をごみ減量化の最優先施策に位置づけ、2010年以降堆肥化容器に対する助成制度を確立、普及を行っている。また、首都スバ市においてもUNDPの支援を受け、2012年12月より同様の制度を設け、普及を進めている。2015年3月末時点で、ラウトカ市で272基、ナンディ町で245基、スバ市で450基、合計約970基の堆肥化容器が配布された。

一方、家庭用堆肥化容器の普及が進むにつれ、補助金制度を設ける上記3市町以外に居住する住民からも堆肥化容器の購入を希望する要請が多く寄せられるようになった。そこでJ-PRISM 専門家は、第3回JCC（2014年3月開催）にて国（環境局）に対し、国が家庭用堆肥化容器の助成金制度を確立するよう提案した。

（2）活動概要

これを受け、2014年度環境局は、JICA専門家の技術支援を受けつつ制度内容を検討した。環境局は、家庭用堆肥化容器の補助金制度に加え、「学校3R教育プログラム（Clean School Program：CSP）実施に対する財政支援措置」も設けた。CSPは、ナンディ町役場に配属されたJOCV（環境教育）が考案し、2010年にナンディ町およびラウトカ市にて開始された後、J-PRISMの側面支援を受け、2013年以降はJ-PRISMの対象全7自治体で実施された。本財政支援措置は、現地方自治・環境大臣の強いイニシアティブの下、CSPの全国展開を狙ったものである。環境局は、定例会議等を通じて自治体の意見も反映させて、上記2制度を最終化した。

本枠組みは、2015年4月～2015年12月に試験的に実施されることになり、2015年4月10日（金）に地方自治省・環境大臣による開始式が行われた。開始式には、教育省西部支局長、JICA フィジー事務所長、全13自治体および自治体に配属中の環境教育隊員6名も出席した。開始式に続いて実施した技術ワークショップでは、ラウトカ市やナンディ町といった先進自治体によってプレゼン発表が行われ、他自治体に対し両事業の成功経験や教訓の共有を行った。なお、本枠組みの実施に係る経費は、先方政府（地方自治・環境省/環境局）が大半を負担しており、先方のイニシアティブが発揮されている（表3-1）。

表 3-1: 国家 3R 推進枠組み実施に係る経費負担

	先方(環境局)負担 (FJD)	J-PRISM 負担 (FJD)
家庭用堆肥化容器の購入	16,600	-
コンポスト推進のためのメディア 広告(TV、新聞)	1,500 (新聞のみ)	8,000
CSP 財政支援	3,000	-
教材(マニュアル、ガイドブック等)	-	10,000
技術ワークショップ開催費	7,000	-
合計	28,100 (約 170 万円)	18,000 (約 110 万円)

（3）結果

国家3R戦略に基づく本枠組みの確立により、一部の自治体での実施にとどまっていた家庭用堆肥化容器の普及および学校3R教育の全国展開が実現した。本枠組みは来年度（2016年度）も継続実施されることが決定している。環境局が本枠組みをより効果的に実施できるよう、JICA専門家は環境局CPとともに自治体から提出されたモニタリング報告書、ならびに環境局が2015年10月に実施した巡回視察に基づき、政策効果、優良事例、課題・教訓を整理した。2016年3月に開催した第5回JCCで、環境局CPが検証結果の概要を発表した。概要を下記に示す。

1. 家庭用堆肥化容器補助金制度

(1) 実施状況

	Plan for FY2015		Progress in early Jul. 2015			Progress at end Nov. 2015			Plan for FY2016	
	No. of bins provided by DoE	No. of bins sold (%)	No. of bins monitored (%)	No. of bins sold (%)	No. of bins monitored (%)	No. of bins used properly* (%)	No. of bins to be promoted	No. of bins provided by DoE	No. of bins sold (%)	No. of bins to be promoted
Lautoka	30	0 (12 own bins)	0 (own only)	7 (23.3%)	5 (16.7%)	5 (16.7%)	30 (36 bins to be promoted)			
Nadi	30	6 (20%)	14 (incl. own)	30 (100%)	16 (53.3%)	16 (53.3%)	30 (household: 25 school: 5)			
Sigatoka	10	6 (60%)	2 (20%)	11 (110%)	6 (60%)	6 (60%)	20			
Ba	10	2 (20%)	2 (20%)	10 (100%)	3 (30%)	3 (30%)	10 (household: 10)			
Tavua	10	10 (100%)	2 (20%)	10 (100%)	2 (20%)	2 (20%)	5 (household: 3 business: 1 school: 1)			
Rakiraki	10	10 (100%)	0 (0%)	10 (100%)	2 (20%)	2 (20%)	7 (no PO)			
Suva	30	23 (76.7%)	36 (incl. UNDP bins)	30 (100%)	20 (66.7%)	20 (66.7%)	30 (household: 30 from UNDP Household: 50 School: 27)			

- ・ ほぼ全ての自治体において環境局から配布された個数を完売。
- ・ しかし、以下のケースも多々みられる
 - 自治体境界外の農村地域(Rural)在住者へ販売
 - 1世帯に対し複数個のビンを販売(複数個購入しても1個しか使っていないケースがある)
- ・ 農村地域は収集サービスが十分に享受できていないためコンポストビンへの需要が高い。しかし、農村地域へ配布したビンに対し、自治体がモニタリングを実施できていない場合が多い。
- ・ 第1回目のモニタリング時の指導で使用状況の改善が確認された。モニタリングの実施は不可欠。
- ・ モニタリングの実施率が低い。要因は以下のとおり。
 - 自治体の人員不足
 - 販売先で昼間に不在な世帯が多いため職員が訪問してもモニタリングが実施できない
 - 自治体の職員が自治体境界外の販売先に対して訪問指導できない

(2) 結論

- ・ 国(環境局)は来年度以降も補助金制度を継続すべきである。理由は以下のとおり。
 - 有機ごみの削減は国家3R政策において最優先課題として位置付けられているため
 - 堆肥化容器に対する高いディマンドに対応するため
- ・ 今年度の実施を通じて抽出された成果・教訓を十分に考慮し、制度のより効果的な実施を図るべきである。

(3) 提言

① 販売対象者の特定:

- 初年度は制度の適用対象を“納税者(ratepayer)に限定した。
- 補助金の財源を考慮した場合、自治体管轄外の農村地域を含む全ての世帯・事業所を対象としてもよいと考えられる。農村地域は収集サービスが十分に享受できていないためコンポストビンへの需要が高い。しかし、農村地域へ配布したビンに対しては、自治体職員がモニタリングを実施できない。

上記を踏まえ、環境局は以下について検討することとする。

- 1) 自治体管轄外の農村地域を含む全ての世帯・事業所を対象とするかどうか。

- ◇ 対象とする場合、RLAs(保健省)にモニタリング業務を担わせることを前提とする。この前提条件を満たさない場合は、対象は“納税者(ratepayer)に限定する。
- 2) RLAs(保健省)にモニタリング業務を担わせることが可能かどうか。
 - ◇ 環境局は来年1-2月にRLAsのHeath Inspectorを対象に含む技術トレーニングの開催を予定している。環境局は技術的向上の場の提供は可能。しかし、RLAsの組織的キャパシティ(人員、予算、車両、等)は自治体以上に限られており、実施が可能かどうか慎重な検討が必要である。
- ② 公平性の担保および適切利用の徹底:
 - 自治体およびコンポストビン購入希望者に対し制度を十分に理解させる(国民の税金で賄われていることなど)。
 - 1世帯/事業者ごと1基のみ購入可とする。2基以上購入を希望する場合は、2基目以降は市場価格(FJ115)で購入させる。
 - 購入時、自治体と購入希望者間で合意書を締結する
 - 購入したビンは適切に使用することを約束する
 - 第三者への販売はしない
 - 購入後最低2回自治体職員によるモニタリングを受け入れる
- ③ 啓発活動と販売スケジュール
 - コンポストビン販売は、テレビ・新聞広告開始後に行う
 - 自治体オフィス内、あるいは、人が多く集まる場所(自治体管轄市場など)に補助金制度普及のためのデモンストレーション用のブースなどを設置するのも一案。

2. CSP財政措置

(1)実施状況

	Plan for FY2015		Progress in early Jul. 2015		Progress at end Nov. 2015		Plan for FY2016	
	No. of target schools planned for FY2015	No. of schools participated (%)	No. of schools monitored (%)	No. of schools participated (%)	No. of schools monitored (%)	No. of schools final judge & Award ceremony	No. of school targeted for FY2016	
Lautoka	51 (Urban:26, Rural:25)	32 (67%) (U:21,R:11)	32 (100%)	32 (67%)	32 (67%)	32 (67%) done	23 (Urban:13, Rural:10)	
Nadi	23 (Urban:12, Peri-urban:5, Rural:5)	27 (117%)	27 (117%)	27 (117%)	27 (117%)	27 (117%) done	25 (Urban:11, Peri-urban:11, Rural:3)	
Sigatoka	10 (Urban:3, Peri-urban:1, Rural:6)	3 (30%) -AP submitted	0 (0%)	0 (0%)	0 (0%)	0 (0%)	10 (all urban)	
Ba	16 (Urban:11, Peri-urban:4, Rural:1)	15 (93.8%)	15 (93.8%)	12 (75%)	12 (75%)	12 (75%) Done	12 (Urban:9, Rural:3)	
Tavua	4 (Urban:4)	4 (100%)	4 (100%)	4 (100%)	4 (100%)	4 (100%) (undone)	3 (all urban) primary:2, secondary:1	
Rakiraki	12 (7?) (Urban:9, Peri-urban:3)	6 (50%)	3 (25%)	6 (85.7%)	6 (85.7%)	6 (85.7%) (next year)	7 (Urban:3, Peri-urban:4, secondary:3)	
Suva	22(10?) (Urban:22)	7 (33.3%)	0 (0%)	27 (122%)	27 (122%)	27 (122%) Done	50 (urban)	
Nasinu	8 (Urban:8)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (all urban) primary:4, secondary:3	
Nausori	6 (Urban:6)	8 (133%)	8 (133%)	8 (133%)	8 (133%)	8 (133%)	7 (all urban) primary:4, secondary:3	
Lami	8 (7?) (Urban:8)	0 (0%)	0 (0%)	5 (71.4%)	5 (71.4%)	5 (71.4%)	7 (all urban) primary:4, secondary:3	
Levuka	7 (Urban:7)	3 (42.9%)	0 (0%)	4 (57.1%)	4 (57.1%)	4 (57.1%)	2* (not mentioned in PO)	
Labasa	6 (Urban:6)	6 (100%)	0 (0%)	5 (83.3%)	5 (83.3%)	5 (83.3%)	7 (Urban:3, Peri-urban:3, Rural:1)	
Savusavu	6 (Urban:3, Peri-urban:3)	0 (0%)	0 (0%)	6 (100%)	6 (100%)	6 (100%)	9 (Urban:3, Peri-urban:3, Rural:3, primary:6, secondary:3)	

(2)結論

- J-PRISM 対象自治体の大半は、1年かけて実施する本プログラム(①ガイドブックの配布、②学校へのプログラム導入、③アクション・プランの回収、④プランに基づく年2回のモニタリング、⑤審査・表彰式)を完了している。しかし、いくつかの自治体では完了に至らず。要因はCPの異動(シンガトカ町)、人員不足(タブア町)。
- J-PRISM 対象外自治体においてもCSPが実施されているが、事業開始が遅れたこともあり、⑤審査・表彰式まで完了している自治体は限られている(年明けに実施を予定しているところもある)
- 自治体管轄外の農村地域の学校に対し、自治体職員がモニタリングを徹底することは困難。
- 財政措置の申請手続きが煩雑。

(3)提言

- 制度を効果的に活用するために、特に組織的キャパシティが限られている自治体は、対象学校を少なくし、モニタリングを徹底することで、実践を通じて本プログラムの知識と経験の蓄積を図る。
- とくにJ-PRISM 対象外自治体の職員のノウハウの向上が必要。J-PRISM 対象自治体とその他自治体間、また、実施に積極的な学校と消極的な学校間のギャップを埋めることが必要。前者は環境局のフォローアップ、後者は自治体および教育省によるモニタリングが必要。

- ・ 自治体管轄外の農村地域の学校に対するモニタリングの実施には、教育省およびRLAs(保健省)との協力関係が不可欠。
- ・ 財政措置の申請手続きを簡素化する。

国が自治体の3R活動推進を目的とした財政支援措置を確立したのは大洋州地域で初の試みであり、注目に値する。

a.2 活動1-2. 3R研修が実施される

3Rに係る研修として以下を実施した(表 3-2)。

表 3-2: 3R 研修の実施概要

	研修名	実施時期	開催場所	対象機関	概要および結果
1	コンポスト研修	2014年10月	OISCA	環境局、スバ市 ラミ町、ナシヌ町、フィジー国立大学農場職員、フィジー更正課(刑務所)	<p><目的>コンポスト担当ワーカー向けにコンポスト方法を教える(スバ市の要請)</p> <p><概要> OISCAでの講義と現場視察(野菜ごみを原料として使い、規模も同程度という理由でOISCAに研修受入れを依頼)</p> <p><効果> 初めての研修参加でワーカーのやる気が高まり、ワーカーのコンポスト方法の改善の必要性を認識するようになった</p>
2	家庭用堆肥化容器および学校3R教育(GSP)の技術ワークショップ	2015年4月	ナンディ町(ホテル)	環境局、全国13自治体	<p><目的> 初めて事業を実施する自治体に対し、実施要領を理解させる</p> <p><概要> 環境局：各種説明(国家3R推進枠組みの概要、教材、モニタリングの実施方法) 自治体(先進自治体(ラウトカ市、ナンディ町、スバ市)：事例発表</p> <p><効果> 参加者が精度概要および実施要領について理解した。また、実施者間の団結力が深まった。</p>
3	市場ごみコンポストの技術研修(計画立案)	2015年6月	スバ市	環境局、中央・北部・東部地区自治体、2つの地域行政区(Navua, Korovou)	<p><目的> コンポスト事業を計画している自治体に対し、フィジーにおける市場ごみコンポスト事業の成功要因と計画立案方法を学ぶ機会を提供する</p> <p><概要> フィジーにおける市場ごみ事業(ラウトカ市、バ町、スバ市)の詳細と計画立案プロセスの説明</p> <p><効果> 市場ごみのコンポスト事業の基礎調査の実施や計画立案について今後スバ市が情報発信者となって他自治体と情報提供を行うことになった。</p>
4	処分場運営管理研修	2015年12月	ラウトカ市ブナト処分場	シンガトカ町の処分場重機オペレーター	<p><目的> シンガトカ町の重機オペレーターが、適切な処分場運営管理について理解する</p> <p><概要> ラウトカ市の重機オペレーターとの処分場の運営管理体制に関するディスカッション、重機を使用したごみの転圧作業のデモ</p>

					ンストレーションの実施 <効果> 重機オペレーター同士ならではの活発な議論を通じて適切な処分場運営管理についての理解が深まった。人的つながりもでき、今後の協力関係が構築された。
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a.3 活動1-3. パイロット・プロジェクトを通じて対象自治体において活動計画が実施される

本プロジェクトの対象7自治体は、2013年8月に実施された中間評価の提言を受けて作成した活動計画（Plan of Operation (PO)）に基づき、自治体のキャパシティに応じて表 3-3 の3R活動を実施した。活動の概要および結果を以下に示す。なお、表中の活動内容の（ ）には活動の主な実施主体を示す。

表 3-3: 各自治体が実施する 3R 活動

	ラウトカ市(LCC)	ナンディ町(NTC)	シンガトカ町(STC)	バ町(BTC)	タブア町(TTC)	ラキラキ町(RTC)	スバ市(SCC)
ホームコンポスト（家庭用堆肥化容器の推進）	●	●	★	★	★	★	◎->★
市場ごみコンポスト	●		●	●			●
有価物回収	●	●					◎
学校3R教育(クリーン・スクール・プログラム(CSP))	●	●	●	●	●	●	◎->★
最終処分場改善	●		●				
廃棄物管理関連データ収集・管理						●	●
エコ・バッグの推進	◎	●					
ホテルごみ削減			●				

●2014年に作成したPOに含めた活動、★国家3R推進枠組の確立に伴い2015年に新たにPOに追加した活動、◎先方による自主的な取り組み（POに含まれていない活動）

(1) ラウトカ市 (Lautoka City Council: LCC)

表 3-4: LLC-成果 1. 有価物回収

項目	内容
実施期間	2009年9月～ ※3R技プロ（2008年10月～2012年3月）以降の継続事業
対象地域	<ul style="list-style-type: none"> 路肩回収－Veitari地区の全居住地区、一部商業地区 拠点回収－Simla地区を中心とする市全域
活動内容	<ul style="list-style-type: none"> モニタリング・データに基づく実施状況の分析（有価物回収量、住民・事業者参加率/利用率、必要経費の算出）、課題抽出、対策検討（C/P、専門家） 戸別訪問による意識啓発（チラシの配布）（C/P） 関係機関（リサイクル業者、大学、NGO等）との調整・交渉（C/P） 路肩回収の代替案となる拠点回収システム（学校、公共の場）の検討（C/P、専

	<p>専門家)</p> <ul style="list-style-type: none"> ● 拠点回収システムの実施要領の検討 (対象品目、デザイン、実施スケジュール、回収頻度、モニタリング) の検討 (C/P、専門家) ● 拠点回収所の建設 (建設費は先方負担 (FJD5,000 (約30万円)、プロジェクトより看板代を財政支援) (C/P) ● 拠点回収ポイントの開所式の開催 (2015年3月) (※J-PRISMプロジェクト・オフィスの天野総括が出席) (C/P) ● 月あたりの有価物回収量 (路肩回収+拠点回収) の算出 (C/P、JOCV、専門家) ● 各システムの有効性の検証 (C/P、専門家)
<p>指標の達成状況</p>	<p><指標> 指標1: 住民・事業者の参加率 (目標: 20%) 指標2: 有価物回収量 (目標: 月あたりの回収量: 400 kg/月) <達成状況> <u>指標1、指標2とも達成不可。</u></p> <p>(1) 路肩回収</p> <ul style="list-style-type: none"> - 参加率: 0.7% (2015年7月)、0.9% (2015年9月~11月) (※平均参加率: 5.6% (2014年度)、8.2% (2013年度)) - 有価物回収量: 307kg/月 (※平均回収量: 404kg/月 (2014年度)、258kg/月 (2013年度)) - 年間運営費: 約 FJD3,130/年 (FJD260/月) <p>(2) 拠点回収</p> <ul style="list-style-type: none"> - 月あたりの有価物の平均回収量: 20kg/月程度 <p>(3) その他</p> <ul style="list-style-type: none"> - 最終処分場のウェスト・ピッカー、紙のリサイクル、3R コミュニティ (Koroipita)、病院等での回収量は 30 トン/月を超える。
<p>検証結果・総評</p>	<ul style="list-style-type: none"> ● LCG の廃棄物管理計画 M/P (2009-2017) では、2014年4月までに路肩回収システムを全4地区 (Veitari, Tavakubu, Simla, Waiyavi) で実施する計画となっていた。しかし、2015年12月時点で Veitari 地区 (市域内全人口の3分の1) での実施にとどまっている。対象地区の拡大には回収業務の民間委託が必須条件であるが、住民・事業者の参加率および有価物回収量の低迷を理由に、自治体が民間委託の決断に至らなかった。C/P は戸別訪問によるチラシの配布を行うなど意識啓発を試みたが、継続的な改善につながらなかった。 ● 拠点回収は回収所設置の初期投資のみが必要で、運営コストはほぼゼロに近い (モニタリング業務を担う人件費のみ)。 ● 当該自治体が所有する最終処分場では、約25名のウェスト・ピッカーが有価物回収を行っている。平均回収量は1.25トン/日、20-30トン/月。路肩および拠点回収に比べ、費用対効果および減量化効果の高い活動であるといえる。
<p>今後に向けた提言</p>	<ul style="list-style-type: none"> ● 今後もウェスト・ピッカーを当該自治体の3R活動の実施主体として積極的に位置づけ、彼らの労働衛生環境状況にも留意しつつ、活動をバックアップしていくことが望まれる。
<p>2016年度の活動計画</p>	<ul style="list-style-type: none"> ● 現行の路肩回収は2016年1月に中断する。 ● 来年度の活動計画では、本成果は「Separate Collection of Recyclables」(分別回収) から「Promotion and Collection of Recyclables」と名称を変更し、路肩回収以外のウェスト・ピッカーをはじめとする有価物のリサイクルに係る全ての活動を対象とする。目標値 (指標) は、25 トン/月。

表 3-5: LCC-成果 2. 家庭用堆肥化容器の普及

項目	内容
実施期間	2009年9月～ ※3R技プロ（2008年10月～2012年3月）以降の継続事業
対象地域	<ul style="list-style-type: none"> LCC全域（農村地域(Peri-Urban)を含む) ※当初補助金制度は市域内居住の納税者のみに限定していたが、堆肥化容器に対する需要の高まりに対応するため、LCCは市の方針を変更し、市域外の農村地域に居住する非納税者に対しても売却を開始。ただし、非納税者に対する売却価格は正規料金の半額（FJD41.25）（納税者に対する売却価格はFJD30.00）。
活動内容	<ul style="list-style-type: none"> 市の補助金制度の実施継続（2010年～）。コンポスト容器購入のための予算確保・購入（C/P） 国（環境局）の補助金制度のLCCへの割当：30基（2015年度）（環境局） 購入者へのコンポスト設置支援・指導（水分調整材としての剪定ごみのチップの配布、マニュアルの配布）（C/P） モニタリング活動の実施（使用状況の確認、住民への指導、等）（C/P） コンポスト容器販売促進のための意識啓発活動（ブース設置、イベント活用等）（C/P） プロジェクトで作成したメディア広告案（新聞、TV）へのコメント提供（C/P） 家庭用堆肥化容器の補助金制度の技術ワークショップでのプレゼンテーションの実施（2015年4月）（C/P） フィジー国更生課（刑務所）（Natabua Corrections Service Centre）および低所得者居住地域（Koroipita, PRB/HEART）に対するコンポスト配布・技術指導（C/P） JICAの同窓会（JICA Alumni）に対する提案書の提出、44基の堆肥化容器獲得。（C/P）
指標の達成状況	<p>指標1. コンポスト容器売却数：350基（2016年3月まで）</p> <p><達成状況> <u>達成見込み</u></p> <ul style="list-style-type: none"> 2015年12月上旬時点でのコンポスト売却数：339基（指標の達成度：97%） LCCは2015年度市の補助金制度で100基追加購入する予定であった。しかし、堆肥化容器の価格暴騰（FJD55→FJD82（定価:FJD111.50））により、購入数は30基に減数。
実施・検証結果	<ul style="list-style-type: none"> 堆肥化容器の価格暴騰につき、市の補助金制度による容器の供給数が計画数に比べて減少したため、目標達成は困難と思われた。しかし、国の補助金制度の確立、また、JICA Alumniの支援により目標達成見込みとなった。 LCCが実施した堆肥化容器のモニタリング結果によると、適切に利用している堆肥化容器の割合率は85.2%（46/54基）。自治体によるモニタリングが堆肥化容器の適切な使用を保証する上で重要。
今後に向けた提言	<ul style="list-style-type: none"> 市独自の補助金制度および環境局の補助金制度の適用対象を峻別する。市の補助金制度の対象は納税者に限定し、農村地域に対しては環境局の補助金制度の適用対象とすることが望ましい。
2016年度の活動計画	<ul style="list-style-type: none"> 目標値（指標）は、“36基の推進”。 2016年度はLCCの補助金制度で30基、環境局の補助金制度で30基、計60基を追加予定。

表 3-6: LCC-成果 3. 市場ごみコンポスト

項目	内容
実施期間	2009年9月～ ※3R技プロ（2008年10月～2012年3月）以降の継続事業
対象地域	<ul style="list-style-type: none"> 市所有の野菜市場

	<ul style="list-style-type: none"> • Vunato最終処分場におけるコンポスト・ヤード
活動内容	<ul style="list-style-type: none"> • 実施状況の確認、モニタリング・データの収集・分析 (C/P、専門家) • 民間委託業者に対する分別作業の指導・監督 (C/P、JOCV) • 生成コンポストの販売促進 (ブース設置、イベント活用等) (C/P、JOCV)
指標の達成状況	<p>指標1. コンポスト生成量: 15トン以上 (累積値) 指標2. コンポスト売却益: FJD 4,500 (累積値)</p> <p><達成状況> 指標1、指標2とも達成</p> <ul style="list-style-type: none"> - 2015年11月末時点でのコンポスト生成量: 28.16トン (指標の達成度: 188%) - 2015年11月末時点でのコンポスト売却益: FJD8,448 (指標の達成度: 188%)
実施・検証結果	<p>市場ごみのリサイクル率: 42.2% (=2015年度の有機ごみの平均回収量 (0.987トン/日) / 市場ごみ平均発生量 (2,338トン/日))。</p> <p>2011年度の平均回収量は0.2トン/日。市場での分別、回収・運搬作業の民間委託、民間業者の作業監理徹底により、回収量が増加。なお、LCCの廃棄物管理計画では、2017年までに平均回収量1.3トン/日を目指している。</p> <ul style="list-style-type: none"> • コンポストの製造過程を極力機械化することで (繰り返し作業に処分場重機を活用)、製造コストを削減。 • コンポスト・ヤードが処分場敷地内に設置されているため、浸出水や繰り返しに伴う悪臭の発生が問題にならない (※水分調整材として、剪定ごみから生成した木質チップを活用)。 • 生成コンポストの需要大 (口コミが最大の情報伝達ツール)。リピーターも多い。野菜の価格暴騰により家庭菜園を行う世帯が増加。
今後に向けた提言	<ul style="list-style-type: none"> • 分別作業の民間委託費を含む生成コストの試算を行う。 • 需要に対する供給量の確保およびコンポスト製造プロセスの迅速化に向け、小型シュレッダーの購入を検討する。 • 定期的に生成コンポストの成分分析を行い、コンポストの質を確保する。
2016年度の活動計画	<ul style="list-style-type: none"> • 目標 (指標) は、以下の3つ。 <ul style="list-style-type: none"> - 市場ごみの日あたりの平均回収量: 1.0トン/日。 - 2016年12月までに少なくともコンポストの生成量38トン、売却益FJD11,400 (累積値)。 - 毎週繰り返しを実施する。

表 3-7: LCC-成果 4. 学校 3R 教育(CSP)

項目	内容
実施期間	2010年度～ ※3R技プロ (2008年10月～2012年3月) 以降の継続事業
対象地域	<ul style="list-style-type: none"> • ラウトカ市全域 (農村地域を含む)
活動内容	<ul style="list-style-type: none"> • 活動計画 (P0) に基づく実施状況の確認 (C/P、専門家) • 学校のモニタリング、審査会、表彰式の開催 (C/P) • 実施方法およびモニタリング実施体制に対する助言 (専門家) • 対象学校での3R関連イベントへの参加、学校での3R活動の視察・指導 (C/P、専門家)
指標の達成状況	<p>指標1. CSPを通じた3Rコンセプトの普及: 48校</p> <p><達成状況> 達成</p> <ul style="list-style-type: none"> - LCCは、2013年5月に48校を対象にワークショップを実施、3Rコンセプトを普及。アクション・プランを提出し、プランに従って実際に3R活動を展開した学校数: 34校 (2014年度)、32校 (2015年度)。
実施・検証	<ul style="list-style-type: none"> • LCCは2014年度、モニタリングを実施せず、審査・表彰式のみを実施。2015年度

証結果	は計画通り2回にわたってモニタリングを実施。自治体による学校に対するフォローアップおよびモニタリングの実施は、自治体-学校間の信頼関係構築につながり、本事業の成功に大きく左右する。
今後に向けた提言	<ul style="list-style-type: none"> アクション・プラン未提出の学校に対するフォローアップ。LCCは市管轄域内の学校に注力し、市域外の学校に関しては教育省および保健省（Rural Local Authority (RLA)）との連携実施を検討する。 学校に対するモニタリングの確実な実施。
2016年度の活動計画	<ul style="list-style-type: none"> 目標（指標）は、“全校（51校）への普及。そのうち少なくとも30校が3R活動を実施”。30校のうち、11校は農村地域（管轄外）の学校が対象。

表 3-8: LCC 成果 5. 最終処分場改善

項目	内容
実施期間	2009年9月～ ※3R技プロ（2008年10月～2012年3月）以降の継続事業
対象地域	<ul style="list-style-type: none"> Vunato最終処分場
活動内容	<ul style="list-style-type: none"> 活動計画（P0）に基づく処分場運営状況の現場確認（C/P、専門家） 搬入ごみ管理（トラックスケールによる搬入ごみの重量測定、カテゴリー別の料金徴収、目視による搬入ごみ確認、搬入ごみの分析・管理、収集車両の誘導、等）（C/P） 日常的な処分場運営管理（堰堤の嵩上げ、アクセス道路の再整備、排水路の整備、等）（C/P） 特別管理廃棄物用の埋立区画整備（C/P） 処分場重機の維持管理（重機のメンテナンス期間中は、民間企業より重機を借用）（C/P） ウェスト・ピッカーの3R活動推進、労働保健衛生改善のトレーニング実施（C/P） 簡易水質モニタリング方法・機器の検討（C/P、専門家） 処分場訪問者・視察者への対応（C/P、専門家） シンガトカ町役場（STC）処分場担当者、管理人、重機オペレーターに対する研修受け入れ（C/P、専門家） シンガトカ町処分場のJICA専門家現地不在時の技術的アドバイスの提供（C/P）
指標の達成状況	<p>指標1. 埋立区画の改善率： 100%</p> <p><達成状況> 達成</p> <p>- 3R技プロで策定した処分場改善計画に基づき、先方負担で実施。</p>
実施・検証結果	<ul style="list-style-type: none"> LCCのキャパシティおよび立地条件（マングローブ泥炭地）に応じたモデル処分場として確立。運営管理も既にルーチン化されている。 トラックスケールによる従量制料金徴収制度の確立により、処分場運営管理に必要な予算額を毎年確実に確保することが可能となった（トラックスケールの定期検査（年1回）、処分場重機の修理・メンテナンスも含む）。 ウェスト・ピッカーの登録管理制度、リサイクル活動の推進、労働衛生環境の向上についても優良事例の一つとして国内外から注目されている。
今後に向けた提言	<ul style="list-style-type: none"> カテゴリー別の搬入ごみ量、歳入・歳出額の記録・分析を継続的に実施し、処分場運営管理計画に活用する。 環境モニタリングの定期実施による処分場に起因する環境影響を定量的かつ定性的に評価する。
2016年度の活動計画	<ul style="list-style-type: none"> 目標（指標）は、以下の3つ。 <ul style="list-style-type: none"> 施設および機材の整備・調達を計画通りに行う（サイクロンで損傷した管理棟、サインボードの建て替えを含む）。 全埋立区画（100%）の適切な運営・維持管理。

- 四半期に1回水質モニタリングの実施。

表 3-9: LCC 上記成果以外の活動(C/P による自主的取組も含む)

項目	内容
活動内容	<ul style="list-style-type: none"> 2014年9月～：ラウトカ市郊外の低所得者居住地区 (Koroipita) におけるコミュニティ主導・参加型での3R活動の展開 (①有価物回収、②家庭用堆肥化容器、③エコ・バッグ作成 (※LCC 配属の環境教育 JOCV が支援)) 2015年9月～：市域内の刑務所の職員および囚人に対する3R活動の推進 (①有価物回収、②家庭用堆肥化容器)

(2) ナンディ町 (Nadi Town Council: NTC)

表 3-10: NTC-成果 1. 有価物回収(町中心部の商業地区対象)

項目	内容
実施期間	実施せず。 (PO では 2015 年 6 月より本活動を開始予定であったが、実施に至らず)
対象地域	<ul style="list-style-type: none"> Town地区 (Ward) の商業地区 (Central Business District (CBD))
活動内容	<ul style="list-style-type: none"> 本活動実施の是非を協議 (C/P、専門家) 本活動を実施しない場合の代替案の検討 (C/P、専門家)
指標の達成状況	指標 1. Town地区のCBD地区での有価物回収の参加率： 20% <達成状況> 未達成 (活動実施に至らず)
実施・検証結果	<ul style="list-style-type: none"> NTCの廃棄物管理計画 M/P (2009-2017) では、2017年12月までに現行の路肩回収システムを全町域で実施する計画となっている。しかし、2015年12月時点で Town Ward の商業地区での実施に至らず、カバー率は 90.9%にとどまる。 NTC 保健課のキャパシティ (実質 2 名での実施体制) では、現行システム (成果 2) の継続が精一杯で、これ以上の拡大は困難と判断された。
今後に向けた提言	<ul style="list-style-type: none"> C/P 機関である保健課の主要業務の一つは、各商業施設への営業許可証の発行や衛生指導である。本業務の一環として、Town 地区の CBD 地区の各事業所に対し、リサイクル業者に関する情報の提供やリサイクル活動の自主的取り組みを促す。
2016年度の活動計画	<ul style="list-style-type: none"> 2016 年度の PO では成果より除外。

表 3-11: NTC-成果 2. 有価物回収(継続)

項目	内容
実施期間	2009年9月～ ※3R技プロ (2008年10月～2012年3月) 以降の継続事業
対象地域	<ul style="list-style-type: none"> Namaka地区、Martintar地区 (※両地区とも商業 (CBD) 地区を含む)
活動内容	<ul style="list-style-type: none"> 有価物回収作業への同行、モニタリングの実施 (C/P、専門家) 住民への回収カレンダーあるいはチラシの配布・意識啓発 (毎年 1 回、2014 年度より印刷代は NTC 負担) (C/P) モニタリング・データに基づく実施状況の分析 (有価物回収量、住民・事業者参加率/利用率、必要経費の算出)、課題抽出、対策検討 (C/P、専門家) リサイクル業者との調整・交渉 (C/P、専門家) システムの有効性の検証 (C/P、専門家)
指標の達成	指標 1. 有価物回収量： 15,000kg/年

成状況	<p><達成状況></p> <ul style="list-style-type: none"> - 2014年度—達成（実績：15,047kg以上） - 2015年度—達成見込み（実績：9,710kg（2015年3月～11月（9ヶ月間）の合計）） （※上記の値は、PETボトル、ガラス瓶、ハードプラスチックを除く）
実施・検証結果	<ul style="list-style-type: none"> • 回収トラックを管理する技術課の協力の下、継続実施しており、作業もルーチン化されている。2015年度にこれまで回収・モニタリング作業を担当していたCPが離職。後任のスタッフへのトレーニングが必要となった。 • LCC同様、住民・事業者の参加率の向上、有価物回収量の増加が課題。
今後に向けた提言	<ul style="list-style-type: none"> • NTCは数年後に町域の拡大が見込まれており、人口が倍増し、「町」から「市」へ格上げされる予定。現行の人口規模（1万5千人程度）であれば、直営での回収は可能であるが、それ以上となると民間委託も視野に入れていく必要がある。
2016年度の活動計画	<ul style="list-style-type: none"> • 目標値（指標）は、これまで同様”15,000kg/年“。

表 3-12: NTC-成果 3. 家庭用堆肥化容器の普及

項目	内容
実施期間	2009年9月～ ※3R技プロ（2008年10月～2012年3月）以降の継続事業
対象地域	<ul style="list-style-type: none"> • NTC管轄地域内 ※NTCの補助金制度は町域内居住の納税者のみに限定。
活動内容	<ul style="list-style-type: none"> • 町の補助金制度の実施継続（2010年～）。コンポスト容器購入のための予算確保・購入（2015年度は50基購入）（C/P） • 国（環境局）の補助金制度のNTCへの割当：30基（2015年度）（環境局） • 購入者へのコンポスト指導（マニュアルの配布）（C/P） • モニタリング活動（使用状況の確認、住民への指導、等）（C/P） • コンポスト容器販売促進のための意識啓発活動（ブース設置、イベント活用等）（C/P） • プロジェクトで作成したメディア広告（新聞、TV）へのコメント提供（C/P）
指標の達成状況	<p>指標1. コンポスト容器売却数：330基（プロジェクト終了（2016年2月）まで）</p> <p><達成状況> <u>達成不可能な見通し</u></p> <ul style="list-style-type: none"> - 2015年11月下旬時点でのコンポスト売却数：280基（指標の達成度：85%）
実施・検証結果	<ul style="list-style-type: none"> • NTCは、LCC同様、堆肥化容器の価格沸騰により、町の補助金制度での容器の購入数が計画数に比べて減少したため目標達成が困難となった。また、2013年度にナンディ町が洪水被害に遭い、倉庫に保管していた堆肥化容器の紛失・損傷、一時期在庫が無い状況が続いたことも普及の進捗に影響を及ぼした。 • LCCが実施した堆肥化容器のモニタリング結果によると、適切に利用している堆肥化容器の割合率は53.3%（16/30基）（※対象は、環境局の補助金制度によるNTC配当分のみ）。自治体によるモニタリングが適切な使用を保証する上で重要。
今後に向けた提言	<ul style="list-style-type: none"> • 堆肥化容器の需要が高い農村地域の住民への制度適用を検討する（確実なモニタリングには保健省との連携が前提条件）。
2016年度の活動計画	<ul style="list-style-type: none"> • 目標値（指標）は、”50基の推進”（内訳は、NTCの補助金制度で20基、環境局の補助金制度で30基）。

表 3-13: NTC-成果 4. 学校 3R 教育(CSP)の推進

項目	内容
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実施期間	2010年9月～ ※3R 技プロ（2008年10月～2012年3月）以降の継続事業
対象地域	<ul style="list-style-type: none"> ナンディ町全域（農村地域を含む）
活動内容	<ul style="list-style-type: none"> 活動計画（P0）に基づく実施状況の確認（C/P、専門家） 学校のモニタリング活動への動向、審査会・表彰式の開催（C/P） 審査会および表彰式への参加、実施方法およびモニタリング実施体制に対する助言（専門家） 対象学校での3R関連イベントへの参加、学校での3R活動の視察・指導（C/P） 全国展開に向けた戦略の検討（C/P、専門家）、全国版ガイドラインの作成（C/P） 自治体長（Special Administrator（SA））と協議（CSP実施の予算執行依頼等）（C/P、専門家） 教育省事務次官（Permanent Secretary: PS）との協力関係構築に向けた協議（C/P、専門家環境局）（2015年3月） CSPの財政措置の技術ワークショップでのプレゼンテーションの実施（2015年4月）（C/P）
指標の達成状況	<p>指標1. 2016年までにCSPに参加する学校数： 20校</p> <p><達成状況> 達成</p> <p>- 年々参加校が確実に増加。2015年度は27校参加（指標の達成度：135%）</p>
実施・検証結果	<ul style="list-style-type: none"> CSPの先進都市として国内外より視察・講師派遣の要請あり。 C/Pはガイドラインの改訂を自身で行うことも可能。
今後に向けた提言	<ul style="list-style-type: none"> NTCは市管轄域内の学校に注力し、市域外の学校に関しては教育省および保健省（Rural Local Authority（RLA））との連携実施を検討する。
2016年度の活動計画	<ul style="list-style-type: none"> 目標（指標）は、“25校が参加”。そのうち14校（小学校9校、中高等学校が5校）は農村地域（管轄外）の学校が対象。

表 3-14: NTC 成果 5. エコ・バッグの推進

項目	内容
実施期間	2012年7月～ （NTC 配属の環境教育隊員（当時）が考案）
対象地域	<ul style="list-style-type: none"> ナンディ町全域（観光客含む）
活動内容	<ul style="list-style-type: none"> 衣服を扱う工場ならびに仕立屋（洋服屋）から廃棄された布切れを回収（無償、一部有償）（C/P） 女性グループへの布切れの提供、バッグの作製依頼（C/P） 作製されたバッグの受け取り（C/P） ラベルの作製（C/P） エコ・バッグの普及促進（自治体庁舎、小売店、等）（C/P）
指標の達成状況	<p>指標1. 2016年までに売却するエコ・バッグの数： 3,000枚</p> <p><達成状況> 達成</p> <p>- 2015年11月下旬時点で合計3,002袋売却（うち、2015年度の売却分は508袋）（指標の達成度：100%）</p>
実施・検証結果	<ul style="list-style-type: none"> 布きれの需要が高くなり、布切れの無償回収ができなくなりつつある。 NTCは本活動を通じてレジ袋の削減を目指していることもあり、購入者の対象を地元住民に絞っている。
今後に向けた提言	<ul style="list-style-type: none"> レジ袋の削減という目的を達成するには、レジ袋の有料化施策の導入が効果的。環境局としても国家 3R 政策の戦略目標の一つに“レジ袋の削減”を挙げており、レジ袋の有料化施策が導入されれば、一気に普及が進む可能性がある。 NTCは観光の中心地であり、エコ・バッグはフィジーのお土産としても最適なた

	め、お土産屋等と連携することで大幅な売却拡大が見込まれる。布切れを購入し、バッグの売却価格を多少上げて売り上げには影響が及ばない可能性大。
2016年度の活動計画	<ul style="list-style-type: none"> 2016年度の目標値（指標）は、“500袋売却”。

(3) シンガトカ町 (Sigatoka Town Council: STC)

表 3-15: STC-成果 1. 最終処分場改善

項目	内容
実施期間	2013年9月～ <背景> STCは2012年にJ-PRISMの対象自治体に含まれた。2013年に、J-PRISMの技術支援を受け、簡易廃棄物管理計画を策定。計画では、最終処分場の改善がSTCの廃棄物管理において最優先課題として位置づけられたため、2014年に処分場改善計画をプロジェクト活動の対象に含めた。
対象地域	<ul style="list-style-type: none"> シンガトカ最終処分場
活動内容	<ul style="list-style-type: none"> STC簡易廃棄物管理計画の策定（2013年7月）（C/P、専門家） 処分場改善計画（案）の策定、住民集会で共有（2013年9月、2014年7月（改訂））（C/P、専門家） EIA手続きの一環として、環境管理計画を環境局へ提出（2014年3月）（C/P、専門家） STCの自治体首長（Special Administrator）（当時）より、JICA フィジー事務所に対してブルドーザー供与の公式要請レターが発出（2014年4月）（C/P） 処分場搬入料金の見直しに向けた提言（2014年6月～2015年2月）（専門家） 副首相兼地方自治・環境大臣（当時）と協議（シンガトカ処分場の方針（継続使用か、閉鎖か）の確認）（2014年6月）（C/P、専門家） 処分場管理人に対する処分場研修（於：ラウトカ市Vunato最終処分場）（2014年6月）（専門家） 現地再委託での測量調査の実施（2014年6月～7月）（C/P、専門家） 工事費積算（施工価格調査を含む）、JICA/シンガトカ町側の負担事項の明確化、作業工程の検討（2014年7月）（C/P、専門家） 改善工事の実施（既存埋立ごみの移設と堰堤築造、場内覆土、アクセス道路の施工、ごみ収集車両洗浄エリアの設置、分別埋立区画（剪定ごみ、ガラス瓶、大型廃棄物）の設置、看板の設置）（2014年9月～10月）（C/P、専門家） 最終処分場運営マニュアル（案）の策定および現地研修（2014年10月）（専門家） 定例会議の場を活用した最終処分場改善工事に係る研修の実施（2014年10月）（C/P、専門家） ウェスト・ピッカーの登録制度の導入、ミーティング（2014年10月）（C/P、JOCV、専門家） 地方自治/環境事務次官（PS）による改善処分場の竣工式（2014年10月）（C/P、環境局、専門家） 処分場モニタリング委員会の発足、第1回モニタリングの実施（2014年10月）（C/P、JOCV、専門家） OJTによる処分場運営管理指導（2014年10月～）（専門家） 火災対応・防止に向けた技術提言（2015年4月）（専門家） 自治体が行う最終処分場運営管理に対する環境局の役割・モニタリング実施体制に対する提言（2015年6月）（専門家）
指標の達成状況	指標1. 最終処分場に起因する火災・苦情の減少 <達成状況> 未達成

	<ul style="list-style-type: none"> 記録システムが確立されていないため判断できず。
実施・検証結果	<ul style="list-style-type: none"> 改善工事の実施に伴い、適切な処分場運営維持管理が可能になるよう搬入料金の改訂を行ったが、搬入料金は全て一般会計に計上され、最終処分場の運営管理に十分な予算が充てられていない。 2014年10月に改善実施以降、火災・苦情の発生もなく、良好な状況を維持されていたが、2015年4月末に工事後初となる大規模火災が発生。ウェスト・ピッカーによる放火、発火源となるごみの搬入ごみへの混在が原因と考えられる。また外部の重機が確保できず、初期対応が著しく遅延したため、延焼につながった。その後も、小規模な火災が度々発生。 自治体が所有する重機（Backhoe loader）（2009年に在フィジー日本大使館が草の根無償で供与）で二日に一度ごみの押し出しを実施。当該機材ではキャパシティが小さく、また、ごみの転圧、覆土（砂）作業を行うには適切でないため、埋立作業中に故障し、埋立作業が滞る事態が頻繁に生じている。 STCは、既存重機の故障時、また、火災発生時に、重機（ブルドーザー）を外部の業者よりレンタルしている。シンガトカ町近隣に重機を供与できる業者が少ないため、約40km離れたナンディ町の業者からレンタルしなければならないため、また、重機の運搬コスト（トレーラー借用代）も負担しなければならないため、町にとって大きな財政負担となっている。
今後に向けた提言	<ul style="list-style-type: none"> 財政的に持続可能な処分場運営管理に向けた処分場関連収支の独立会計化。 ブルドーザー（D4レベル）の購入（中古品でも可）が望まれる。難しい場合は、特定の民間業者との契約締結することが望ましい。これにより、平時の適切な処分場運営管理、大規模火災時への即時対応が可能になる。 STC職員による日々の運営管理状況のモニタリング、搬入ごみ管理指導（搬入ごみのチェック・システム、搬入作業など）、ウェスト・ピッカーの管理徹底が望まれる。 処分場改善計画に定めたSTC負担事項の確実な実施。処分場の管理棟の更新（処分場管理従事者の労働環境の向上）、散乱ごみ防止対策を目的としたフェンスの設置。
2016年度の活動計画	<ul style="list-style-type: none"> STCは、処分場の適切な運営維持管理を来年度の活動における最重要課題として位置付けている。 指標は、“最終処分場に起因する火災・苦情の減少”。2015年度の教訓を踏まえ、活動に「記録システムの確立」を含めている。 加えて、施設整備（フェンス、管理棟のアップグレード）、夜間のセキュリティ配備、処分場の拡張（土地収用）についても実施予定。

表 3-16: STC-成果 2. ホテルごみの削減

項目	内容
実施期間	2014年1月～ <背景> 最終処分場搬入調査の結果、処分場の搬入ごみの75%がホテルごみであることが判明したため、ホテルごみの削減がSTCの3R活動に追加された。
対象地域	<ul style="list-style-type: none"> パイロット・ホテル： シャングリ・ラ フィジアン リゾート アンド スパ（SHANGRI-LA'S FIJIAN RESORT AND SPA） Coral Coast地域に立地するホテル
活動内容	<ul style="list-style-type: none"> ごみフローの作成、STC簡易廃棄物管理計画の策定（2013年5月～7月）（C/P、専門家） Coral Coastホテル協会（Coral Coast Hotel Association）へのプレゼンテーション（2013年9月）（C/P） Coral Coast地域の全ホテルを対象とした質問票の配布・回収・分析（廃棄物管理/3R実施状況の確認（2014年1月-2月）（C/P、JOCV）

	<ul style="list-style-type: none"> ホテルごみ削減計画の策定、パイロット・ホテルとの協議（2014年1月）（C/P、専門家） リサイクル業者との協議（2014年3月）（専門家） パイロット・ホテルより実施計画提出（2014年4月）（パイロット・ホテル） ホテル主導でパイロット事業開始、STC C/Pによる定期的なモニタリング（2014年7月-2015年2月）（パイロット・ホテル、C/P、専門家） パイロット・ホテルのGeneral Managerと今後の展開について協議（STCよりCEO出席）（2015年8月）（パイロット・ホテル、C/P、専門家） CEOがCoral Coastホテル協会のミーティングに出席。処分場の現状と課題を共有し、ホテルごみ削減の必要性を訴えた（2015年10月）（C/P）
指標の達成状況	<p>指標1. 3ホテル以上で3Rの実施</p> <p><達成状況> 未達成</p> <ul style="list-style-type: none"> 公式には1ホテルのみ。ただし、他のホテルにおいても何らかの3R活動を実施中。
実施・検証結果	<ul style="list-style-type: none"> パイロット・ホテルでは、ガラス瓶の小型粉砕機を導入し、6,400本（3.84トンに相当）のガラス瓶のリサイクルに成功した。粉砕したガラス屑は、剪定ごみのリサイクル施設の建設に活用された。パイロット・プロジェクト後は、ホテルは各ゲスト・ルームに分別システムを導入した。 自治体のキャパシティには限界があるため、行政主導ではなく、ホテル側に実施計画を策定させ、ホテル主導で実施させることが必要。 自治体によるホテルに対するフォローアップ、ならびに、モニタリングの実施は、自治体-ホテル間の信頼関係構築につながり、本事業の成功を大きく左右する。ただし、全てのホテルが自治体の管轄域内に立地しているわけではないため、自治体による管轄域外のホテルへのモニタリングは困難。
今後に向けた提言	<ul style="list-style-type: none"> ホテルごみの削減には、国の関与による何らかの規制が必要であり、自治体およびホテルの自主的取組に任せるには限界がある。2016年3月に開催された第5回JGCでは、環境局がホテルに対して発行するごみ排出許可制（Waste Permit system）の基準に「3Rへの取組」を含める計画があり、今後ホテルは3Rへの取組が義務化される可能性がある。3Rに積極的に取り組むホテルには表彰や認証を行うなどホテル側のモチベーションおよび競争心を仰ぐインセンティブが必要。 ホテルから発生する有価物の回収がスムーズに進むよう、STCはリサイクル業者と交渉し、特定の回収日を設定するなどの対応を検討する。 引き続きCoral Coastのホテル協会のミーティングを通じて、ホテル側とのコミュニケーションを図るとともに、3R推進に向けた働きかけを行う。
2016年度の活動計画	<ul style="list-style-type: none"> STCは成果1の最終処分場改善と同様、最重要課題の一つとして認識。 目標（指標）は、「3ホテル以上で3Rの実施」。

表 3-17: STC-成果 3. 市場ごみのコンポスト

項目	内容
実施期間	2011年6月～ ※STC配属のJOCV（2011年-2013年）が2011年に開始して以降の継続事業
対象地域	<ul style="list-style-type: none"> 市所有の野菜市場 NGO(OISCA)の敷地内にあるコンポスト・ヤード
活動内容	<ul style="list-style-type: none"> 実施状況の確認、現場視察、OISCAとの協議（継続）（C/P、専門家） 市場ごみの改築工事に伴う事業の中断（2014年4月-9月） STC-OISCA間のMOAの改訂および締結（2014年9月）（C/P、JOCV、専門家） ごみ減量化効果および費用対分析の実施（2014年9月）（専門家） 運搬コストが増加することなくごみ回収量を増加させるため、トレーラーを先方負担で購入（2015年2月）（C/P） OISCAによる自主回収（不定期）開始（2015年6月）（OISCA）

	<ul style="list-style-type: none"> 野菜販売者 (Market vendor) の代表からなる市場委員会 (Market Committee) の選挙、非正規職員 (Attachment) による実施状況データの記録開始 (2015年7月) (C/P) 新規分別ビン10基導入 (C/P)、分別のためのポスターおよびステッカーの作成 (2015年8月) (C/P、JOCV、専門家) 野菜販売者 (Market vendor) に対する分別に対する意識啓発ワークショップの実施、市場ごみ分別のデモンストレーションの実施、周辺農村への市場ごみの回収呼びかけ (2015年8月) (C/P、専門家) OISCAとのMOA更新 (2015年10月) (C/P)
指標の達成状況	<p>指標1. 市場ごみのリサイクル率： 20%</p> <p><達成状況> <u>未達成</u></p> <ul style="list-style-type: none"> 2015年7月以前は、データ記録が欠如しており、リサイクル率計算できず。 月あたりの市場ごみ回収量 2 トン。平均リサイクル率：10.8% (2015年)
実施・検証結果	<ul style="list-style-type: none"> STCの限られたキャパシティ下でコンポストの製造まで担うのは困難。STCは市場ごみの分別、回収・運搬に注力し、OISCAにコンポストの製造プロセスを担ってもらい現行のシステムを継続するのが現実的な選択である。その場合、OISCAとの密なコミュニケーション、信頼関係の構築が必須である。 2014年以降、STCは運搬コスト削減のため、市場ごみの回収頻度を週3回から週2回に減少させた。回収量を確保するため、STCはトレーラーを購入したが、コンポスト・ヤードのあるOISCAまでのアクセス道路が整備されておらず、うまく活用されなかった。 STCは、市場にごみの分別、回収・運搬を行う専任の担当者を配置。本担当者のコミットメントが分別状況の改善につながった。 本事業の成功には、市場全体の管理を担い、市場委員会 (Market Committee) および販売者 (Market Vendor) と面識があり、独自のネットワークを有する市場管理者 (Market Master) の協力は欠かせない。
今後に向けた提言	<ul style="list-style-type: none"> リサイクル率の向上には、市場ごみの回収・運搬頻度を上げることがオプションとして考えられる。これが困難な場合は、①OISCAによる自主回収の推進、②養豚業者や農村への市場ごみの無償提供など、他のオプションを検討する。 定期的に生成コンポストの成分分析を行い、コンポストの質を確保する。
2016年度の活動計画	<ul style="list-style-type: none"> 目標 (指標) は、現行同様、“市場ごみのリサイクル率：20%”。

表 3-18: STC-成果 4. 学校 3R 教育(CSP)の促進

項目	内容
実施期間	2012年1月～ ※STC配属のJOCV (2011年-2013年) が2011年に開始して以降の継続事業
対象地域	<ul style="list-style-type: none"> シンガトカ町全域 (農村地域一部を含む)
活動内容	<ul style="list-style-type: none"> 活動計画 (PO) に基づく実施状況の確認 (C/P、専門家) 学校のモニタリング活動への同行、審査会・表彰式の開催 (C/P、専門家) 審査会への参加、実施方法およびモニタリング実施体制に対する助言 (専門家) CSPの財政措置の技術ワークショップでのプレゼンテーション (2015年4月) (C/P) C/Pの異動 (2015年7月) およびJOCVの帰国 (2015年9月) により活動が停滞。非正規職員 (Attachment) によるアクション・プランの一部回収 (2015年10月-11月) CSPの代替イベントとして、3R美術展覧会 (3R Art Exhibition) をSTC配属のJOCVが企画・実施 (2015年) (JOCV)
指標の達成状況	指標1. CSPの実施校数： 10校

	<p><達成状況> <u>未達成</u></p> <ul style="list-style-type: none"> - 2014年までは実施。2015年度は実施に至らず。
実施・検証結果	<ul style="list-style-type: none"> • STCはGPが1名しかおらず、自治体のキャパシティは限られているが、環境関連のステークホルダー（ホテルごみ削減プロジェクトのパイロット・ホテルであるシャングリ・ラホテル、National Trust、OISCA、等）に恵まれている。これらのステークホルダーとはCSPもこれまで共同で実施しており、ステークホルダーの存在がSTCのキャパシティを補完する役割を担っている。
今後に向けた提言	<ul style="list-style-type: none"> • STC単体での実施は困難な可能性があるため、ステークホルダーとの良好な関係を継続し、共同実施を目指す。 • 市管轄域内の学校のみならず、市域外の学校に関しては教育省および保健省（Rural Local Authority (RLA)）との連携を検討する。
2016年度の活動計画	<ul style="list-style-type: none"> • 目標（指標）は、今回同様、“10校でのCSP実施”。

表 3-19: STC 成果 5. 家庭用堆肥化容器の普及

項目	内容
実施期間	<p>2015年4月～</p> <p>※国（環境局）による家庭用堆肥化容器の補助金制度確立に伴い、2015年度のP0に追加</p>
対象地域	<ul style="list-style-type: none"> • シンガトカ町全域（農村地域も含む）
活動内容	<ul style="list-style-type: none"> • 家庭用堆肥化容器のSTC到着：10基（2015年5月）（環境局） • 野菜販売者（Market vendor）に対する市場ごみ分別に対する意識啓発ワークショップでの堆肥化容器の普及（2015年8月）（C/P） • モニタリングの実施（使用状況の確認、技術指導）（2015年8月-12月）（C/P、JOCV、専門家） • 10基の堆肥化容器の売却完了（2015年11月）（C/P）
指標の達成状況	<p>指標1. 堆肥化容器売却数：少なくとも5基、うち25%が適切に利用される（※国（環境局）の補助金制度でSTCに割当られた堆肥化容器の数：10基）</p> <p><達成状況> <u>達成</u></p> <ul style="list-style-type: none"> - 2015年11月下旬時点での容器売却数：11基、うち6基適切に利用
実施・検証結果	<ul style="list-style-type: none"> • 自治体による定期的なモニタリングが、堆肥化容器の適切な使用を保証する上で重要。 • 野菜販売者（Market vendor）に対する意識啓発ワークショップ等、様々な機会を活用して堆肥化容器の普及を行った。 • 容器購入者のなかには、自治体職員が複数含まれ、また、1世帯にもかかわらず複数の容器を購入することもあった。また、自治体が行うモニタリングを拒否する住民も存在した。
今後に向けた提言	<ul style="list-style-type: none"> • 堆肥化容器に対する高い需要に対応するため、公正な配布を心がける（1世帯1基）。 • 堆肥化容器の購入希望者とは、モニタリングの受け入れなどに対する同意書を取り交わすことが必要。
2016年度の活動計画	<ul style="list-style-type: none"> • 目標値（指標）は、“20基の普及”

(4) バ町 (Ba Town Council: BTC)

表 3-20: BTC 成果 1. 市場ごみコンポスト事業

項目	内容
実施期間	2012年7月－ (2012年8月に分別収集・コンポスト製造開始(バ町がコンポストヤードを設置)) (2014年3月－2014年9月: 担当者不在のため中断)
活動内容	2014年再開後～2015年 <ul style="list-style-type: none"> 2014年9月: コンポスト・ヤードと野菜市場の中間地点にごみ排出場を設置(バ町) 2014年に事業中断に至る前の状況として、以下の課題が確認された。 <ul style="list-style-type: none"> ✓ C/P (Health Inspector) が単独で事業を実施している状況で、他業務との兼ね合いでプロジェクト管理に十分な時間が割けられない。 ✓ とくにマーケット・ベンダー(野菜の小売人)に対する啓発活動(ごみ分別推進)が徹底されておらず、結果発生源でのごみ分別が十分にできていなかった 以上の状況を受け、C/Pのプロジェクト管理能力の向上と負担軽減のため、C/Pと共同で以下の対策を実施した。 <ul style="list-style-type: none"> ✓ 他部署との連携強化(生成コンポストを使用する公園管理担当者をコンポスト製造管理担当者に任命。また、収集・運搬を担当するワーカーにデータ収集を担当させる。C/Pの主な業務はデータ管理と啓発のみとする)(専門家、C/P) ✓ 野菜ごみの分別方法の再検討(コンポスト・ヤードとマーケットの中間地点に設置されたごみ排出場で、ごみの再分別を実施。結果、発生源でのごみ分別の必要性が減り、C/Pがごみ分別徹底のための啓発活動を頻繁に行う必要がなくなった)(専門家、C/P)
対象地域	<ul style="list-style-type: none"> バ町役場所有の市場
指標の達成状況	<p><指標> 年間38.5トン(月平均3.2トン)の野菜ごみを回収。できたコンポストは100%バ町役場が自家消費する(公園、花壇、苗小屋などへの利用)</p> <p><達成度> 指標達成 2014年10月末に事業を再開後、月平均3.7トンの野菜ごみを回収</p>
実施・検証結果	<ul style="list-style-type: none"> 上記のとおり、事業再開後、他部署との連携強化と野菜ごみの分別方法の変更がうまく機能し、バ町は無理なく事業を継続できている。 バ町は職員数が少ないため、市場ごみコンポスト事業の再開にあたり、できる限り人手をかけなくても事業が実施できるよう事業の再設計を行った。バ市場は敷地にゆとりがあり、敷地奥(周辺部に住宅地がない)にごみ排出場(ここでごみの再分別ができる)とコンポスト・ヤードを設置することで、1-2名のごみ収集ワーカーだけでごみ収集、分別、コンポスト・ヤードへ運搬までできるようになった。 野菜ごみ用コンテナに一般ごみが混入していても、排出場でごみ分別ができるため、ごみ分別啓発に費やす時間も最小化できた。結果、少ない職員でも市場ごみコンポスト事業を継続できる目処がたった。 生成したコンポストはバ町の公園や苗小屋などで活用されている
今後に向けた提言	<ul style="list-style-type: none"> シンプルで手間をかけない現在のシステムを維持する 月2-3トンの野菜ごみ収集の継続を目指す
2016年度以降の活動計画	<ul style="list-style-type: none"> 年間40トンの野菜ごみを回収し、コンポスト化する

表 3-21: BTC 成果 2. 学校 3R 教育(CSP)の促進

項目	内容
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実施期間	2013年1月－ (2013年3月に、ナンディ町の支援を受けTeachers' Workshopを開催し、バ町での活動を開始) (担当者不在を理由に、2014年3月－2014年10月末まで中断)
活動内容	2014年 <ul style="list-style-type: none"> 1-2月、各学校でのワークショップを実施し (C/P、JOCV)、15校 (その内5校が町管轄外) がアクション・プランを提出 事業中断により、学校に対しアクション・プランに基づくモニタリングが全くできなかったが、最終審査のみ実施 (C/P) 2015年 <ul style="list-style-type: none"> 15校でワークショップ開催 (3月) (C/P) モニタリングを2回実施 (RLA/MOHとの協力はできず、単独で実施) (C/P) 11月にRural Health Inspectorと協力し、12校で最終審査を実施
対象地域	<ul style="list-style-type: none"> バ町管轄内と管轄外の学校
指標の達成状況	<指標> 16校 (その内11校が町管轄内で5校が町管轄外) がGSP活動を実施する <2014年度達成度> 未達成 事業再開後、アクション・プラン提出校全校 (15校) を対象に最終審査を行ったが、C/Pのモニタリングが実施されず、学校での活動実施状況が確認できなかったため、指標の達成には至らなかった <2015年度達成度> 未達成 15校がアクション・プランを提出し、12校がプログラムを完結
実施・検証結果	<ul style="list-style-type: none"> 市場ごみコンポスト事業でC/Pの負担が軽減できた結果、C/PはGSPに時間が割けられるようになり、2015年度は年2回のモニタリングと最終審査まで実施し、プログラムを完結することができた。 C/P機関の人的キャパシティの不足により、各学校へのモニタリングの実施は十分とは言えない 農村地区の学校で活動するためには地方行政区 (RLAs) /保健省所属のRural Health Inspectorとの連携強化が不可欠である (実際に協力が得られたのは最終審査のみ (2015年度))
今後に向けた提言	<ul style="list-style-type: none"> 地方行政区/保健省の協力が得られない場合は、対象校は町域内に限定させる 参加校の活動の質の向上を目指す必要がある。優良校事例紹介や学校同士が情報交換できるワークショップの開催等を検討する (教育省の理解と協力が必要)
2016年度以降の活動計画	<ul style="list-style-type: none"> 目標値 (指標) を“12校”として継続する スケジュールを前倒しし、年度のできる限り早期にGSPを開始する

表 3-22:BTC 成果3. 家庭用堆肥化容器の促進

項目	内容
実施期間	2015年5月－
活動内容	<ul style="list-style-type: none"> テレビ及び新聞広告実施後に販売開始 (主に広告を見て興味を持ち町役場まで来た人に販売) (C/P) コンポスト販売時に利用マニュアルを配布 (マニュアル提供以外にコンポストビンの利用方法指導はしていない) (C/P) モニタリング: コンポスト事業として実施したモニタリングは1回のみ (対象コンポストビンは2基) (C/P)
対象地域	<ul style="list-style-type: none"> バ町域内と農村地区 (町域外)
指標の達成状況	<指標> <ul style="list-style-type: none"> 10基のビンが適切に使用される

	<p><達成状況> 指標未達成</p> <ul style="list-style-type: none"> コンポストビン10基全て販売（複数（2基）購入者が3名いるため、販売対象者総数は7名。5基は町域内、残り5基は町域外に販売。） C/Pによるモニタリングが適切に実施されず、ビンの利用状況を把握できず
実施・検証結果	<ul style="list-style-type: none"> 市場コンポスト事業での負担軽減により最低限必要なCSP活動は実施できたものの、ホームコンポスト事業まで手が回らず、C/Pが、2度モニタリングできたのは学校に販売した1基のみで（CSPの一環で実施した学校モニタリングで確認）、1回だけモニタリングできた容器も2基のみであった。 販売時にマニュアルを配布しているが、現場での指導は実施できていない。そのため、購入者が使用方法を正しく理解できていない可能性があるが、モニタリングを実施していないため確認できていない。
今後に向けた提言	<ul style="list-style-type: none"> まず、補助金事業について町民に広く周知し、その後販売を開始する。 2016年もC/Pが配布したコンポスト容器全てをモニタリングするのは困難と予想されるため、販売時にコンポスト容器の使い方を徹底して指導する必要がある。そのために、役場にデモンストレーション用コンポスト容器を設置し、コンポスト容器を購入するために役場を訪れた町民に対し、設置方法、使用方法、正常なコンポストの状態などを教えられるようにする（コンポスト容器の管理を他職員で分担し、使い方を説明できる職員数を増やすことも重要）。
2016年度以降の活動計画	<ul style="list-style-type: none"> 新規に10基のビンを販売（全て世帯向け） 販売対象地域は町域内のみ 町役場敷地内に設置された苗センターにデモンストレーション用コンポストビンを設置し、購入希望者に堆肥化容器の使用方法を説明する

(5) タブア町 (Tavua Town Council: TTC)

表 3-23:TTC 成果 1. 学校 3R 教育(CSP)の促進

項目	内容
実施期間	2013年1月－ (担当者不在のため、2014年3月－2014年10月末まで中断)
活動内容	<p>2014年</p> <ul style="list-style-type: none"> 担当者不在のため実施できず <p>2015年</p> <ul style="list-style-type: none"> 新しく赴任したCEOがごみ収集者ドライバーをCSP担当者として指名。ごみ収集サービスのない毎週木曜日にプロジェクト活動を実施。(C/P) ラキラキ町が実施した学校でのTeachers' Workshopの一つに参加(3月)(C/P) 各学校への訪問(校長へのCSP事業説明)(C/P) 8月に専門家と共同で、モニタリング・シートを使ったモニタリングを初めて実施。その後、C/P単独で残りの学校のモニタリングを実施(専門家、C/P)
対象地域	<ul style="list-style-type: none"> タブア町域内(都市部)の小学校と中等学校 活動途中で、町域外の学校もCSPに参加
指標の達成状況	<p><指標></p> <ul style="list-style-type: none"> 4校がCSPに参加 <p><達成状況> 未達成</p> <ul style="list-style-type: none"> 学校側より町域内3校、町域外1校がCSPを継続しているとの報告があったものの、C/Pが2回目のモニタリングと最終審査を実施できず、最終の状況を確認できなかった
実施・検証結果	<ul style="list-style-type: none"> 2013年に本事業を開始した時から、プロジェクトのC/Pが不在であることが課題であった。町の実施体制が脆弱であるため、他の3R活動を比較してC/Pがとりかかりやすく、業務負担が低いCSPをプロジェクト活動の対象とした。

	<p>2013年のC/Pは町営市場の責任者、2014年のC/PはCEOであったが、両者とも本業が多忙であるため学校訪問など必要な活動を実施できなかった。</p> <ul style="list-style-type: none"> 2015年にごみ収集車ドライバーが担当者として指名されたが、廃棄物管理の知識・経験がなく、GSP事業について理解するにも時間を要した。そのため1回目の学校モニタリングの着手が大きく遅れた。加えて、プロジェクト活動を実施できるのが週1回に限られること、他業務（町主催のイベント対応など）への対応などで、週1回のプロジェクト活動も実施できないことが頻繁にあった。
今後に向けた提言	<ul style="list-style-type: none"> バ町やラキラキ町と同様、地方行政区/保健省所属のRural Health Inspectorとの連携を図る。 他自治体C/PのほとんどがHealth Inspectorであり、定例会議等を通じて既にネットワークが構築されていたため、2015年にプロジェクトに参加したタブア町C/Pは若干出遅れた感が否めなかった。定例会議などで積極的に交流して、他自治体C/Pと情報交換およびネットワーク作りを行う。
2016年度以降の活動計画	<ul style="list-style-type: none"> 3校でGSPを実施する

表 3-24: TTC 成果 2. 家庭用堆肥化容器の促進

項目	内容
実施期間	2015年5月－2012年12月
活動内容	<ul style="list-style-type: none"> DOEのテレビ・新聞広告開始前に販売開始（C/P） （広く宣伝することなく、少数の人に複数基販売） コンポスト販売時に利用マニュアルを添付（マニュアル提供以外にコンポストビンの利用方法指導はしていない）（C/P） 8月に、専門家と共同でモニタリングシートを使ってモニタリングを実施（2件）。他の販売先はC/Pが単独でモニタリングを実施する計画であったが、コンポスト容器所有者が日中不在であったり、町域外に配布したため、実施できず（専門家、C/P）
対象地域	<ul style="list-style-type: none"> タブア町管轄内と準都市部
指標の達成状況	<p><指標></p> <ul style="list-style-type: none"> 4基のビンが適切に使用される <p><達成状況> 未達成</p> <ul style="list-style-type: none"> 10基全て完売 町域内住民（3人に2基ずつ販売、計6基） 町域内住民3名：3基 学校：1基 C/Pがモニタリングを適切に実施できず、利用状況を把握できず
実施・検証結果	<ul style="list-style-type: none"> 町域内販売先2件をモニタリング実施（計4基）：2件とも2基販売した内1基のみ使用 町域外のコンポスト容器はモニタリングできず 販売時にマニュアルを配布しているが、現場でのモニタリング指導は実施していない。そのため、購入者が使用方法を正しく理解できていない可能性があるが、モニタリング未実施のため確認できず
今後に向けた提言	<ul style="list-style-type: none"> まず補助金事業について町民に広く周知した後、販売を開始する 販売時にコンポストビンの使用方法を指導する。C/Pの負担を軽減するため、バ町同様、役場敷地内に苗小屋があるため、デモンストレーション用コンポストビンを設置し、設置方法、使用方法、正常なコンポストの状態などを販売時に教える方法を検討する
2016年度以降の活動計画	<ul style="list-style-type: none"> 5基の新規ビンを販売 一般世帯向け：3基 学校向け：1基

	ビジネス向け：1基 ● 対象地域：町域内
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(6) ラキラキ町(Rakiraki Town Council: RTC)

表 3-25: RTC 成果 1. 学校 3R 教育(CSP)の促進

項目	内容
実施期間	2013年3月－ (2014年度はCPが部署移動のため不在になり、一時中断)
活動内容	2014年 ● ナンディ町C/Pをファシリテーターとして招聘し、3月にTeachers' Workshop開催 (C/P、専門家) ● CPが部署異動となり、2回目のモニタリングと最終審査実施できず中断 2015年 ● CEOを兼務するHealth Inspectorが担当となりCSP再開 ● 各学校でワークショップ開催し、6校がアクション・プラン提出 (C/P、JOCV) ● 地方行政区/保健省Rural Health Inspectorとラ州地方行政区/教育省に派遣されたピースコー隊員のと共同で2回目のモニタリングと最終審査を11月に実施 (表彰式は2016年初めに実施予定) (C/P)
対象地域	● ラ町域内と域外の小学校
指標の達成状況	<指標> ● 7校がCSPに参加 <達成状況> ほぼ達成 ● 6校がCSPを完了
実施・検証結果	● 2015年8月以降に自治体の長 (Special Administrator (SA)) が辞任し、CEOであったC/PがSAの業務も兼務することとなり、C/Pがプロジェクト活動に割ける時間が更に限定された ● 2月-3月に協力隊員が各学校にてワークショップを開催したが、協力隊員が他自治体に転任になった後、C/P単独で必要な業務が実施できず、以降活動が停滞 ● Rural Health Inspectorとピースコー隊員の協力を得て2回目のモニタリングと最終審査は実施できたが、学校への技術的アドバイスの提供などの面で学校への十分な支援ができたとは言いがたい。
今後に向けた提言	● ラ州地方行政区/保健省との協力を継続する ● 他自治体と情報交換を活発にし、参考にできる優良事例について学ぶ ● 学校とのコミュニケーションを増やし、他自治体の例などを参考にアドバイスする
2016年度以降の活動計画	● 7校でCSPを実施する

表 3-26: RTC 成果 2. データ収集業務

項目	内容
実施期間	2012年11月－2015年12月 <背景> ラキラキ町は2006年にラ州から離れて単独の町に昇格した際、廃棄物管理業務をラ州から引き継いだ。必要データの多くは州から引き継いだ。処分場データなどこれまで収集・保存していないデータも多くあった。そこで、成果の一つとしてデータ収集業務を加え、2013年に処分場の搬入車両調査やホテルでのリサイクル調査などを行った。
活動内容	2015年 ● 財務関係情報など2013年度に入手できなかったデータの収集 (C/P)

	(C/Pは処分場の追加調査実施を計画したが、多忙で実施できず) <ul style="list-style-type: none"> 有機ごみリサイクル計画策定 (C/P、専門家)
対象地域	<ul style="list-style-type: none"> ラ町域内
指標の達成状況	<p><指標> 有機ごみリサイクル戦略策定</p> <p><達成状況> 達成 2015年12月に有機ごみリサイクル計画策定済</p>
実施・検証結果	<ul style="list-style-type: none"> 財務情報など一部入手できなかったデータがあったが、ごみ発生量推定に必要なデータは収集できた。 CEOを兼務するCPが多忙のため、当初予定していた追加の処分場搬入ごみ調査が実施できなかった
今後に向けた提言	<ul style="list-style-type: none"> ラウトカ市やスバ市など有機ごみリサイクルについて経験・知識の豊富な自治体 C/P と情報交換しながら進める ラキラキ町市場のごみ発生量と処分場の搬入ごみ調査を再度実施する 策定した計画に基づき、ラキラキ町が計画している直営のごみ収集業務の計画が実施できたら、有機ごみリサイクル計画実施の検討に入る
2016年度以降の活動計画	<ul style="list-style-type: none"> (来年度の活動計画 (APO) に含めず)

表 3-27: RTC 成果 3. 家庭用堆肥化容器の促進

項目	内容
実施期間	2015年5月ー
活動内容	<ul style="list-style-type: none"> テレビ及び新聞広告開始前に販売開始（広く公示せず、ホテルなど対象を絞って販売） (C/P) 販売先のホテル1件で協力隊員がコンポスト容器の使用方法を指導すると共に他ホテル（ナンディ）の優良事例を紹介（他の販売先にはマニュアル配布のみ） (C/P、JOCV、専門家) ホテル1件（使用方法を指導したホテルとは別）でモニタリングを実施 (C/P)
対象地域	<ul style="list-style-type: none"> ラ町域内及び域外
指標の達成状況	<p><指標></p> <ul style="list-style-type: none"> 4基のビンが適切に使用される <p><達成状況> 未達成</p> <ul style="list-style-type: none"> 10基完売 ビジネス：8個（ホテル2件に2個ずつ、農家1件に4個販売） 住民：1個 学校：1基 モニタリングが実施できたのはホテルに販売した2基のみ
実施・検証結果	<ul style="list-style-type: none"> ラキラキ町の課題は、担当C/PがSA/CEO兼務でプロジェクト活動に割ける時間が非常に限られているおり、プロジェクトの実施体制が脆弱であることである。C/Pは多忙であるが故に、少数の特定の購入者に容器を複数基販売し、コンポスト容器販売業務を早急に完了させた。これは公平性という面から問題がある。 ホテル以外の堆肥化容器に対してモニタリングを実施できていないため、適切に利用できているかどうか確認できなかった（もう1件のホテルでは販売した2基のうち1基しか使用されていなかった）
今後に向けた提言	<ul style="list-style-type: none"> C/P単独ではコンポスト容器の使用法の指導およびモニタリングが実施できないため、モニタリング・指導を担当するスタッフを新規に配置する 補助金事業について町民に周知させた後販売を開始するなどして、コンポスト容器の配布にあたっては公平性の確保に努める 販売時にコンポスト容器の使用方法を適切に導する。

	<ul style="list-style-type: none"> タノアホテルがコンポスト容器適切に使用しているだけでなく、生成されたコンポストを用いて野菜栽培を行うことを検討している。タノアホテルを優良事例として、他ホテルでのコンポスト推進を試みる。
2016年度以降の活動計画	<ul style="list-style-type: none"> 新しく担当者を指名する（DOEあるいは他自治体に研修を依頼） 新規に10基のビンを販売する（対象は町域内のみ）

(7) スバ市 (Suva City Council: SCC)

表 3-28: SCC 成果 1. マスタープラン作成のためのデータ・情報収集

項目	内容
実施期間	2013年8月－
活動内容	<ul style="list-style-type: none"> スバ市の複数部署が管轄する廃棄物管理データの現在の管理状況把握 (C/P、専門家) 直営ごみ収集事業データのデータベース化 (C/P、専門家) 外部委託ごみ収集事業データの管理改善 (C/P、専門家) 廃棄物管理関連データ管理ルール策定 (C/P、専門家)
対象地域	<ul style="list-style-type: none"> スバ市
指標の達成状況	<p><指標></p> <ul style="list-style-type: none"> 少なくとも2名がデータベースを活用できる <p><達成状況> 達成</p> <ul style="list-style-type: none"> スバ市C/Pと直営ごみ収集サービスを担当しているグループ長がデータベースを活用することが可能となった
実施・検証結果	<ul style="list-style-type: none"> スバ市C/Pが、スバ市役所が管轄する廃棄物管理関連データ全てを管理できるようになった スバ市C/Pが、廃棄物管理業務について月次レポートの作成・報告をすることで、部全体でデータ管理の重要性を認識するようになった。
今後に向けた提言	<ul style="list-style-type: none"> 経年変化などのデータ分析を継続して行い、廃棄物管理の現状と傾向について理解を深める
2016年度以降の活動計画	<ul style="list-style-type: none"> 「マスタープラン作成に必要なデータを全て収集する」の指標のもとで活動を継続

表 3-29: SCC 成果 2. 市場ごみコンポスト事業

項目	内容
実施期間	<p>2013年6月－</p> <p><背景></p> <p>スバ市はJOCVの協力を得て2007年から実証レベルで野菜ごみを使ったコンポスト製造を継続してきた。2013年に草の根無償でコンポスト・ヤードを建設することが決定し、市場ごみコンポスト事業を拡大することから、本プロジェクトに技術支援の要請があり、2013年後半よりプロジェクトの対象自治体に含まれた。</p>
活動内容	<p>2014年</p> <ul style="list-style-type: none"> 3月にスバマーケットでの野菜ごみ収集・運搬開始 (C/P) 試行錯誤の実施過程を経て最適な分別用ビン設置と市場内での野菜ごみ回収方法を確立 (C/P、専門家) 3軒の養豚業者に野菜ごみを無料提供 (回収した野菜ごみのほぼ9割) (C/P) 9月にワーカー向け研修実施とコンポスト方法改善の検討 (C/P、専門家) 財務面でのプロジェクト効果分析 (C/P、専門家) <p>2015年</p> <ul style="list-style-type: none"> 新期の収集車両の購入 (C/P)、野菜ごみ収集量増大の検討 (分別ビンの追

	<p>加と収集頻度の増大) (C/P、専門家)</p> <ul style="list-style-type: none"> 8月以降、回収野菜ごみの量が多い場合は、運搬回数を2回に増やせる体制確立 (C/P) 収集データ分析の継続 (C/P)
対象地域	<ul style="list-style-type: none"> スバ市所有の市場
指標の達成状況	<p><指標> 市場ごみの15%を削減する <達成状況> ほぼ達成 2015年7月から12月までの市場ごみの削減率：10%-15% (平均12.4%)</p>
実施・検証結果	<ul style="list-style-type: none"> 分別ごみの配置やごみの収集方法を工夫することで、マーケットベンダーの協力を得やすくし、ごみの混入率を低く抑えることができています 野菜ごみ収集量を段的に増やすようにしている 収集した野菜ごみの9割を養豚業者へ提供し、残り1割をコンポストに使うことで、市のキャパシティ内でコンポスト製造を続けることができています 2015年7月～12月にかけて月平均24.5トンの野菜ごみを回収。推定で、毎月620ドルのごみ処分費と1,000ドルの運搬コストを節約できた。
今後に向けた提言	<ul style="list-style-type: none"> 土曜日収集や午後の収集を検討することでリサイクル率を向上させる 野菜ごみを引き取る養豚業者の数を増やす コンポスト製造キャパシティを増やすため、セル方式の導入などを検討する
2016年度以降の活動計画	<ul style="list-style-type: none"> 削減率目標を20%にして継続する

表 3-30:SCC 成果 3. 学校 3R 教育(CSP)の促進

項目	内容
実施期間	2014年5月ー
活動内容	<p>2014年</p> <ul style="list-style-type: none"> 独自に学校プログラム開始 (C/P) プログラム不参加校も含めて弁論大会開催 (C/P) <p>2015年</p> <ul style="list-style-type: none"> CSP実施 (C/P) 各学校でのワークショップ、モニタリング、最終審査を実施 (C/Pが主体で実施)
対象地域	<ul style="list-style-type: none"> スバ市域内の小学校
指標の達成状況	<p><指標> 2014年</p> <ul style="list-style-type: none"> 少なくとも6校でCSP実施 <p>2015年</p> <ul style="list-style-type: none"> 少なくとも10校でCSP実施 <p><2014年達成状況> 達成</p> <ul style="list-style-type: none"> 6校がCSP実施。不参加校も弁論大会に参加。 <p><2015年の達成状況> 達成</p> <ul style="list-style-type: none"> スバ市内にある全27小学校でCSP実施
実施・検証結果	<ul style="list-style-type: none"> 学校により活動のレベルに大きな違いがあるものの、全ての小学校でCSPを実施した (2015年) 学校内での焼却を中止した学校も出てきた
今後に向けた提言	<ul style="list-style-type: none"> 参加校を増やすだけでなく、各学校での活動の質の向上を目指す必要がある (参加校が優良校の事例を共有できるような機会の提供、例えばワークショップの開催を検討する。ただし、教育省の合意が必要)
2016年度以降の活動計画	<ul style="list-style-type: none"> 小学校 27 校に加えて、中等学校と特別学校でも活動を開始する 小学校：27 校

	中等学校：19校 特別学校：4校 ● 焼却廃止校の数も指標に入れる
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表 3-31: SCC 成果 4. 家庭用堆肥化容器の促進

項目	内容
実施期間	2012年12月－ <背景> 2012年12月UNDPの財政支援でコンポスト容器の販売を開始。2015年3月末までに395基の容器を販売するとともに、プロモーション用として39基の容器を無償で配布。2015年5月よりDOEの補助金事業も並行して実施することになった。
活動内容	2015年 ● DOEの補助金事業開始 (DOEから支給された堆肥化容器30基をUNDPファンドで購入した容器と併せて販売) (C/P)
対象地域	● スバ市域内
指標の達成状況	<指標> ● 80基のコンポストビン (DOEから支給されたのはそのうち30基) が販売され、適切に使用される <達成状況> おおよそ達成 ● 10月末で163基を販売 ● そのうち90基のモニタリングを実施したが、モニタリング実施時にまだ容器を設置できていない世帯があったため、適切な使用を確認できたのは約70基程度。
実施・検証結果	● DOEの新聞・テレビ広告とは別に、UNDP予算で新聞広告を実施した ● 平日昼間不在の世帯が多いため、モニタリング実施前にC/Pが電話で事前にアポイントをとったことでモニタリングの実施率を上げた
今後に向けた提言	● 他自治体と比較するとモニタリング実施率は高いものの、55%にすぎないため、できる限り販売時にコンポストの適切な使用方法を教えるようにする ● 3-4年経過したビンの使用状況を調査する
2016年度以降の活動計画	● 80基のビンの販売を計画 (DOEには30基のビンを要請) ● 全ての学校 (50校) にコンポストビンを配布し、学校でのコンポストの普及を図る計画

a.4 活動1-4. フィジーにおける3R実施の進捗状況がモニタリングされる

プロジェクト後半2年間は、プロジェクト終了後を見据え、表 3-32に示すモニタリング・事業評価方法を検討し、実施・分析・検証のプロセスをC/Pと専門家が共同で行った。また、環境局が開催する定例会議を通じて、自治体や関係機関間の情報共有や学び合い、ネットワーク形成の機会を設けられた。定例会議の実施実績を表 3-33に示す。これらの取組を通じて、C/P自身の事業の進捗状況のモニタリング・評価能力、また、環境局の自治体の3R活動のモニタリング・政策評価能力が向上した。環境局－自治体間のコミュニケーション向上にもつながり、両者間の信頼関係の構築にもつながった。

表 3-32 事業進捗状況のモニタリング・評価方法

項目	内容
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モニタリング・シート	<ul style="list-style-type: none"> 2015年度の国の補助金制度の確立に伴い、現場が2事業（家庭用堆肥化容器、CSP）の日々のモニタリング結果が記録できるよう、専門家が共通フォーマットを作成。全自治体はシート記入後、環境局へ提出。
モニタリング報告書のテンプレート	<ul style="list-style-type: none"> 報告の共通テンプレートを専門家が作成。 C/P（環境局、自治体）は、成果ごとの活動実績、指標の達成状況、優良事例、課題・教訓、活動計画、写真をテンプレートに沿って記入する。 自治体は、定例会議の実施1週間前までにモニタリング報告書を環境局へ提出する。 環境局は、自治体から提出されたモニタリング報告書をまとめ、定例会議の議事録を付けて省上層部（PS、等）へ提出。
定例会議	<ul style="list-style-type: none"> 環境局主導で開催される自治体との合同ミーティング。2～6カ月に一回、環境局と自治体の持ち回りで開催。開催に伴う経費（お茶代、ランチ、参加者の交通費、等）は環境局がほぼ全額負担（場合によってはプロジェクトで交通費を財政支援）。C/P（環境局、自治体）は上記(2)のモニタリング報告書の要約を発表する。会議の前後で、最終処分場や3R活動の現場視察も開催される。 定例会議は、3R技プロ（2008年10月～）時より実施している取組であり、環境局+2自治体（LCC、NTC）で開始していたものが、2013年度以降は対象が7自治体に拡大、2015年度は国の補助金制度の確立に伴い全国13自治体が対象に加わった。農村地域の廃棄物管理を担う保健省（RLAs）、リサイクル業者等が参加することもあった。
環境局による巡回モニタリング	<ul style="list-style-type: none"> 上記(1)のモニタリング・シートおよび(2)のモニタリング報告書に基づき、環境局が各自治体を巡回して、3R活動の現場を視察するほか、自治体が抱える課題、環境局への要望等について意見交換を行う。2014年度は環境局西部支局のC/Pが西部の自治体のモニタリングを不定期に実施していたが、2015年度はスバに拠点をおく環境局廃棄物ユニット（Waste and Pollution Control Unit）のC/Pが全自治体を巡回し、モニタリングを実施。

表 3-33 定例会議の実施実績(2014年度－2015年度)

	実施時期	会場	内容/特記事項
第9回	2014年 6月27日	RTC	<ul style="list-style-type: none"> JICA専門家よりインセプション・レポートを説明。 環境局CPが、国家3R推進枠組（家庭用堆肥化容器補助金制度、CSP財政措置）の政策素案を発表。自治体CPより意見聴収。 最終処分場管理に係る基本研修の実施。シンガトカ町での取組を事例に、JICA専門家チームより、処分場改善計画、搬入料金の設定について講義。 ラ地域の保健省（RLAs）が出席。CSPのモニタリングでの連携可能性を議論。
第10回	2014年 8月21-22日	SCC	<ul style="list-style-type: none"> 専門家現地不在期間中に実施。 スバ市の市場ごみコンポスト・ヤード等3R活動の現場視察も実施。 首都圏近郊の自治体（プロジェクト対象外）も出席。
第11回	2014年 10月16日	STC	<ul style="list-style-type: none"> STCの処分場担当CPよりシンガトカ町最終処分場の運営管理計画について発表。会議後、参加者は改善工事実施中のシンガトカ町最終処分場を視察。 プロジェクト対象外の自治体（ナウソリ町）が自主的に参加。

第12回	2015年 1月22日	NTC	- 国家3R推進枠組（家庭用堆肥化容器補助金制度、CSP財政措置）の実施スケジュール、第4回JCCに向けた作業の確認。 - 第11回同様、ナウソリ町の出席あり。
第13回	2015年 7月2-3日	LCC	- 全13自治体（十一部の保健省（RLAs））が出席。 - 国家3R推進枠組（家庭用堆肥化容器補助金制度、CSP財政措置）に加え、各自治体で実施する3R活動の進捗状況の確認、優良事例、課題・教訓の抽出・共有を実施。
第14回	2015年 12月10-11日	SCC	- 第5回JCCとの同時開催。第1日目にJ-PRISM対象外6自治体、第2日目のJCCで対象7自治体および環境局が3R活動の進捗報告を発表。各自治体に配属中の環境教育隊員も出席。 - 全国の刑務所を管轄する更生課（Fiji Correction Service）よりコンポスト事業報告、リサイクル業者3社より事業概要説明あり。

b. 【成果2】 フィジーの3Rモデルが研修プログラムを通じて国内外に普及される

b.1 活動2-1. 地域研修/ワークショップの3R研修用の研修プログラムが開発される

プロジェクト開始以来、フィジー国は様々な研修の受入れや CP の講師派遣等を行ってきた。フィジー国ではどこでどのような分野の研修を受け入れることができるかを示すために、これまで実施した研修の実績（参加人数、受入実施機関、分野、研修関連資料（①アジェンダ、②研修教材、③研修レポート））を分野別に整理した。結果を表 3-34 に示す。

表 3-34 開発された研修プログラム

受入実施機関	家庭用堆肥化容器	市場ごみコンポスト	剪定ごみチップ化・リサイクル	学校 3R 教育	有価物回収	最終処分場改善/運営管理	廃棄物管理/3R全般	ごみ収集	労働安全衛生	計
ラウトカ市役所(LCC)	7	11	9	2	3	11	8	1	2	54
ナンディ町役場(NTC)	4			9	3		3			19
シンガトカ町役場(STC)		3				2	1			6
スバ市役所(SCC)		1								1
バ町役場(BTC)							1			1
環境局							2			2
OISCA(NGO)		4								4
計	11	19	9	10	6	13	15	1	1	87

b.2 活動2-2. 地域研修/ワークショップが実施される（第三国で実施する国内研修も含まれる）

表 3-35に示す地域研修が実施された。

表 3-35: 地域研修の実施実績(2014 年度-2015 年度)

	研修形態	実施時期	研修生 (第三国)	研修実施機関 (フィジー国)	研修の概要
1	研修受入	2014 年 5 月	サモア環境 省	ラウトカ市	トラックスケールの運営をはじめとする最終処分場運営管理
2	研修受入	2014 年 7 月	キリバス国 ベシオ町	ラウトカ市、ナンディ町	3R 活動全般(とくに、学校 3R 教育(クリーン・スクール・プログラム(CSP))
3	研修受入	2014 年 8 月	PNG	ラウトカ市、シンガトカ町、スバ市、OISCA	市場ごみコンポスト事業
4	研修講師派遣	2014 年 9 月	ソロモン諸 島	ナンディ町	CSP
5	研修受入	2014 年 11 月	パラオ	ラウトカ市、シンガトカ町、スバ市、OISCA	市場ごみコンポスト事業
6	研修受入	2015 年 7 月	ソロモン諸 島、トンガ、 PNG	ナンディ町	CSP
7	研修講師派遣	2015 年 9 月	マーシャル 諸島	ナンディ町	CSP
8	研修講師派遣	2015 年 11 月	マーシャル 諸島	ラウトカ市	廃棄物管理従事者の労働安全衛生(OHS/WARM)

b.3 活動2-3. フィードバックを通じて研修プログラムが評価・改訂される

本活動は、J-PRISM プロジェクト・オフィス主導で実施された。個々の研修の成果については、第 5 回 JCC でプロジェクト・オフィスより発表された。

3.2.2 キリバス国の活動

a. 【成果1】 家庭ごみ、特に庭ごみがごみ分別とチップ化によりリサイクルされる

a.1 【活動1-1】 ベースライン調査の作業計画を作成する

プロジェクト第 1 年次 (2011 年) に実施済。

a.2 【活動1-2】 ベースライン調査を実施する

ベースライン調査は、プロジェクト前半に 2 回実施している (第 1 回 (2011 年)、第 2 回 (2013 年))。第 3 回目の意識調査を 2015 年 5 月 22 日から 2015 年 6 月 3 日に実施した。以下に意識調査の概要と結果をまとめる。

a.2.1 概要

(1) 目的

調査の目的を以下に示す。

- プロジェクト効果を確認するため、コンポストを理解し、コンポストを野菜栽培に使っている世帯の割合を推測する
- 南タラワでプロジェクト期間中に住民の固形廃棄物に関する知識及び関心がどの程度変化したか調査する
- 3R を含めて廃棄物管理に関わる住民の行動の変化を調査する

(2) 調査方法

調査はサンプル調査で行った。地域別サンプル数（調査対象者数）を以下に示す。意識調査は質問票に基づき行った。

実施時期	サンプル数（調査対象者数）		
	ベシオ町 (BTC)	テイナイナノ町 (TUC)	計
2011年10月	69	135	204
2013年6月	49	111	160
2015年5月	48	102	150

(3) 質問項目

質問項目を以下に示す。回答者の理解力を適正に把握するために、自由回答形式の質問をできる限り多く含めた。NZAID プロジェクトとベースライン調査結果の共有をしているため（NZAID がごみ量ごみ質調査やタイムモーション調査などの廃棄物管理関連調査を実施し、J-PRISM が意識調査を実施）、質問項目として、有機ごみリサイクルだけでなく、ごみ収集サービスや有価ごみリサイクルなど廃棄物管理関連全般を含めた。

- 不適切な廃棄物管理に起因する課題
- 家庭でのごみ発生量とごみの取り扱い方
- ガーデニングとコンポスト
- ごみ収集サービスと排出方法
- リサイクル活動

a.2.2 結果

調査の詳細を添付資料7.2.4に示す。ここでは調査結果と結論を以下にまとめる。

(1) 調査結果

- プロジェクト期間（5年間）を通じて、不適切な廃棄物管理に起因する課題への住民の理解が深まっている。

- 回答者の約 20%がコンポストを知っていると回答している。しかし、自由回答の結果から判断して、コンポストを正しく理解していない人がかなり含まれていると思われる。
- 2011年と2015年の調査では、それぞれ回答者の11%と17%の回答者がコンポストを使用していると回答した。サンプル数が少ないため、誤差を考慮しても、成果1の第2指標「南タラワで少なくとも5%の世帯がコンポストを使用」は2015年の段階で達成できたと考えられる。
- ベシオ町では70%近い回答者が有価物（主にアルミ缶）リサイクルを行っているとは回答している。UNDP 支援で2004年に始まった飲料容器デポジット制度（Kaoki Mange program）の資源回収施設がベシオ町にあり、毎日有価物を引き取っていることがその要因と考えられる（テイナイナノ町には町役場を含めて3箇所の引取り場所があるが、週に1日しか営業していない）。
- テイナイナノ町は、回答者の3分の2が町直営のごみ収集サービス（一般ごみ対象）がないと回答した。また、半分以上の回答者が NZAID 支援で2013年に開始した有料ごみ袋を使った外部委託ごみ収集サービスである Green Bag 収集サービスのみ利用していると回答した。
- Green Bag 収集サービスが南タラワ全域で実施され2年経過したが、いまだに約10%の回答者がごみ収集サービスを利用していないと回答した。（未利用と回答した者の多くが海岸への不法投棄を継続）
- 南タラワ全体で回答者の90%が Green Bag 収集サービスを使っていると回答し（およそ半数が Green Bag 収集のみの利用で、残り半数が町直営ごみ収集サービスとの併用）、ほとんどの利用者が収集サービスに満足している。しかし、収集サービスの実施主体については回答者の大半が把握していなかった。

(2) 結論

- 南タラワでは過去5年間で廃棄物管理に対する認識が確実に高まっている。
- コンポストを推進するためには、コンポストについて正しく理解している人の数を増やす必要がある。学校カリキュラムが改訂され、2016年以降コンポストが小学5・6年生を対象とした環境科学の授業でテーマの1つとしてとり上げられることになったため、今後若い世代においてコンポストに対する理解がより深まり、コンポストに対する需要が高まることが期待される。（キリバスでは化学肥料が販売されていないため、コンポストの販売量を増やせば、利用者を増やせる）
- Green Bag 収集サービスはプラスチックなど無機ごみを収集することを目的に始まった都市ごみ収集サービスであるが、町直営のごみ収集サービスと Green Bag 収集サービスの両方を利用している住民は、2つの収集サービスの違いを認識していない（同じごみを排出している）。町直営のごみ収集サービスは顧客が満足するレベルの収集サービスを提供できていないため、一般家庭を対象としたごみ収集サービスについては、内務省が2つのサービスを統合して民間業者に外注化し、町は大口の排出者（オフィス、スーパー、商店など）を対象にした一般ごみ収集サービスと月1回程度の有機ごみ収集に特化するのも1つの選択肢として考えられる。（この場合、現行の収集費と収集費徴収システムを再検討する必要がある）

a.3 【活動1-3】 コンポストビンを使ったコンポストトライアルを実施する

コンポスト製造方法はフィジー国の方法を参考にする予定であったが、台湾技術開発団や農業家畜部（環境・土地・農業開発省）の専門家との協議やコンポスト製造サイト視察などから、天候や社会文化等キリバス国とフィジー国ではコンポスト実施に係る条件がかなり異

なることが明らかとなった。そのため、キリバス国にとって最適なコンポスト方法を検討するために、ベシオ町役場の敷地内を含めて計 3 箇所でもコンポストを試験的に実施した（2012 年 1 月開始）。

パイロット・プロジェクトの結果、キリバス国では、コンポストの主原料が木質廃棄物（落葉や木質チップ）であるため、分解に長い時間を要するが、鶏糞や豚糞を加えたり、廃ドラム缶やプラスチックシートなどで適切に保湿したりすることで、コンポスト作成が可能であることが明らかとなった。

a.4 【活動1-4】ベシオ町で庭ごみを使ってコンポストを作成する

ベシオ町は、上記のパイロット・プロジェクトの一部として、2012 年 1 月にベシオ町事務所敷地内にある苗センター（台湾技術開発団プロジェクトで設立された施設で、プロジェクト終了後運営管理がベシオ町に移管された）に隣接する場所で廃ドラム缶を使用してコンポスト製造（主な原料は木質チップと鶏糞）を開始し、2015 年 12 月の時点で順調に継続している。

コンポスト製造は苗センター責任者が兼務している。2012 年～2014 年にかけては、コンポスト材料の調達と調合（コンポストの製造）を専門家とベシオ町の C/P が共同で実施したが、2014 年以降 C/P が単独で行っている。加えて、2014 年までプロジェクト予算で購入していた鶏糞も、2015 年 3 月にベシオ町が有機ごみリサイクル活動予算を独立化した後はベシオ町が自前予算で購入するようになった。パイロット・プロジェクト開始時プロジェクトで作成した廃ドラム缶が古くなったため、2015 年以降は NZAID プロジェクトから支給されたプラスチック製コンポストビンを使っている。

コンポスト製造量が限られているため（月に米袋 1-2 袋程度）、製造したコンポストの大半は自治体の苗センターで苗床の原料として自家消費されている（一部は苗センター横の野菜畑で使われている）。

コンポスト製造担当の C/P は、決められた業務を確実にこなすため、台湾技術開発団からの信頼も高かった。コンポスト事業が順調に継続できた最大の要因は適切な人員配置であったと考えられる。2013 年末に定年退職しているため（定年後にバ町が臨時職員として再雇用）、後継者の育成が課題となっている。

a.5 【活動1-5】ごみ減量及び分別の重要性を伝えるための教育及び環境意識向上プログラムを実施する

成果 2 の活動 2-1 で実施。

a.6 【活動1-6】木質チップと薪の利用を推進する

2012 年 5 月にプロジェクトよりベシオ町にシュレッダーが供与され、2012 年 9 月にベシオ町処分場にシュレッダー用小屋が完成し、その後本格的な運転が開始した。ベシオ町は、プロジェクト第 3 年次（2013 年度）に専門家のアドバイスを受けながら、①不定期に発生する倒木の分別収集、②処分場敷地内に準備した保管場所での倒木の保管、③月に 1-2 回のシュ

レッダー運転による木質チップ作成、④木質チップ及び薪の保管・販売、という有機ごみのリサイクルシステムを確立し、プロジェクト終了時まで継続してきた。

ベシオ町は、2013年までは、木質チップは、継続的に木質チップをコンポスト材料として利用することが期待できる組織（台湾技術開発団やモルモン教団など）や個人に試供品として提供した。2014年にベシオ町は木質チップと薪の販売を始め、町役場入口に専門家の支援で作成したポスターを貼るなどの普及を開始した。ベシオ町書記官（Town Clerk）が有機ごみリサイクルに係る会計を独立化した2015年3月以降は、ベシオ町は、町が主催したイベント前に自前予算でラジオ広告を行うなどプロジェクトの支援なしでも積極的に販売促進を行うようになった。

処分場でのシュレッダー運転は、処分場がベシオ町の事務所から遠方に位置するためワーカーの管理や木質チップ、及び薪の保管が困難となった。そのため、ベシオ町は2015年3月に木質ごみのリサイクルサイトを処分場から町役場敷地内に移動した。サイトを町民が頻繁に訪れる役場町敷地内に移動したことで、より多くの町民に事業を周知させることになり、木質チップ及び薪の販売増にもつながった。また、役場事務所のセキュリティは処分場より高いので、保管している木質チップ及び薪の盗難のリスクの軽減にもつながった。

販売された木質チップは野菜畑への鋤き込みに使用されるることが多いが、分解に時間を要する。木質チップを直接畑に鋤きこむのは適切な方法ではなく、有機物を分解させた後使用するのが望ましい。町住民に木質チップの適切な使用方法を示すとともに、販売数を増やすことを目的として、ベシオ町のC/Pが本邦研修から帰国した2015年11月より、野菜畑で木質チップを使った腐葉土作りを開始した（J-PRISM サモアの事例を参考に専門家が技術支援）。腐葉土作りは、コンポスト作りと異なり、鶏糞・豚糞が不要で、切返しの頻度も少なく済むなど管理上の利点がある。

ベシオ町C/Pの案で、薪は十数本を束にして、木質チップは米袋に入れて販売している。2012年度から2014年度にかけては粉碎した木質チップの量と薪用に切断した木材の量から重量を推定し、これをリサイクルされた庭ごみの量として記録していた。当時木質チップの大半は、サンプルとして通常無償で住民等へ提供しており、チップの販売量は非常に限定的であった。しかし、2015年3月にベシオ町が有機ごみリサイクル事業を独立会計化した後は、チップ化した庭ごみの大半が販売されるようになった。そのため、リサイクルした庭ごみの量を、薪の販売量に木質チップの販売量を加えた量と推定することが可能となった。（薪1束及び米袋に入ったチップ1袋の平均重量と販売数を掛け合わせる）。

また、2015年に入り、木質チップの在庫が余っていること、台湾技術開発団が新期の農場建設のために大量の有機ごみを必要としていることから、木質チップの保管量が十分にあり、運搬車両を確保できた際には、コンポスト原料として台湾技術開発団に木質チップを無償で提供するよう、専門家はベシオ町に対してアドバイスを行った（その際、台湾技術開発団は燃料代を負担すること事に合意）。実際は、ベシオ町はごみ収集車両が十分に維持管理されておらず、頻繁に故障するため、運搬車両の確保ができず、2015年度は1回しか提供できなかった（1.5トンの木質チップを無償で提供）。

2015年3月以降に販売した薪・木質チップ、および無償提供した木質チップの量（推定値）を以下に示す。

表 3-36:庭ごみリサイクル量／薪および木質チップとして販売・無償提供した量(重量)

	薪		木質チップ			総計(重量) kg
	束数 (個)	重さ ¹⁾ (kg)	袋数 (個)	重さ ¹⁾ (kg)	無料提供し た量(kg)	
3月	7	105	10	200		322
4月	50	750	80	1,600		2,480
5月	0	0	18	360		378
6月	105	1,575	1	20	1,500	3,201
7月	95	1,425	1	20		1,541
8月	7	105	2	40		154
9月	3	45	3	60		111
10月	0		12	240		252
11月	0		59	1180		1,239
12月	2	30	14	280		326
Total	269	4,035	200	4,000	1,500	10,004

1): 薪の1束及び米袋に入った木質チップ1袋の重量の平均をそれぞれ15kgと20kgとして計算

a.7 【活動1-7】 持続的な財務体制を確立する

ベシオ町は台湾技術開発団のプロジェクトで立ち上げた苗センターの運営を独立会計予算で賄っていた。そのため、2012年5月にプロジェクトがシュレッダーを供与した後、専門家よりベシオ町に対し、有機ごみ(庭ごみ)リサイクル事業でも同様に会計を独立化しよう幾度にわたって要請したが、なかなか実現に至らなかった。2015年2月に留学を終えて書記官に復帰したベシオ町の Ms. Tokataake は、当初より廃棄物管理事業における持続的な財務体制確立に向けて独立会計化の重要性を認識していたこともあり、職場復帰直後庭ごみリサイクルサイトの処分場から役場敷地内への移動と、有機ごみリサイクル活動に関わる予算の独立会計化を決定した。

ベシオ町は木質チップ、薪、コンポストの販売に加えて、チェーンソーとグラスカッターのレンタル(機材だけでなくワーカーを派遣して1時間単位で貸し出すシステム)や、畑で収穫した野菜の販売を開始し、積極的に売上げの増大を図っている。今後ベシオ町は、利益の中から燃料や鶏糞の購入だけでなく、チェーンソーの更新や小額のパーツ購入などを行っていく計画である。

2015年3月から12月までの有機ごみリサイクル事業の収支を以下に示す。

表 3-37:独立会計収支(AUD)

		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	計
支出	燃料		30		12.3	2	30			20		94.3
	鶏糞			20			20				20	60
	その他					8	11.3					19.3
	計		30	20	12.3	10	61.3			20	20	173.6
収入	薪	14	50		105	95	7	3			2	276
	木質チップ	20	80	18	2	2	2	3	12	59	14	212
	コンポスト			5	5							10
	野菜							64	22	8	57	151

チェーンソー 等レンタル		40	70	50	40	190	30	80	30	20	550
計	34	170	93	162	137	139	100	114	97	93	1,199
収支											1025.4

月あたりの収支は AUD100 前後に安定しつつあり、得られた収入から事業実施に必要な燃料や鶏糞を購入することで、財政面において事業の持続性は担保された。現行のシステムを今後も維持するためには、資金の不正使用を防ぐための会計監査体制の整備が必要になる。2015年7月にベシオ町書記官から内務省地方自治体課に異動した Ms. Tokataake が JCC 会議の場で監査を行うことを了承した。

b. 【成果2】 固形廃棄物に関する住民の意識がクリーン・スクール・プログラム (CSP) を通じて改善される

b.1 【活動2-1】 クリーン・スクール・プログラム (CSP) を通じて、学校での3R関連活動を推進する

b.1.1 2014年度のCSP活動結果

(1) クリーン・スクール・プログラム会議開催

2012年9月、ナンディ町 C/P と JOCV を招聘し環境保全部が Teachers' Workshop を開催した。翌年 2013 年、ワークショップ参加 13 校のうち 6 校がアクション・プランを提出し、キリバスで CSP が開始した。しかし、環境保全部 C/P がモニタリングのための学校訪問を一度も実施できなかったため、6 校のうち 2 校が途中で活動を中断したが、環境保全部 C/P の支援がなくてもプログラムを継続できた学校もあり、C/P は 4 校を対象に最終審査を行った。

2014 年は CSP 参加校を前年より増やすため、環境保全部 C/P と専門家が協議し、南タラワの全小学校の教師を対象にしたワークショップを再度実施することになった。前年優勝校 (Aratokotoko 小学校) の優良事例を他校とも共有するために優勝校でワークショップを開催することにした。2014 年 2 月に 2013 年度の優勝校である Aratokotoko 小学校に開催校を除く 12 小学校から教師を 1 名ずつ招聘し、CSP 会議を開催した (計 15 名参加)。

(2) 参加校及びモニタリング体制

ワークショップ開催後、4 校がアクション・プランを提出した。対象校を表 3-38 に示す。環境保全部 C/P は、4 校を 2 ヶ月に 1 回程度訪問し、活動をフォローした。

表 3-38: CSP 参加校(2014 年)

	アクション・プラン提出校	場所	コンポスト実習
1	Temwanoku Primary School	ベシオ町	実施対象
2	St. John Primary School	ベシオ町	
3	Abaunamoub Primary School	テイナイナノ町	
4	Tebanimaneka Primary School	テイナイナノ町	実施対象

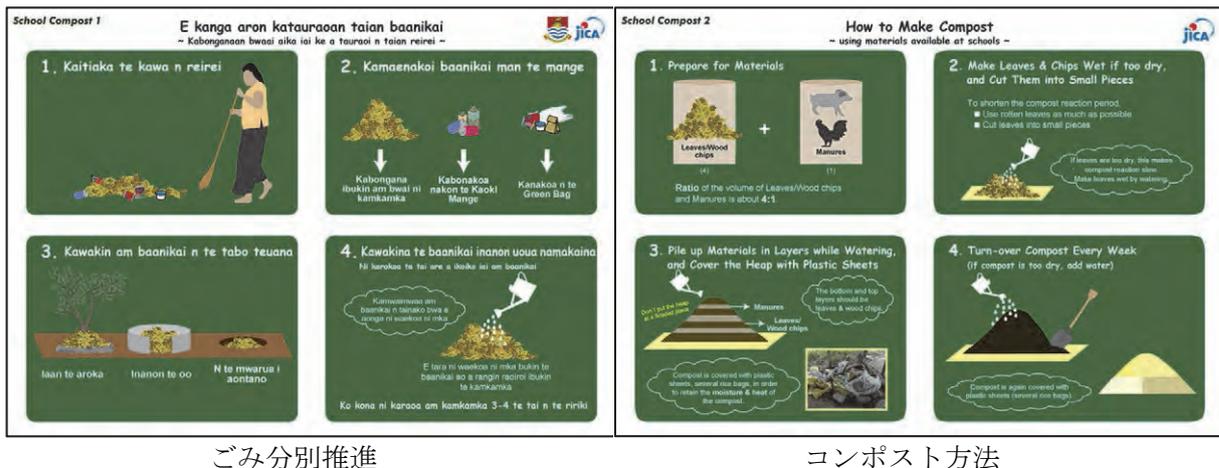
(3) 学校コンポスト推進と教師を対象としたコンポスト実習開催

2014年5月に環境保全部 C/P と専門家が共同で CSP 参加校を訪問し、3R 担当教師と意見交換を行った。教師からはコンポストに興味があるものの、どのように実施したらよいか分からないという意見が多く寄せられたことから、C/P と協議した結果、次回専門家派遣時（2014年9月）に教師を対象としたコンポスト実習を開催することになった。専門家のスケジュールの問題で、4校全てではなく、表 3-38 に示した2校のみでの実施とした。残り2校は環境保全部 C/P が9月-10月に実施するよう専門家より指示したが、モニタリングのための車両の手配ができなかったなどの理由で実施されなかった。

学校コンポスト推進の基本的アプローチ

①ごみ分別推進

学校コンポストを推進するにあたり、単にコンポスト作りを教えるのではなく、学校でのごみ削減・リサイクル推進を同時に実現することを目指した。コンポストの主原料である落葉を外部から調達するのではなく、日常的に学校内で発生する落葉を一般ごみと分別して校内に保管することを推奨した。キリバスではコンテナデポジット制度が普及しており、プラスチックボトルやアルミ缶を分別してリサイクル業者に販売できるため、落葉と共に有価物の分別・保管も推奨した。



ごみ分別推進

コンポスト方法

図 3-2: 学校でのごみ分別促進用に作成したポスター

② 身近にある材料の利用

また、コンポスト作成においては、できる限り身近な材料を活用して、安価な方法を推奨した。日差しが強く、コンポストが乾燥しがちなキリバスでは、コンポストの湿度を保つためにコンテナを使うかシートで覆うかする必要はあるが、米袋を再利用するなどして、安価な方法を推奨した。なお、その後 NZAID がプラスチック製コンポスト容器を各学校に配布したため、学校コンポストを始めた学校は、現在では米袋を再利用したシートではなく、コンポスト容器を使用している。

コンポスト実習

2校で実施したコンポスト実習の内容を以下にまとめる。

活動内容	Temwanoku Primary School	Tebanimaneka Primary School
事前作業 <ul style="list-style-type: none"> コンポスト実習の概要説明 実習の日程決定 実習に必要な材料と道具の準備 ごみ分別推進 	実施日：9月9日 参加者 校長 3R 担当教師（2名）	実施日：9月8日 参加者 校長 3R 担当教師（2名） その他教師（6名）
実習 <ul style="list-style-type: none"> コンポスト反応の原理説明 原料の調達方法（落葉の分別・保管推進） コンポスト作り（作業） 	実施日：9月10日 参加者 3R 担当教師（2名） 生徒	実施日：9月11日 参加者 3R 担当教師（2名） その他教師（6名）
コンポスト管理 <ul style="list-style-type: none"> コンポスト切返し作業の実施 コンポストの状態評価 問題がおきた場合の対処方法紹介 	実施日：9月18日 参加者 3R 担当教師（2名）	実施日：9月19日 参加者 3R 担当教師

専門家より、専門家がキリバスに戻る 2015 年 1 月下旬までに 2 回程度コンポストの切返しを継続することを 3R 担当教師に依頼し、また、環境保全部 C/P にコンポスト・モニタリングのために月に 1-2 回学校訪問することを指示した。しかし、環境保全部 C/P が一度も学校訪問を行わず、フォローしなかったため、どちらの学校でもコンポストの切返しが徹底されず、コンポストはうまく製造できなかった。

J-PRISM 初年度に実施したコンポストトライアルの結果から、漁業中心に生きてきたキリバス人にとって継続したコンポスト管理をするのが難しいことは認識していたが、本来業務で多忙な学校教師にとっても継続的なコンポスト管理は容易ではない。キリバスの学校でコンポストを推進する場合、外部人間による定期的な学校訪問（モニタリング）が重要となることが明らかとなった。

(4) CSP 活動結果

環境保全部 C/P は 2 ヶ月に 1 回程度、各学校を訪問し、活動状況をモニタリングすることになっていたが、2013 年度同様、2014 年も単独でのモニタリングを実施することができなかった。その結果、アクション・プランを提出した 4 校の内、2 校（コンポスト実習を実施しなかった 2 校）が活動を中断することになった。環境保全部 C/P は残った 2 校を対象に最終審査を行った（審査結果を添付資料 7.2.1.a に示す）。

モニタリングができなかった理由の一つとして、交通手段の問題が挙げられる。南タラワは小さな島であるが、細長いため、島内の移動が活動の障害になる事が多い。他ドナープロジェクトと違い、J-PRISM 事業でのモニタリング業務は環境保全部の予算で行うことになっており、C/P は学校モニタリングのためだけに環境保全部事務所から遠方のベシオ町まで公用車をアレンジして赴くのが困難であった。

環境保全部 C/P による定期的モニタリングは、キリバスの学校で CSP 活動を根付かせるために不可欠な活動である。そのため、2015 年 2 月に開催した第 4 回 JCC で、専門家より、環境保全部が確実にモニタリング業務を実施できるようにするために、ベシオ町とテイナイナノ町と協力し、モニタリング業務を分担することで（互いに事務所近辺の学校を担当する）、

交通手段の問題を解決することを提案し、環境保全部と両町の合意を得た。2015年度は、ベシオの小学校はベシオ町 C/P、テイナイナノ西部の学校はテイナイナノ町 C/P、テイナイナノ東部の学校は環境保全部 C/P がモニタリングを担当し、CSP を継続することとなった。

b.1.2 2015年度のCSP活動結果

(1) 環境保全部、教育省、自治体との協力関係の構築

2015年より、環境保全部と自治体がモニタリング活動を分担することになった。CSPの主要活動がコンポストであるため、環境保全部配属の NZAID プロジェクトで有機ごみを担当するオフィサーも本事業に関与することになった。加えて、プロジェクト終了後の継続性を高めるために、CSP への教育省の関与を高める必要があった。そこで CSP 活動を始める前に、環境保全部、教育省、自治体、NZAID の担当者と打ち合わせを行い、以下の合意を得た。

- 環境保全部と自治体は協力して CSP を実施する
- 環境保全部と自治体は協力して CSP およびコンポストワークショップを開催する
- 教育省は CSP およびコンポストワークショップに参加する
- CSP 不参加校でも、環境保全部有機ごみ担当オフィサー（NZAID プロジェクトで雇用）がコンポストワークショップを開催する
- NZAID 事業でコンポスト容器とガーデニングツールを購入し、各学校に配布する
- プロジェクト（J-PRISM）が環境保全部と協力して出張授業/社会科見学を実施する

(2) CSP・コンポストワークショップ開催

2014年度に実施したコンポスト実習を他校でも実施して欲しいとの要請が環境保全部および学校から寄せられたため、再度ワークショップを開催した。ワークショップの概要を以下に示す。

ワークショップ概要

日時：2月11日

場所：Tebanimaneka Primary School（2014年度CSP参加校）

目的：南タラワ全域でのCSPと学校コンポストの推進

参加者：20名

13小学校から1名ずつ、環境保全部、教育省、ベシオ町、テイナイナノ町、専門家
プログラム：

時間	内容	発表者
3.00 pm	開会の辞	環境保全部C/P
3.10 pm	CSP概要説明	環境保全部C/P
3.30 pm	昨年の活動結果	環境保全部C/P
3.40 pm	昨年の優勝校紹介	環境保全部C/P/テイナイナノ町C/P
3.50 pm	ティーブレイク	
4.00 pm	コンポスト実習 講義：コンポスト方法 実習：コンポスト作り	専門家
5.00 pm	閉会の辞	

(3) 参加校とモニタリング実施体制

ワークショップ開催後、6校がアクション・プランを提出した。CSP参加校とモニタリングを担当する組織を以下の表にまとめる。

学校名	モニタリング担当組織	モニタリング実施状況	CSP活動状況
St. John Primary School	ベシオ町	月に2回程度訪問 簡易のチェックシートに結果を記録	・コンポスト実施（8月以降、校舎建替え工事のため中断） ・教室でのごみ分別実施
Temanoku Primary School	ベシオ町	月に2回程度訪問 簡易のチェックシートに結果を記録	・コンポスト実施（8月以降、校舎建替え工事のため中断） ・有価物分別保管実施 ・教室でのごみ分別実施
Abaunamoub Primary School	テイナイナノ町	7月までは定期的に訪問 8月以降、多忙で実施できず	・落葉の分類・保管実施 ・ごみ分別実施
Tebanimaneka Primary School	テイナイナノ町	7月までは定期的に訪問 8月以降、多忙で実施できず	・コンポスト実施 完熟コンポスト確保 ・教室でのごみ分別実施
War Memorial School	環境保全部	モニタリング1回実施（レポート作成）	・教室でのごみ分別実施
Bareaumai Primary School	環境保全部	モニタリング1回実施（レポート作成）	・コンポスト実施 ・教室でのごみ分別実施 ・大潮で学校が浸水し、一部活動中断

モニタリング業務を各C/P機関で分担したことで、最低限の活動ではあるもののCSP開始から3年目にして初めて定期的なモニタリングを実施するに至った。結果、例えばTebanimaneka Primary Schoolではテイナイナノ町C/Pの技術支援により、コンポストの切返しを定期的に変更し、コンポスト製造を成功させることができた。

プロジェクト終了後も環境保全部がCSPを継続していくためには、環自治体との協力関係の継続が必須である。しかし、環境保全部C/Pがイニシアティブをとっていけるかどうかに関しては不安が残る。

(4) 活動結果

環境保全部と自治体が学校のモニタリング業務を分担したことで、初めて参加校全てで少なくとも1回はモニタリングを実施することができた。行政が学校を訪問することで一部の学校でコンポストの適切な管理に至った事例も見受けられた。

環境保全部と自治体は、校舎の建替え工事のため活動ができなくなったベシオ町の2校を除いた4校を対象に最終審査を行い、Tebanimaneka小学校が優秀校に選ばれた。最終審査結果を添付資料7.2.1.bに示す。

b.2 【活動2-2】活動2で得た教訓と経験を広めるためワークショップを開催する

b.2.1 クリーン・スクール・プログラムワークショップ（コンポスト演習含む）

概要は b.1.2 の(1)にまとめた。

b.2.2 出張ごみ授業の提供と処分場・リサイクルサイトへの社会科見学実施の試み

環境保全部 C/P のイニシアティブ不足を考えると、今後環境保全部が全ての小学校を対象に CSP を実施運営するのは困難であると想像される。

一方、2013 年に改訂された小学 3・4 年生向けのシラバスによると、小学 4 年の 3 学期に環境科学や Living Healthy など複数の科目でごみ教育を実施することになっている。加えて、2015 年末に改訂された小学 5・6 向け環境科学のシラバスにはコンポストが含まれた。

教育省はシラバス改訂と同時に、Teachers's Guide も改訂しているが、海外の事例を多く使うなど教材が現地化できていない。環境保全部は、CSP を実施するだけの人員および予算がなくても、J-PRISM や NZAID の活動結果を基に教材を現地化したり、学校で廃棄物管理の出前授業をしたり、処分場やリサイクルサイトの視察を受入れたりして、教育省が学校でのごみ教育を推進するのを側面支援することも可能である。

上記のことを C/P と協議した結果、J-PRISM キリバスの活動の総括として、これまでの活動結果を反映した学校でのごみ教育プログラムを作成し、教育省、環境保全部、自治体と協力して出張ごみ授業と廃棄物管理関連施設視察を試みに実施することになった。

専門家がこれまでの J-PRISM の成果を反映したごみ教育プログラムを作成し、環境保全部オフィサーと共同で小学校での出前授業を行い、その後処分場およびリサイクル現場の社会科見学をアレンジした。出張授業と現場視察の概要を以下に示す。

出張授業・処分場及びリサイクルサイト視察概要

日時：2015年11月10日

場所：Abaunamoub Primary School

対象：Abaunamoub Primary School小学4年生（3クラス）

プログラム:

時間	活動	担当者
8:15- 9:15	教室での講義とディスカッション ・ アイスブレイク：ごみって何？ ・ 講義 1：南タラワのごみ	環境保全部啓発担当オフィサー（C/P）
9:15 – 9:30	Nanikai処分場へ移動	テイナイナノ町が交通手段（トラック）をアレンジ
9:30 – 9:50	Nanikai処分場視察 講義2：3つの処分場と処分場管理方法	環境保全部処分場担当オフィサー（NZAIDプロジェクト）
9:50 – 10:10	ベシオへ移動	
10:10 – 10:30 10:30 – 10:50	リサイクル関連施設視察 ・ ベシオ町（有機ごみリサイクル活動） ・ Kaoki Mang 資源回収施設視察（アルミ缶と PET ボトルリサイクル）	ベシオ町廃棄物担当オフィサー リサイクル会社オーナー
10:50 – 11:10	Moving back to school	
11:10 – 11:40	Q&A Refreshment	

出張授業と現地視察を組み合わせた活動はキリバスで初めての試みであったが、生徒と教師から高い評価を受けた。キリバスでは校長の裁量でこのような課外活動を学校独自に実施できる。環境保全部が人員不足から CSP 活動を南タラワ全域で年間を通して運営できなくても、校長のリクエストに基づき出張授業を実施することは可能と思われる。

出張授業用に作成した教材は、教育省の次回編集委員会（2016年2月に開催予定）で文言のチェックを受けた後、最終化する予定となっている。一部は NZAID プロジェクトのフェーズ 2 で印刷する計画もあり、環境保全部あるいは自治体が出張授業や処分場視察受入れを継続する予定となっている。

3.2.3 トンガ国の活動

a. 【成果1】 ババウの既存の処分場施設が改善される

a.1 活動1-1. 既存の処分場にて現地踏査を実施する

プロジェクト前半（2011年度～2013年度）に実施済。

a.2 活動1-2. 処分場改善のための計画設計を作成する

プロジェクト前半（2011年度～2012年度）に実施済。

a.3 活動1-3. 環境影響評価を実施する

プロジェクト前半（2012年度）に環境管理計画策定で対応済。

a.4 活動1-4. ババウ島の処分場とその周辺環境において水質モニタリングを実施する

プロジェクトは、環境省ババウ支所とオフィスを共有にする他ドナー（AUSAID/GEF）による総合的水資源管理案件（名称：IWRM(Integrated Water Resource Management)/IWCM(Integrated Water Coastal Management)）と 2013年度より共同で水質モニタリングを実施している。本案件では、保健省ババウ支所のオフィスの一部に簡易なラボ施設を設置し、Kalaka 最終処分場での現場分析に加えて、ラボ施設で分析を室内分析・測定を行っている。水質モニタリングの実施実績は以下の通り。

表 3-39 水質モニタリングの実施実績

回	実施時期				
	2012年度-2013年度	回	2014年度	回	2015年度
1	2013年2月	5	2014年4月	8	2015年4月
2	2013年7月	6	2014年7月		

3	2013年10月	7	2015年1月
4	2014年1月		

第7回の水質モニタリングの結果、処分場敷地内浸出水池の第1番目と第2番目の硝酸塩および大腸菌の値が基準値を大きく超えたことが判明した。浸出水池周辺に牛や豚などの家畜の排泄物が多数確認されたことから、家畜のアクセスを制限するために保健省 C/P は浸出水池周辺に簡易フェンスを設置した（2015年1月）。さらに、保健省 C/P は、浸出水対策として以下の作業を先方負担で実施した。

- 処分場敷地内に振った雨水を排水するための小規模堰堤の造成（2014年7月）
- 浸出水集水地から浸出水池までをつなぐチャンネルの浄化材の交換（毎年1回（2013年2月、2014年1月、2015年2月））

他ドナー案件は2015年7月に終了し、それ以降水質モニタリングは実施されていない。他ドナー案件によって、保健省および環境省の C/P は水質モニタリングの技術トレーニングを受けているが、C/P 自身が全てを準備し、主体的に水質モニタリングを実施するレベルには達していない。2016年度以降、ババウ島では IWRM/IWCM プロジェクトを引き継ぐかたちで水資源分野の新規プロジェクトが他ドナーによって実施される予定となっており、処分場の水質モニタリングも含まれることが期待される。

a.5 活動1-5. 既存の処分場の改善事業を実施する

プロジェクト前半（2011年度～2012年度）に実施済。2013年2月に竣工式を開催し、以降、保健省による改善処分場における運営管理が開始した。

a.6 活動1-6. 改善されたババウ処分場の運営マニュアルを作成する

処分場運営管理マニュアルは2013年2月の改善工事完了時に第1稿を作成していた。それから約1年間が経過し、運営管理の作業もルーチン化してきたため、実情に沿った内容にマニュアルを改訂することにした。保健省 C/P と数回にわたって協議を重ね、2014年10月にマニュアルの最終案を作成した。マニュアルは2015年1月に保健省 CEO の承認を得られた。

a.7 活動1-7. 処分場現場での運営管理のトレーニングを実施する

プロジェクト前半（2012年度）に実施済。以降、OJT にて継続実施。

a.8 活動1-8. 改善処分場を運営管理する

(1) 処分場運営管理

保健省がほぼ運営マニュアル通り（上記活動1-6）、二ヶ月に一度重機によるごみの押し出し・転圧および施設整備（草刈り等）等の処分場運営管理を実施している。2013年度はプロジェクトが一部財政支援を行っていたが、2014年以降保健省の自己負担で処分場運営管理がなされている。

2013年1月には処分場の運営管理を担わせる目的で、東日本ノンプロ無償を通じて掘削機が社会基盤省ババウ支所に供与された。この見返りに2014年4月以降、社会基盤省ババウ支所がホイール・ローダを用いて処分場運営管理作業（重機によるごみの押し出し・転圧）を保健省処分場担当C/Pの指示の下、無償で実施している。Kalaka 最終処分場の運営管理の実績および経費負担を下記（表 3-40）に示す。

表 3-40 Kalaka 最終処分場の運営管理の実績および経費負担

	2013年												2014年	
	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月		
(1) 借用した重機による処分ごみの押し出し・転圧														
(2) 施設整備(場内草刈り、散乱ごみ拾い、等)														
	2014年												2015年	
	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月		
(1) 借用した重機による処分ごみの押し出し・転圧														
(2) 施設整備(場内草刈り、散乱ごみ拾い、等)														
	2015年													
	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月				
(1) 借用した重機による処分ごみの押し出し・転圧														
(2) 施設整備(場内草刈り、散乱ごみ拾い、等)														

プロジェクトの財政支援で実施
 保健省の財政負担で実施
 社会基盤省が無償で実施

(2) 処分場のフェンス設置（2015年9月）

第4回JCC（2015年2月開催）では、処分ごみの散乱防止、処分場境界線の明確化、住民の処分場立ち入り防止などの観点から処分場へのフェンス設置の必要性が議論となり、保健省大臣より次回のJCCまでに設置するとの確約がなされた。これを受け、保健省はフェンスの設置代（TOP\$7,000(約40万円)）を来年度予算に含め、2015年9月に設置完了した。

(3) 保健省の処分場管理予算増額

保健省ババウ支所の廃棄物管理予算は、ほぼ全額Kalaka最終処分場の運営管理費に配分されているが、2011/2012年のプロジェクト開始時はTOP\$1,000（約6万円）であった予算が、2014/2015年には4倍のTOP\$4,000（約24万円）、プロジェクト最終年度の2015/2016年は8倍のTOP\$8,000（約48万円）と増額した。JICA専門家による保健省本省への継続的な働きかけ、また、保健省における処分場運営管理に対するコミットメントが増額の要因と考えられる。

(4) 覆土の実施（2015年11月）

保健省 C/P の努力もあり処分場施設自体は良好な状態であるが、管理人が処分ごみに火をつける習慣がまだ続いている。管理人は処分場の埋立区画内に常駐していることから、処分ごみを目のあたりにし、ハエや悪臭に日々悩まされている。加えて、プラスチックごみが風で散乱することも火をつける要因となっている。

処分ごみのハエ・悪臭、散乱ごみの問題は覆土の実施によって解消される。覆土はプロジェクトで作成した運営管理マニュアルでも定期的な実施を推奨しているが、保健省の予算不足のため、2013年2月に改善工事を完了して以降実現に至っていなかった。今年度（FY2015/2016）保健省の Kalaka 最終処分場の運営管理予算が倍増されたことを受け、実施が可能となった。保健省は燃料代を負担（TOP\$2,300）、機材3台分（掘削機、ホイールローダー、トラック）の借用および覆土用の表土は社会基盤省が無償で提供してくれた。2015年11月中旬に重機が現場に入り作業を開始した。今回の作業を通じて、保健省が覆土の実施を経験できたこと、また、社会基盤省との費用分担の前例ができたこと、社会基盤省の重機オペレーターが転圧と覆土の作業技術を習得できたことは意味がある。万が一保健省の処分場 C/P が異動で不在となった場合も、社会基盤省主導である程度作業を進めることができるものと期待される。

b. 【成果2】 ゴミ収集サービスの改善

b.1 活動2-1. 排出・収集容器の提供や収集車両の提供等収集に係る施設及び資機材を改善する

2013年度にパイロット・プロジェクトを実施して以降、ゴミ収集を行うコミュニティに対し、表 3-41 の資材をプロジェクトで提供した。

表 3-41 プロジェクトがコミュニティに提供したゴミ収集関連資材

	項目	目的	1コミュニティ (100世帯)あたりの 数量	単価	合計
1	Tシャツ	コミュニティ代表からなるごみ委員会のモチベーションおよび団結力向上	8	TOP\$28	TOP\$224
2	グローブ	ごみ収集作業を実施するごみ委員会メンバーの安全確保	8	TOP\$8	TOP\$64
3	有価物回収用 ケージ資材	空き缶回収用。コミュニティ内に一時貯留させ、収集トリップ数を減らし、経費削減を図る。	6	TOP\$130	TOP\$780
					TOP\$1,068 (約 64 万円)

なお、プロジェクト終了後の2015/2016年度拡大対象となっているコミュニティに対するごみ収集関連資材は、環境省の予算で供与されることとなっている。

b.2 活動2-2. 一般廃棄物の収集改善計画を策定する

ごみ収集改善計画は2013年6月にドラフト（第1稿）を作成し、2014年10月にごみ収集のパイロット・プロジェクトの結果を反映させて最終（案）を作成した。2015年2月、2015年7月に専門家とC/Pと共同で再度計画を見直し、最終化を行い、2015年11月の第5回JCCで承認された。

b.3 活動2-3 収集サービス計画策定に向けたごみ質調査を実施する

プロジェクト前半（2011年度）に実施済。

b.4 活動2-4 ごみ収集のパイロット・プロジェクトを実施する

プロジェクト前半（2013年度）に実施済。

b.5 活動2-5 ごみ収集計画に基づき、コミュニティによるごみ収集システムを推進する

(1) 対象コミュニティとシステム推進の実施要領

活動2-2で策定したごみ収集計画の拡大計画(Expansion Plan)に基づき、環境省C/Pが中心となって新規コミュニティに対し、ごみ収集システムの拡大を行った。対象コミュニティは以下のとおり。

表 3-42 拡大対象コミュニティ(2014年度-2015年度)

2014年度対象コミュニティ			
	District名	コミュニティ名	世帯数
1	Neiafu	Aloi Talau, Vaipua	250
2	Pangaimotu	Pangaimotu	125
3	Hahake	Ta'anea	121
4	Leimatu'a	Mataika	102
5	Hihifo	Tefisi	113
		合計	1,227
2015年度対象コミュニティ			
	District名	コミュニティ名	世帯数
1	Neiafu	Fungamisi	86
2		Makave	88
3	Pangaimotu	Nga'unoho(Talihau)	34
4	Hahake	Ha'alaufuli	82
5		Ta'anea	121
6	Leimatu'a	Feletoa	65
7	Hihifo	Taoa	89
		合計	565

2015年11月時点でババウ島の全世帯62%がごみ収集へのアクセスを有している。新規コミュニティに対するコミュニティによるごみ収集の実施推進は、環境省C/Pによる側面支援の下、コミュニティが主体となつたため下記の作業を進めた。

表 3-43 コミュニティによるごみ収集の実施要項

	活動	内容	実施主体
1	住民代表（Town Officer）との協議	- コミュニティによるごみ収集の概要説明（簡易） - 住民集会のアレンジ依頼	環境省 C/P
2	住民集会の開催	- コミュニティによるごみ収集の概要説明（詳細） - 「ごみ委員会の設立」および「ごみ収集計画の策定」依頼	環境省 C/P/コミュニティ
3	ごみ委員会の設立	- 委員会メンバーの選出、リスト化。 - 委員会メンバーは、ごみ収集計画の策定、住民への周知・意識啓発、ごみ収集の実施・モニタリングなどの役割を担う	コミュニティ
4	ごみ収集計画の策定	- 収集日、収集時間、収集頻度、プラットフォームおよび有価物回収用ケージの配置計画、実施スケジュール等を規定のフォーマットへの記載、環境省へ提出	ごみ委員会
5	コミュニティへの周知	- ごみ収集計画に基づく情報（収集日、等）をコミュニティ全体に周知する	ごみ委員会
6	ごみ収集の実施	- ごみ収集計画に基づき、ごみ収集を実施する	ごみ委員会
7	モニタリングの実施	- ごみ収集車両を追行し、実施状況を確認する	C/P（環境省、保健省）

(2) ラジオ・プログラムの実施

社会CA調査（住民アンケート調査）およびごみ収集のワークショップを実施した結果、排出マナーに対する指導やごみ収集日・時間帯の周知徹底、分別促進など住民に対する効果的かつ継続的な意識啓発の重要性が改めて認識された。環境省C/Pと協議した結果、ラジオを通じて意識啓発を図ることとした。ババウにはローカルTVがあるが、故障中でここ一年近くTV放映ができず、ラジオが最も効果的な情報伝達手段となっている。地元で最も人気のあるラジオ放送局（FM）と交渉し、①2014年10月下旬～2015年2月中旬（約4ヵ月間）、②2015年7月～2015年12月（約6ヵ月間）の2回にわたって、表 3-44の概要でラジオ・プログラムを実施した。

表 3-44 ラジオ・プログラムの概要

	実施時期	2014年度 (2014年10月下旬～2016年2月中旬(約4ヵ月間))	2015年度 (2015年7月～2015年12月(約6ヵ月間))
	目的	頻度	
1	ごみ収集日の周知	毎週1回 15分間	隔週(2週間に1回) 15分間
2	モニタリング結果の報告、成功事例・教訓の共有)、パネル・ディスカッション	毎月1回 30分間	
	コミュニティによるごみ収集推進のためのラジオ・コマーシャル	毎日(月曜日～土曜日)3回 1分間	

b.6 活動2-6. コミュニティによるごみ収集システムの実施状況をモニタリングする

環境省および保健省の C/P が主体となって、コミュニティによるごみ収集のモニタリングを実施した。モニタリングの対象は下記に示した計 11 地区である。

- ① 2013 年 9 月より実施したごみ収集のパイロット・プロジェクトの対象 (4 地区)
- ② 拡大対象コミュニティ (2014 年度-2015 年度) (7 地区) (表 3-42)

(1) 収集状況のモニタリング

各コミュニティのごみ委員会は、プロジェクトが作成したモニタリング・シートに、収集日ごとに実施日、所要時間、総トリップ数、住民の参加率、支出入などを記録して、環境省に提出することとなっている。ごみ委員会メンバーが収集実施後に環境省オフィスへ立ち寄って口頭で報告を行い、環境省 C/P がモニタリング・シートに記入することもあった。また、C/P (環境省、保健省) と専門家は、収集当日に収集車両を追行し、実際の実施状況を確認し、優良事例や優良事例や教訓の抽出を行ったほか、必要に応じてごみ委員会のメンバーに対して技術的アドバイスを提供した。

前述のモニタリング・シートは、各コミュニティのごみ収集の実施実態 (参加率、ごみ収集量・有価物回収量、運営コスト) を把握・分析する上で重要な情報源となる。プロジェクト終了後を見据え、C/P 自身が状況分析できるよう、専門家が Excel を用いてデータベースを作成し、2015 年 4 月に C/P に対しトレーニングを行った。

(2) モニタリング結果

① 実施状況

表 3-45 に対象コミュニティにおける2015年10月までのごみ収集の実施状況を示す。収集車両の故障や冠婚葬祭でごみ収集がキャンセルになることもあるが、パイロット地区および新規拡大地区双方においてごみ収集は継続的に実施されていた。

表 3-45 コミュニティによるごみ収集の実施状況(2014 年 1 月～2015 年 10 月)

Community	Kameli	Tu'anekeviale	Leimatua	Longomapi	Community	Nelafu (Talaue)	Pangaimotu	Mataika	Tefisi
No. of households	236	86	218	121	No. of households	Approx. 250	125	102	113
Feb. 2014	1st Sat 8	2nd Sat 22	Sat 8 Sat 22	O	Oct. 2014		Mon 28		
Mar. 2014	Sat 15	Sat 29	X	O	Nov. 2014	Sat 13 Sat 29	Tue 4 Tue 11 Tue 25	Thu 20	Fri 28
Apr. 2014	Sat 12	Sat 26	Sat 5	O	Dec. 2014	Sat 20	Mon 9 Mon 16	Mon 22 Sat 27	
May. 2014	Sat 17	Sat 31	Sat 10	O	Jan. 2015	Wed 28	Wed 28	Tue 27	Thu 5
Jun. 2014	Sat 14	Sat 23	X	X					
Jul. 2014	Sat 12	Sat 26	X	O					
Aug. 2014	X	Fri 29	X	O					
Sep. 2014	X	Sat 27	Sat 27	X					
Oct. 2014	X	X	Fri 11 Fri 25	Fri 3 Thu 31					
Nov. 2014	X	X	Fri 15 Fri 29	Thu 28					
Dec. 2014	X	X	Sat 13 Tue 27	Sat 5					
Jan. 2015	Fri 16	Thu 26	Sat 10	Sat 10					

パイロット4地区 (2014年度)

新規拡大地区 (2014年度)

Community	Kameli	Tu'anekevile	Leimatu'a	Longomapu	Community	Neiafu (Talau)	Pangaimotu	Mataika	Tefisi	Feletoa	Fugamisi
Jan. 2015	Fri 16 Thu 26	Sat 10	Sat 10	Sat 3 Fri 16	Jan. 2015	Wed 28	Wed 28	Tue 27	Thu 5		
Feb. 2015	Fri 27	Mon 2	Fri 27	Sat 7 Sat 21	Feb. 2015	Sat 28	Sat 28	Wed 11	X		Sat 21
Mar. 2015	Sat 28	Sat 7	Fri 27	Sat 7 Sat 21 Sat 11	Mar. 2015	Sat 28	Thu 12 Thu 26	Tue 31	X	Fri 6 Fri 20	Sat 14
Apr. 2015	Sat 25	Sat 18	Fri 24	Sat 21 Sat 11 Fri 24	Apr. 2015	Sat 25	Thu 9 Thu 23	Thu 23	X	Thu 2 Fri 17	Sat 11
May. 2015	X	○	X	○	May. 2015	Sat 30	○	Thu 4	X	Fri 1 Fri 29	Sat 16
Jun. 2015	○	X	○	○	Jun. 2015	Sat 27	Mon 15 Thu 25	Thu 4 Tue 30	X	Fri 12	○
Jul. 2015	Sat 25	Sat 25	Fri 30	X Postponed	Jul. 2015	Sat 25	Fri 3 Fri 17 Thu 30	Thu 23	Fri 17	Fri 24	Sat 25
Aug. 2015	Sat 29	Sat 22	X Cancelled due to funeral	Sat 1 Sat 29	Aug. 2015	Thu 28	Sat 29	Fri 28	Fri 28	○	Sat 29
Sep. 2015	○	X	Thu 3	Sat 26	Sep. 2015	Mon 28	Thu 3	○	Wed 9	○	Sat 19
Oct. 2015	Sat 21 ^a	Thu 8	Fri 2 Fri 30	○	Oct. 2015	○	Wed 11	Fri 2	○	Fri 16	○

パイロット4地区 (2015年度)

新規拡大地区 (2015年度)

② 住民の排出率

※○は実施済 (実施日不明)

2013年9月~2015年10月の各対象コミュニティの住民排出率を表 3-46 に示す。Mataika 地区および Feletoa 地区における住民排出率は平均 90%以上を超え、極めて高い。Mataika 地区および Feletoa 地区における住民排出率が極めて高い理由として、住民代表であるタウン・オフィサーがごみ収集作業に参加するなど主体的な取り組みがみられ、各世帯にごみの排出や分別を積極的に呼びかけていることが挙げられる。さらに、Mataika 地区では、ごみ委員会のメンバーが各世帯に無償でプラットフォームを設置している。Feletoa 地区は Mataika 地区と隣接しており、タウン・オフィサー同士がごみ収集について情報交換を行っており、良い相乗効果を生み出している。

2013年9月~2015年10月のコミュニティ全 10 コミュニティの平均住民排出率を図 3-3 に示す。年々排出率が上昇しているのがみてとれる。Mataika 地区および Feletoa 地区の高い排出率が全地区の平均排出率を底上げしている。

表 3-46 各コミュニティの住民排出率(%)

Name of community	AVERAGE (%)
Kameli	28.8
Leimatu'a	51.5
Tu'anekevile	56.5
Longomapu	60.4
Talau	27.8
Pangaimotu	64.1
Mataika	96.6
Tefisi	69.3
Feletoa	87.1
Fungamisi	46.7
AVERAGE	58.9



図 3-3 コミュニティ全体の平均排出率(%)の推移

③ 収集トリップ数

2013年9月~2015年10月間の各コミュニティにおける月平均の収集トリップ総数を表 3-47 に示す。当該期間の推定収集量は約 120 トンとなっている。うち、約 7 割が金属類以外のごみ、約 3 割が有価物となっている。有価物はリサイクル業者へコミュニティ自ら持ち込んで売却している。

表 3-47 各コミュニティの総収集トリップ数およびごみ収集推定量（累積）

Name of community	Total number of loads	Estimated amount of waste collected (ton)
Kameli	120	24
Leimatu'a	93	18.6
Tu'anekevile	49.5	9.9
Longomapu	50	10
Talau	42	8.4
Pangaimotu	79	15.8
Mataika	66	13.2
Tefisi	21	4.2
Feletoa	20	4
Fungamisi	59	11.8
TOTAL	599.5	119.9

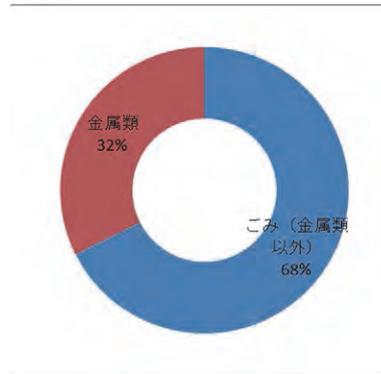


図 3-4 ごみおよび金属類の重量比(%)

④ 運営費

コミュニティによるごみ収集の実施運営費は、コミュニティが全額負担している。表 3-48 に、2013年9月~2015年10月の各コミュニティの月あたりの平均運営費平均および世帯あたりの平均負担額(TOP\$/月)を示す。コミュニティごとの月あたりの平均実施運営費は TOP\$150 (約9千円) /月、1世帯あたりの月あたりの平均負担額：TOP\$1.3 (約78円) /月であった。カバ・パーティによる募金活動、水道料金へのごみ収集料金の上乗せ等コミュニティによる創意工夫で実施運営費を賄っている。

表 3-49 にパイロット4地区の2013年9月~2015年4月の運営費の内訳を示す。ごみ収集実施において出費が必須である収集車両の借用・燃料代は全体の6割を占め、3割程度が収集要員のお茶代に費やされていることが判明した。お茶代は人件費の代替となっており、収集要員にとって最大のモチベーションになっており、これを排除することは困難である。一方、お茶代の削減が全体運営費のコスト削減に大きくつながることも示唆された。

表 3-48 各コミュニティの月あたりの運営費平均および世帯あたりの負担額平均 (TOP\$/月)

	Monthly total operation cost (TOP\$/month)	Collection fee per household (TOP\$/month)
Kameli	186	0.9
Leimatu'a	148	0.7
Tu'anekevile	79	0.9
Longomapu	111	0.9
Talau	71	0.3
Pangaimotu	268	2.1
Mataika	65	0.6
Tefisi	171	1.5
Feletoa	216	3.3
Fungamisi	187	2.2
AVERAGE	150	1.3

表 3-49 パイロット4地区の運営費（内訳含む）、トンあたりの処理費、世帯あたりの費用負担額(TOP\$) (2013年9月~2015年4月)

Community	Operation cost per collection day (TOP\$)	Breakdown			Operation cost per ton	Cost born per household (month)
		Truck hiring and fuel costs	Cost for plastic bags	Refreshments		
Kameli	TOP\$ 122.68	TOP\$ 96.67 (79%)	TOP\$ 46.67 (38%)	TOP\$ 43.21 (35%)	TOP\$ 98.94	TOP\$ 0.58
Tu'anekevile	TOP\$ 108.60	TOP\$ 55.83 (51%)	TOP\$ 63.00 (58%)	TOP\$ 18.67 (17%)	TOP\$ 134.07	TOP\$ 0.50
Leimatu'a	TOP\$ 182.38	TOP\$ 103.33 (57%)		TOP\$ 77.68 (43%)	TOP\$ 350.73	TOP\$ 2.12
Longomapu	TOP\$ 172.20	TOP\$ 95.00 (55%)		TOP\$ 51.66 (30%)	TOP\$ 366.38	TOP\$ 1.42
		61%		31%		WAL TOP\$ 10

ごみの処理単価および世帯あたりの費用負担額(TOP\$)の軽減を図り、費用対効果の高いご

み収集を実現するためには、ごみ収集量の増加、ひいては住民の排出率の向上が必要である。住民への継続的な意思啓発が必要であるとともに、野焼きや不法投棄に対する規制の強化も求められる。

(3) ごみ委員会のためのごみ収集ワークショップ実施

上記(1)のモニタリング結果をコミュニティに還元するために、コミュニティのごみ委員会メンバーを対象にごみ収集ワークショップを実施した(表 3-50)。モニタリング結果は、できる限り定量的なデータや情報、写真を多用し、参加者が自身の地区の実施状況を客観的に理解できるように工夫した。ワークショップでは、各地区のごみ委員会長を務める Town Officer より自らの経験をもとに成功要因や教訓の共有も行われ、コミュニティ間の学び合いを促進する良い機会となった。

表 3-50 ごみ収集ワークショップの実施概要

	開催日	場所	参加人数
1	2014年10月10日(金)	知事室会議室	38名
2	2015年7月30日(木)	知事室会議室	49名

c. 【成果3】 ババウ島で長期的な固形廃棄物管理の基盤が確立する

c.1 活動3-1. ババウ島における固形廃棄物管理の状況を監督するための関係機関による運営委員会を確立する

プロジェクト開始時に委員会設立済(2011年度)。

c.2 活動3-2. ババウ島の固形廃棄物管理計画を策定する

プロジェクト前半(2011年度～2013年度)に実施済。

c.3 活動3-3. ババウ島の固形廃棄物管理計画の策定状況をモニタリングする

2015年2月4日(水)に第5回ババウ廃棄物管理委員会ワークショップを開催した。本ワークショップは、ババウ廃棄物管理計画を策定することを主たる目的としているが、ババウのコミュニティやババウに支所(OIC)をおく関係省庁とプロジェクトの進捗状況をモニタリングし、現状と課題を共有する上でも良い機会となっている。今回のワークショップでは、2015年度1年間の活動の成果として、Kalaka 最終処分場の運営管理状況およびコミュニティによるごみ収集の実施状況等について C/P(保健省、環境省)が発表した。また、2015年1月に改訂したごみ収集拡大計画についても共有し、委員会の承認を得た。

2015年11月に第6回ババウ廃棄物管理委員会ワークショップを開催し、最終化したババウ島廃棄物管理計画の承認を得る予定であった。しかし、C/Pが別案件で多忙のためスケジュール調整できず、実現に至らなかった。

c.4 活動3-4. 固形廃棄物管理計画をレビューする

2015年4月に、専門家が2012年12月に作成した固形廃棄物管理計画（案）のデータ・情報更新および内容の精査を実施した。

また、2015年7月には、保健省および環境省のC/Pを対象に、2日間（7月21日（火）、7月24日（金））にわたって廃棄物管理計画の研修を実施した。研修では、KJ法等の手法を用いながらC/Pと共同で課題の洗い出しを行い、課題解決のための実施計画（Implementation Plan/Action Plan）を再検討した。

計画最終案は、環境局C/P(Ms. Winnie)より、関係省庁の大臣、CEOおよび担当者（本省、ババウ支所）、加えて前回JCCの参加メンバー全員にメールを通じて共有され、コメントを依頼した。プロジェクト終了前までに、第5回ババウ廃棄物管理委員会ワークショップを開催して委員会より承認を得るとともに、トンガ政府の公式な承認を得ることが望まれる。

d. その他の活動

d.1 草の根技術協力事業「美ら島ババウ・もったいない運動プロジェクト」との連携

当該事業とは、下記の点で連携を図った。

- 1) 沖縄本邦研修の研修生の人選
- 2) 専門家現地派遣時の活動内容の検討、スケジュールの調整、インタビュー同行、終了時評価への協力
- 3) ワorkshopおよび事業の終了式の共同開催（2014年10月）

d.2 学校におけるごみ教育（クリーン・スクール・プログラム：CSP）

（1）背景

トンガ国ババウ島におけるクリーン・スクール・プログラム（以下、CSPとする）は、2012年当時環境省に配属されていた青年海外協力隊員（村落普及員）と現地環境NGO（AusAIDボランティア）によって開始した。環境省C/PはCSPの実施には強い意欲を有していたが、他のプロジェクト活動および他業務との兼ね合いでCSPに対し十分な時間を割けなかった。学校に対するモニタリングもほとんど実施できず、CSPの活動は学校を対象にしたワークショップの開催にとどまっていた。

（2）CSPの再開とプロジェクト成果との融合

2014年9月下旬に環境省に加わった新規スタッフ（Ms. Mele）は、前職の現地環境NGO（VEPA）勤務時、学校で環境意識啓発活動に従事した経験がある。CSPはMs. Meleに引き継がれ、再開されることになった。Ms. Meleは、2014年10月に実施計画を作成し、対象学校の巡回を行い、各学校でのごみ問題の現状と課題、ごみ委員会の活動状況を確認した。

トンガ国ババウ島のCSPで特記すべき点は、CSPの対象学校がごみ収集を実施しているコミュニティ内に位置する学校に特化した点である。ババウ島の学校の多くは、ごみを運搬す

るための交通手段を有さず、ごみ処理に苦慮している。これに対応するために、環境省 CP の発案で、コミュニティによるごみ収集システムに CSP を統合させることにした。排出源である学校でコンポストや有価物回収の導入を通じてできる限りごみ減量化を図り、最終的に残ったごみを月 1 回コミュニティのごみ委員会が収集するシステムを構築することを目指した。コミュニティのごみ委員会は有価物回収も実施しているため、リサイクル業者への有価物の持ち込みもコミュニティが代替することも可能となる。コミュニティと学校双方から同様のコンセプトの下アプローチすることで、コミュニティ全体の廃棄物管理のキャパシティの底上げを図ることが可能となり、非常に興味深い取り組みとなった。

(3) 学校による社会科見学（最終処分場見学）実施

クリーン・スクール・プログラム（CSP）の一環で、2014 年 4 月にトンガ国初の社会科見学を実施した。C/P（保健省、環境省）とは、成果 1 の活動 1-5「処分場の改善事業を 2013 年 2 月に実施後より本構想を共有し、実施を目指してきた。社会科見学では、Kalaka 最終処分場の見学に加えて、リサイクル業者(GIO Recycling)も訪問し、ごみ減量化の重要性を学ぶ機会も提供した。本社会科見学はごみ教育のなかでも最も効果的な方法であり、また、保健省 C/P にとっても、最終処分場を良好な状況に維持する上での大きなモチベーションになっている。また、CSP および社会科見学の実施を通じて、環境省教育省およびリサイクル業者とパートナーシップ関係を構築できたことは、大きな成果の 1 つである。2015 年 12 月時点で、計 4 校（小学校 3 校、中高等学校 1 校）が社会科見学を実施、今後も多くの学校による社会科見学の実施が計画されている。

d.3 J-PRISM ソロモン諸島(Gizo)の研修受入れ

2015 年 1 月 31 日～2 月 5 日の日程で、J-PRISM ソロモン諸島の離島（Gizo）より計 2 名（1 名は JOCV）が Vava' u の活動の視察を行った。主な視察内容は以下の通り。

- コミュニティによるごみ収集のモニタリング（3 地区）
- 相互（Vava' u, Tonga）の廃棄物管理システムについてプレゼン発表・質疑応答
- 最終処分場運営管理（重機によるごみの押し出し）の現場視察
- Vava' u 固形廃棄物管理委員会ワークショップへオブザーバーとして参加
- Clean School Program（CSP）の対象校訪問、ラジオ・プログラム同行
- アクション・プランの発表・質疑応答

研修後も相互のメールのやりとりが継続しており、CSP を共通のモニタリング・フォーマットを用いて進める動きも生まれた。ソロモン C/P のババウ訪問は、ババウ C/P にとっても非常に有意義なものになった。

4 プロジェクトの運営

4.1 合同調整委員会 (JCC)

2014年6月から2015年12月末までの間に合同調整委員会 (JCC) は計2回開催された。以下に、各国における JCC の開催日と場所及び議題をまとめた。なお、合同調整委員会の議事録は添付資料3に掲載した。

表 4-1 JCC の概要(フィジー国)

	開催日	場所	議題	備考
1	2015年3月3日(火)	スバ市役所会議室	<ul style="list-style-type: none"> • 前回 JCC の議事録の内容確認 • 自治体および環境局による活動の進捗報告 • 来年度の活動計画 • 進捗状況が芳しくない小規模自治体への支援 • 国家廃棄物管理戦略および国家 3R 政策の早期策定 	<ul style="list-style-type: none"> • JICA 本部地球環境部より深瀬課長、田口担当が出席
2	2015年12月11日(金)	スバ市役所会議室	<ul style="list-style-type: none"> • 前回 JCC の議事録の内容確認 • 自治体および環境局による活動の進捗報告、来年度の活動計画 • 国家 3R 推進枠組(家庭用堆肥化容器の補助金制度、CSP 財政措置)の制度検証結果 • 終了時評価の結果共有、提言への対応状況の確認 • 地域研修(成果2)の成果 • 5年間の活動の振り返り • 活動の成果・阻害要因 • 今後に向けた提言 	<ul style="list-style-type: none"> • 第14回定例会議との同時開催 • 「ベスト・カウンターパート賞」「ベスト・カウンターパート・チーム賞」「3R アワード」の表彰

表 4-2 JCC の概要(キリバス国)

	開催日	場所	議題	備考
1	2015年2月10日	環境保全部会議室	<ul style="list-style-type: none"> • CSP 実施方法改善：環境保全部、ベシオ町、テイナイナノ町の3つの組織が協力して実施(モニタリング業務を分担)。 • 学校コンポスト推進のために NZAID も協力する(コンポストビンや道具の提供、CSP 不参加校への技術指導など)。教育省の District Officer も学校の後押しをする。 • BTC が持続可能性のある財務システムを構築する。その他データ管理など管理全体の改善も必要。 	<ul style="list-style-type: none"> • 教育省が JCC の正式メンバーとして初めて参加 • ドナー機関からは NZHC/NZAID が参加
2	2015年11月18日	環境保全部会議室	<ul style="list-style-type: none"> • 終了時評価について(課題の洗い出しと改善方法の検討) • 2018年または2019年にECDがNZAIDプロジェクトの一環で実施予定の意識調査の一部として上位目標の達成度を調査する 	

		<ul style="list-style-type: none"> ベシオ町での有機ごみリサイクル活動継続を担保するための内務省の役割強化 有機ごみリサイクル活動のテイネイナノ町への拡大（内務省の役割強化と NZAID プロジェクトの支援） 教育省主導での学校でのごみ教育の展開 J-PRISM 終了後の他スキームなどの可能性 	
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表 4-3 JCC の概要(トンガ国)

	開催日	場所	議題	備考
1	2015年2月11日(水)	知事室会議室、マナ島リゾート(ババウ)	<ul style="list-style-type: none"> コミュニティによるごみ収集(Mataika 地区)および Kalaka 最終処分場を現場視察 成果ごとの活動報告(保健省、環境省) Kalaka 最終処分場の運営管理費の確保およびフェンス設置 プロジェクト成果の持続性を担保するための廃棄物財政システムの確立 来年度の活動計画 	<ul style="list-style-type: none"> 保健省大臣、ババウ知事、4名のCEO(保健省、環境省、廃棄物公社、リサイクル業者)が出席 首都トンガタブより9名参加(プロジェクトが航空賃負担)
2	2015年11月23日(月)	知事室会議室、トンガン・ビーチ・リゾート(ババウ)	<ul style="list-style-type: none"> コミュニティによるごみ収集(Pangaimotu 地区)および Kalaka 最終処分場を現場視察 成果ごとの活動報告(保健省、環境省) Kalaka 最終処分場の運営管理費の財源確保 ババウ廃棄物管理計画の財政計画 社会基盤省との連携を前提とした処分場運営管理費の見直し 5年間の活動の振り返り 終了時評価の結果共有、提言への対応状況の確認 活動の成果・阻害要因 今後に向けた提言(現法案の見直し、国レベルの廃棄物管理タスクフォースの立ち上げ) 	<ul style="list-style-type: none"> 副首相兼環境大臣、保健省大臣、4名のCEO(環境省、社会基盤省、廃棄物公社、リサイクル業者)が出席 首都トンガタブより9名参加(プロジェクトが航空賃負担)

4.2 PDM の修正

2014年6月から2015年12月末までの間において、各国のPDMの改訂は行われなかった。

4.3 ワークショップ・研修

各国で実施したワークショップおよび研修の概要を以下にまとめた。

表 4-4 ワークショップ・研修の概要(フィジー国)

	開催日	主テーマ	参加者(対象、人数)
1	2014年10月6日	<ul style="list-style-type: none"> コンポスト方法を学ぶために OISCA を視察(講義含む) 	環境局、スバ市、ラミ町、ナシヌ町、フィジー国立大学農場職員、フィジ

			一更生課（刑務所） 合計11名
2	2015年4月10日	<ul style="list-style-type: none"> 国家 3R 推進枠組み（家庭用堆肥化容器の補助金制度、クリーン・スクール・プログラム（CSP）の財政措置）の概要説明 家庭堆肥化容器および CSP の技術ワークショップ 	全13自治体 保健省（RLAs）（一部） 合計35名
3	2015年6月18日	<ul style="list-style-type: none"> 各自治体の特性を活かした方法で高い継続性を示しているラウトカ市、スバ市、バ町の市場ごみプロジェクトの包括的まとめと成功要因の分析 実例・経験を基に市場ごみプロジェクトの計画立案方法 	スバ市役所、環境局 ナウソリ町役場、ナシヌ町役場（JOCV含む）、ラム町役場、ランバサ町役場、 保健省（RLAs）（ナブア、コロボウ） 合計13名
4	2015年12月2日	<ul style="list-style-type: none"> ラウトカ市役所ブナト最終処分場の重機オペレーターによる処分場の運営維持管理のあり方についての実践研修 	シンガトカ町役場の最終処分場の重機オペレーター 合計3名

表 4-5 ワークショップの概要(キリバス国)

	開始日	主テーマ	参加者（対象、人数）
1	2015年2月11日	クリーン・スクール・プログラム（CSP）ワークショップ <ul style="list-style-type: none"> CSP の概要と学校での活動例紹介 コンポスト実習 	南タラワにある13の小学校から教師1名ずつ、教育省オフィサー、自治体廃棄物管理担当者 計15名

表 4-6 ワークショップの概要(トンガ国)

	開始日	主テーマ	参加者（対象、人数）
1	2014年10月10日	<ul style="list-style-type: none"> ごみ収集の実施報告、成功要因・教訓の共有（パイロット4地区のごみ委員会代表より） モニタリング結果の分析報告（保健省） パイロット4地区で実施した住民アンケート調査の結果報告（環境省） 草の根技術協力事業「美ら島ババウ・もったいない運動プロジェクト」の終了式 	パイロット4地区中および新規拡大地区のごみ委員会 現地環境NGO(VEPA) リサイクル業者（GIO） 関係省庁 合計38名
2	2015年2月4日	<ul style="list-style-type: none"> 固形廃棄物管理委員会ワークショップ Kalaka 最終処分場の運営管理状況 コミュニティによるごみ収集の実施状況 ごみ収集拡大計画の承認獲得 ババウ固形廃棄物管理計画（レビュー） 	ババウ廃棄物管理委員会メンバー コミュニティによるごみ収集の対象地区代表 クリーン・スクール・プログラム（CSP）の対象学校校長 合計31名
3	2015年7月30日	<ul style="list-style-type: none"> コミュニティによるごみ収集実施モニタリング結果（実施状況、住民の排出率、ごみ収集量、運営コストなどのデータ分析結果）、優良事例や課題の共有 CSP の実施報告および今年度（FY2015/2016）の活動計画の共有 	コミュニティによるごみ収集の対象地区代表およびごみ委員会 CSP対象学校校長 関係省庁等（知事室、教育省、観光省、リサイクル業者(GIO)、現地NGO(VEPA)) 合計49名

4.4 キャパシティ・アセスメント

4.4.1 フィジー国

a. 実施要領

a.1 評価の方法

C/Pの個人およびC/P機関の組織のキャパシティの向上度合いを測ることを目的に、キャパシティ・アセスメント(以下CAとする)を実施した。評価項目は、PDM/POの内容に基づいて作成した。各評価を図るための質問項目および評価方法については、添付資料4.1を参照されたい。また、環境局C/Pと自治体C/Pに求められるキャパシティは異なるため、それぞれ質問票を用意した。質問票はJICA専門家チームがドラフトを作成し、実施方法やインタビュー内容は、環境局のカウンターパート(C/P)(本省、西部支局)、各自治体C/P、プロジェクト・オフィスの意見を反映して最終化した。

表 4-7 フィジー国のキャパシティ・アセスメントの評価項目

	評価項目
個人のキャパシティ評価	
活動 1.1	国レベルの3R推進枠組を策定するための能力
活動 1.2	フィジー国内において3R研修を実施するため能力
活動 1.3	パイロット・プロジェクトを通じた自治体のアクション・プランの実施能力
活動 1.4	3R実施の進捗状況のモニタリング能力
活動 2.1	フィジー国内外に対する3R研修プログラムを確立するための能力
活動 2.2	研修プログラムを実施するための能力
活動 2.3	研修プログラムを改訂するための能力
組織のキャパシティ評価	
B.1	国家3R戦略を実施するための能力(環境局:3Rの政策策定・実施能力、自治体:3Rの実施能力)
B.2	3R研修プログラムを実施するための能力

a.2 評価の実施

第1回CAは2014年7月に実施した。第2回CAは、第1回CA以降(2014年7月)から2015年6月までの約1年間、プロジェクトが完了する半年前に実施し、C/P個人および組織のキャパシティがどの程度向上したかを測る目的で実施した。実施要領は以下の通り。

- ① C/P個人(実務レベル)に対し、メールにて事前に質問票を配布、自己評価を依頼。
- ② J-PRISM専門家(CA/モニタリング担当)によるC/Pへのインタビューを通じて、質問票の自己評価結果をもとに各活動の実施能力を確認。C/P機関の組織のキャパシティについては、グループ・ディスカッションにて評価・確認。

- ③ CA が回答した質問票やインタビュー結果は個人の性格がでやすく、これだけを基に CA 結果を取りまとめても、現実に即した CA 結果とならない傾向がある。そこで、J-PRISM 専門家(CA/モニタリング担当)が CP の活動現場に同行し、活動を視察、評価の参考にした。
- ④ CP による自己評価に加えて、J-PRISM 専門家 (坂井、可児) による担当 CP 機関の個人・組織に対する定量評価を実施。第 1 回目の CA では定性的な情報を補足的に加えることで専門家による評価を行うにとどまったが、第 2 回目の CA では定性的な情報に定量評価を加えることで、CA としてより充実した内容になるよう試みた。
- ⑤ J-PRISM 専門家 (CA/モニタリング担当) による評価分析・全体とりまとめ、レポート作成。

表 4-8:フィジー国のキャパシティ・アセスメントに係るインタビューの対象者

CA	ヒアリング調査対象
第 1 回 CA (第 1 年次 : 2014 年 7 月)	環境局: 計 6 名 (廃棄物ユニット (3 名)、西部支局 (3 名))
	自治体: 計 13 名 (ラウトカ市所 (5 名)、ナンディ町役場 (2 名)、バ町役場 (1 名)、シンガトカ町役場 (2 名)、ラキラキ町役場 (1 名)、スバ市役所 (2 名))
第 2 回 CA (第 2 年次 : 2015 年 7 月)	環境局: 計 6 名 (廃棄物ユニット (3 名)、西部支局 (3 名))
	自治体: 計 15 名 (ラウトカ市所 (5 名)、ナンディ町役場 (2 名)、バ町役場 (3 名)、シンガトカ町役場 (2 名)、ラキラキ町役場 (1 名)、スバ市役所 (2 名))

b. 評価の結果

第 1 回 CA (2014 年 7 月実施) と比較して、ほぼすべての環境局および自治体の個人・組織の能力が向上。とくに環境局の能力向上が顕著。環境局が主催する定例会議 (2015 年度は全国 13 自治体に対象を拡大) が能力向上の要因と考えられる。C/P および専門家とも、定例会議を通じた C/P 同士の意見交換、情報共有、関係強化が活動の技術的向上や持続性確保に貢献していると評価している。

自治体の評価は規模別に二つに大別される：

① 3R 技プロ対象自治体 (LCC, NTC) および大規模自治体 (SCC)

：第 1 回に引き続き高評価を維持。

- ナンディ町役場 (NTC)：自治体上層部 (SA/CEO) の強力なサポート体制、CSP 活動が強みとして評価
- ラウトカ市役所 (LCC)：廃棄物管理/3R の基礎知識、実施体制、研修実施能力などが高評価。有価物回収システムを依然として課題として認識。
- スバ市役所 (SCC)：組織、個人共に高く評価され、特に自治体の外部関係者 (Stakeholders including private sector companies) を巻き込む能力が C/P 機関にはなく、高く評価された。

② 小規模自治体 (RTC, BTC, TTC, STC)

：組織・個人能力の評価結果は人為的な要因 (C/P の変更等) に大きく左右されやすい。

- ラキラキ町役場 (RTC) : Health Inspector を兼務する新 CEO が C/P となったことで、個人・組織の能力が大きく向上したが、実務レベルの C/P が不在のため、モニタリング業務を適切に実施できるかどうか定かではない。特に、8 月以降自治体の長 (Special Administrator) が不在となり CEO の業務が増えたため、適切なモニタリング活動実施がますます困難となり、活動の継続性に大きな懸念が残る。
- バ町役場 (BTC) : 第 1 回 CA 実施時は C/P 不在のためプロジェクト活動が停滞していたが、昨年 9 月に Ms.Ronika (元 LCC C/P) が C/P として就任し、市場ごみコンポスト事業や CSP 活動を再開した。担当業務を造園部と分担するなど C/P の負担を減らしたことなどにより組織能力が向上し、業務の継続性を高めることができた。
- タブア町役場 (TTC) : BTC 同様、第 1 回 CA 実施は C/P 不在のためプロジェクト活動が停滞していたが、新 CEO 就任 (2015 年頭) によりプロジェクトが再開、実務レベルの C/P としてスタッフ 2 名を 3R 担当とした。この 2 名は Health Inspector ではないため、廃棄物管理/3R に係る知識は限定的であるが、活動に対する意欲は高く、毎週木曜日に 3R 活動に専念できる体制が築かれているとして、組織の能力が向上した。
- シンガトカ町役場 (STC) : 主要 C/P の異動 (2015 年 7 月下旬) による今後の実施体制への懸念。

4.4.2 キリバス国

a. 実施要領

キリバスでは、個人と組織のキャパシティ・アセスメントを行った。個人のキャパシティ・アセスメントについては、プロジェクト期間中に計 5 回 (第 1 回 : 2012 年 1 月、第 2 回 : 2013 年 5 月、第 3 回 : 2014 年 2 月、第 4 回 : 2014 年 9 月、第 5 回 : 2015 年 5-8 月) に CA を行ったが、C/P の交替や病気・出産休暇などが頻繁にあり継続的な評価ができなかった。本報告書では第 4 回および第 5 回に実施した評価の結果をまとめる (参考として環境保全部 CP は 2013 年の結果も示す)。

a.1 評価の方法

個人と組織のキャパシティを評価するため、それぞれ質問票を作成した。環境保全部、ベシオ町、テイナイナノ町の C/P が、質問票に基づき専門家と議論しながら自己採点を行った。

個人と組織の質問票項目を以下に示す。

個人のキャパシティ・アセスメント評価項目

	評価項目
A-1	法規制についての知識
A-2	法規制についての実務能力
B-1	廃棄物管理についての知識
B-2	廃棄物管理についての実践能力
C-1	情報収集・活用能力
C-2	データ管理能力 (コンピュータースキル含む)

D	コミュニケーション能力 1. 他行政組織・ドナー機関とのコミュニケーション 2. 組織内（特に部下）のコミュニケーション 3. 対住民・企業とのコミュニケーション
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組織のキャパシティ・アセスメント評価項目

A	組織構造
B	人材
C	資産
D	財務
E	書類・データ管理
F	コミュニケーション

なお、評価方法の詳細は添付資料 4.2 を参照されたい。

a.2 評価の実施

a.2.1 個人のキャパシティ・アセスメント

2014年と2015年に個人のキャパシティ・アセスメントの対象となったのは以下の3名である。

表 4-9: 個人キャパシティ・アセスメント対象者と評価実施日

組織	名前およびポジション	業務経験	評価実施日
環境保全部	Ms. Robite Teaete Media Public Awareness officer	<ul style="list-style-type: none"> 2012年から現職 その前は気候変動ユニットでアシスタントとして2年勤務 	2013年3月 2014年9月 2015年8月
ベシオ町	Mr. Kaiea Toromon Work Supervisor	<ul style="list-style-type: none"> 2015年3月から現職. その前はベシオ町でlaw enforcement officerとして勤務 	2015年5月
テイナイナノ町	Mr. Harry Langley Work Supervisor	<ul style="list-style-type: none"> Work Supervisorとして3年半勤務 その前はテイナイナノ町で Youth and Sport officerとして勤務 	2014年2月 2015年5月

組織のキャパシティ・アセスメントの対象となった組織と実施日を以下にまとめる。

表 4-10: 組織キャパシティ・アセスメント対象組織と実施日

組織	インタビュー対象者	評価実施日
環境保全部	Mr. Taulehia Pulefou Ms. Robite Teaete	2012年1月 2015年8月
ベシオ町	Ms. Eliza Tokataake	2012年1月 2015年8月

b. 評価の結果

b.1 個人のキャパシティ評価結果

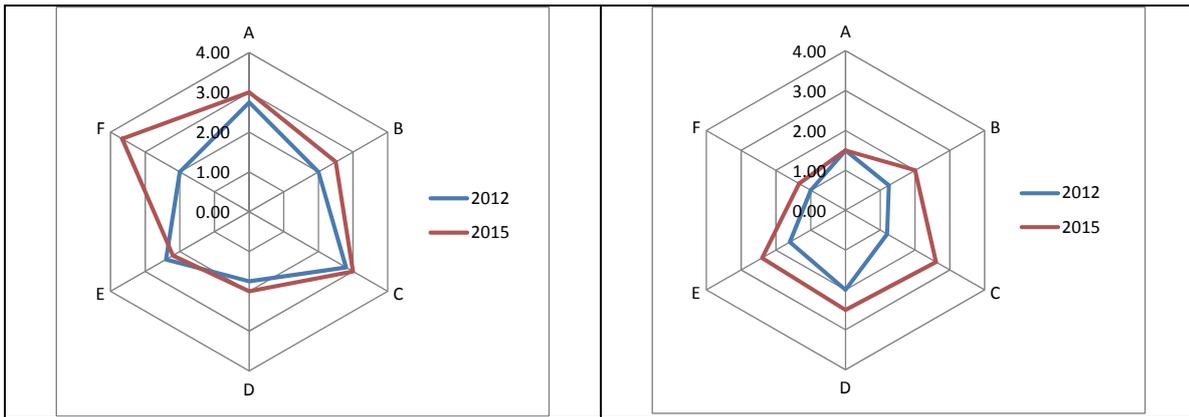
個人のキャパシティ・アセスメント結果を以下の表にまとめる。詳細については、添付資料4.2を参照されたい。

環境保全部 Ms. Robite Teaete	ベシオ町 Mr. Kaiea Toromon	テイナイナノ町 Mr. Harry Langley
<p>環境啓発が専門で、2013年に第1回目のCAを実施した時は廃棄物管理の基礎知識が不足していた。2回目に自己評価が下がったのは、廃棄物分野の知識が増えたことで正しく自己評価できるようになったため。</p> <p>環境局ではプロジェクトの活動はドナー予算で行う認識を持っており、モニタリング等ルーチンワークを先方負担で実施してもらうのが困難であったため実務能力の著しい向上につながらなかった。</p>	<p>2015年3月に採用されたばかりであるため、一般的に廃棄物管理分野の知識もスキルも低い。</p> <p>J-PRISM/NZAIDの業務遂行に加えて、本邦研修への参加を通じて、業務遂行に必要な知識とスキルを学んだ。コンピュータスキル等強化すべき分野は多い(ベシオ町書記官に外部のコンピュータクラスを受講させるよう専門家よりアドバイスした)。処分場管理技術などは、TUCのMr. Langleyから学ぶよう専門家よりアドバイスを行った。</p>	<p>Work Supervisor昇格後、JICA本邦研修、SPREP研修(Suva)、NZAIDの現場研修などを通じて知識・実践能力を高めた。</p> <p>自治体は自前予算で活動する傾向にあること、また、キリバスC/Pの中では一番やる気が感じられることなどを理由に、プロジェクト期間を通じて実務能力の向上が大いに見られた</p>

b.2 組織のキャパシティ評価結果

組織のキャパシティ・アセスメント結果を以下の表にまとめる。

環境保全部	ベシオ町
<p>活動の多くがドナーによるプロジェクト・ベースで実施されている。プロジェクト期間を通じて経常予算の少なさや正規職員の不足などの課題に改善がみられず、組織のキャパシティにおいて、果に大きな改善はみられなかった。唯一改善がみられた点、コミュニケーション能力の改善で、J-PRISMやNZAID事業の実施を通じて自治体など関係組織との協力関係の構築に係る能力に大きな進歩が見られた。</p> <p>プロジェクト終了後に成果を組織にフィードバックするためには、文書・情報管理体制を改善する必要があるが、対策が遅れている。情報共有制度が機能している教育省など他組織の例を参考にして改善する必要がある。</p>	<p>プロジェクト開始直後と比べると、先方負担でWork Supervisorのオフィスが整備されたり、プロジェクトでコンピュータを供与したり、NZAIDの支援で車両整備場が町役場敷地内に新しく建設されたりしたため、廃棄物管理部門の作業環境が大きく改善された。</p> <p>コミュニケーションの問題は、基本的ビジネスマナーの問題(問合せに回答しないなど)に加え、インターネット環境の悪さや携帯電話不所持のため本人とコンタクトができないことも要因として挙げられる。町役場から携帯電話の支給がなされるとコミュニケーションの問題はかなり改善できると思われる。</p>



4.4.3 トンガ国

a. 実施要領

a.1 評価の方法

C/P の個人および C/P 機関の組織のキャパシティ、また、社会のキャパシティの向上度合いを測ることを目的に、キャパシティ・アセスメント(以下 CA とする)を実施した。評価項目は、専門家が PDM/PO の内容を考慮しながら作成した。評価項目および質問項目および評価方法については、添付資料 4.3 を参照されたい。

表 4-11 トンガ国のキャパシティ・アセスメントの評価項目

評価項目	
個人・組織のキャパシティ評価	
1	廃棄物管理に係る基礎知識
2	廃棄物管理の組織体制
3	民間業者との実施体制確立
4	ごみ収集・運搬
5A	最終処分場改善
5B	最終処分場の運営管理
6	ごみ減量化・リサイクル、教育・意識啓発
社会のキャパシティ評価	
1	ごみに対する問題意識
2	コミュニティによるごみ収集システム（認知度、参加状況、情報ツール、料金支払いへの理解・協力度、システム導入後に感じた変化、コメント・提言）
3	Kalaka最終処分場の運営管理（認知度、印象、課題、コメント・提言）
4	その他（ババウ島の廃棄物管理の責任機関、プロジェクトの認知度）

a.2 評価の実施

プロジェクトでは第1回 CA を 2013 年 2 月に実施済みであり、第2回 CA は 2014 年 9 月、第3回目 CA は 2015 年 7 月に実施した。実施要領は以下の通り。

(1) 個人

- ① 第 1-2 回目の CA で使用した質問票に基づき C/P 個人が自己評価を実施。

- ② 自己評価結果を基に専門家がインタビューを実施。
- (2) 社会
 - ① 第1回目の社会 CA (2014年9月実施) で使用した質問票を環境省 C/P が内容確認。
 - ② 各コミュニティのごみ委員会 2~3名に対しトレーニングを実施(実施要領の説明、質問項目の確認、およびレポート作成要領の説明)
 - ③ ごみ委員会によるアンケート調査の実施、簡易報告書作成

表 4-12: キャパシティ・アセスメントに係るインタビューの対象者

CA	ヒアリング調査対象
第2回 CA (第1年次 :2014年9月)	【個人・組織】 環境省 : 1名 (Ms.Winnie) 保健省 : 2名 (Mr. Manase, Mr. Leopino)
	【社会】 ごみ収集パイロット・プロジェクト4地区 (Kameli, Leimatu'a, Tu'anequivale, Longomapu) の全世帯数の30%の住民
第3回 CA (第2年次 :2015年7月)	【個人・組織】 環境省 : 2名 (Ms.Winnie, Ms. Mele) 保健省 : 1名 (Mr. Manase)
	【社会】 ごみ収集パイロット・プロジェクト4地区 (Kameli, Leimatu'a, Tu'anequivale, Longomapu) の全世帯数の30%の住民

b. 評価の結果

(1) 個人・組織 CA の評価結果

個人・組織 CA の評価結果を表 4-13 に示す。詳細については、添付資料 4.3 を参照されたい。

表 4-13 トンガ国の個人・組織 CA の結果

C/P 組織名：環境省ババウ支所 C/P 名：Ms. Winnie 主な担当：ごみ収集の普及、廃棄物管理計画	C/P 組織名：環境省ババウ支所 C/P 名：Ms. Mele 主な担当：学校でのごみ教育、ごみ収集のモニタリング	C/P 組織名：保健省 C/P 名：Mr. Manase 主な担当：最終処分場改善・運営計画、ごみ収集のモニタリング
全体総括：プロジェクト活動での実際の経験を通じて、廃棄物管理に係る基礎知識等の向上につながっている。組織体制にも課題があったが、2014年9月に新スタッフが追加されたことで大きく改善。結果的に、キャパシティの全体的な底上げが図られている。		全体総括：改善計画の策定から工事の実施、運営管理に至る一連のプロセスに積極的に関わったことで、最終処分場関連のキャパシティが

著しく向上した。

(2) 社会 CA の評価結果・提言

第2回 CA の結果、コミュニティによるごみ収集全般、また、**Kalaka** 最終処分場に対する印象において、第1回 CA (2014年9月実施) と比較してポジティブな評価がなされた。特記すべき点は、ごみ収集システムの導入後、各家庭およびコミュニティ全体の生活環境が改善されたと評価する住民が多数存在したことである。本調査結果は、今後ごみ収集に実施を予定しているコミュニティにとって非常に有用な情報である。一方、いくつかのネガティブな評価がなされた項目もあった。とくに、ごみ収集の分別・リサイクルシステム、ならびに、**Kalaka** 最終処分場の運営管理について、住民に対する周知徹底が求められる。また、コミュニティによるごみ収集においてごみ委員会の役割は非常に重要であるが、ごみ委員会が活動に責任をもって取り組んでおらず、住民との間に信頼関係が構築されていないために、結果としてシステムが機能していない地区も見受けられた。本調査結果は、ワークショップ等を通じて各地区のごみ委員会とも共有され、システム改善に向け、委員会と住民が一体となって取り組んでいくことが期待される。

5 結論と提言

5.1 プロジェクト実施運営上の工夫、教訓

a. フィジー国

(1) PDCA に基づくプロジェクト活動の展開

2013年8月に実施された中間評価の提言を受け、2014年3月に専門家の技術支援の下、各自治体のC/Pは事業計画（Plan of Operation (PO)）を作成した。各C/P機関は、事業計画に基づき活動を実施し、専門家と共同で活動の進捗状況のモニタリング・評価、改善に向けた対策案の検討を行った。2014年以降は、プロジェクト終了後を見据え、C/P(環境局、自治体)がPDCAに基づいてこれらの活動を主体的に実施できるよう専門家は共通フォーマットの作成支援を行った。これらのフォーマットを定例会議やモニタリング活動などで活用したことは、環境局C/P－自治体C/P－専門家間での情報共有と活動の進捗状況の確認を図る上で役立った。また、このようなPDCAに基づくプロジェクト活動を実践したことで、C/Pの事業管理能力の強化が図られた。

(2) 環境局のキャパシティ向上に向けた専門家の配置

「フィジー国廃棄物減量化・資源化促進プロジェクト」（2008年10月～2012年3月）ならびに本プロジェクトの前半3年間は、専門家は自治体を活動拠点とし、各自治体C/Pに対する技術指導に重きを置いてきた。結果、自治体C/Pのプロジェクトへのオーナーシップが醸成し、専門家不在時においてもC/P自ら活動を主体的に実施できるようになった。一方、自治体が実施する3R活動のモニタリング活動はこれまで専門家主体で実施してきたため、環境局の3R活動のモニタリング実施能力の向上が課題となっていた。プロジェクト後半2年間にあたる本業務では、プロジェクト終了後を見据え、専門家は環境局（西部、廃棄物ユニット）のオフィスを活動拠点にし、環境局C/Pと共同でモニタリングおよびフォローアップ体制を構築し、環境局のモニタリング実施能力の向上を図った。

(3) キャパシティ・アセスメントのC/Pとの共同実施

フィジー国は対象C/P機関が複数に及び、キャパシティ・アセスメントの対象となるC/Pの人数も20人を超えるため、その準備・実施にはそれなりの投入が必要となった。専門家チームは、キャパシティ・アセスメントの団員を配置し、担当専門家による評価に加え、より客観的な評価の実施を目指した。また、C/Pによる自己評価と専門家チームの評価と比較し、インタビュー等を通じて、C/Pの評価の妥当性の評価と課題の共通認識を図った。キャパシティ・アセスメントの結果は、専門家にとって各自治体のキャパシティに応じた活動を展開する上で有用だった。また、C/PにとってもCAの実施プロセスを通じて現状と課題を客観的に把握することにつながった。

(4) C/P機関の意思決定者のプロジェクト活動への積極的巻き込み

プロジェクト後半は、国家 3R 推進枠組み等環境局の C/P と共同で実施する活動が多くを占めたが、最終承認者である地方自治・環境大臣のスケジュール調整や承認手続きに時間を要し、活動スケジュールに影響が及ぶこともあった。現地方自治・環境大臣はラウトカ市役所の市長を 2014 年 8 月まで担っていたこともあり、JICA が実施してきた廃棄物管理/3R の支援を熟知しており、専門家とも面識があった。一旦大臣の理解と協力を得られれば、大臣の強力なリーダーシップの下、スムーズかつより効果的な活動実施が可能になる。そのため、プロジェクト後半は、専門家は電話、メール、直接協議の場を通じて、大臣とはより積極的なコミュニケーションを図り、直接的な働きかけを行なった。

一方、自治体レベルでは、各自治体の SA/CEO をプロジェクト・マネージャーに就任させることで、実務を担う C/P の現場でのプロジェクト活動を監督する役割を担わせるとともに、廃棄物管理を担当する部署のみならず、自治体組織全体として本プロジェクトに関与させる実施体制を構築した。

(5) 自治体配属の青年海外協力隊員 (JOCV) との連携

フィジー国では、計6名に及ぶJOCV (環境教育隊員) が自治体に配属され、各自治体の3R の活動の展開において重要な役割を果たした。プロジェクトの対象自治体に配属されていた JOCV に対しては、JOCV の興味・関心、主体性を尊重するように心がけた。C/P と行う打ち合わせには JOCV にも同席を依頼し、プロジェクトの活動内容や実施スケジュール等に関して共通認識を図るように心がけた。2015 年度は国家 3R 推進枠組の実施に伴い、活動の対象が全国 13 自治体に拡大することになったことから、プロジェクトの対象外自治体に配属する JOCV に対しても、メールを通じて情報共有を行うとともに、活動に対する技術的アドバイス等も行った。

b. キリバス国

(1) 農業セクターとの連携構築

有機ごみ (庭ごみ) のリサイクルを推進するためには、有機ごみを利用する側の農業セクターとの連携が欠かせない。幸いなことに、キリバス国では台湾技術開発団がプロジェクト開始前よりコンポストを活用した野菜栽培推進を行っており、台湾技術開発団の専門家、台湾プロジェクトに協力している農民やコンポスト製造業者などからキリバス国特有の土壌特性、コミュニティベースでのコンポスト作成の難しさ、生成コンポストに対する需要、キリバス国の自然環境に適した野菜栽培方法といった貴重な情報を得ることができた。これらの情報はプロジェクト活動計画の作成過程において逐次活用した。

(2) 持続可能な財務体制確立

プロジェクトではベシオ町に対しシュレッダーおよびチェーンソーの機材供与を行った。これらの機材を活用した活動を継続させるためには燃料やパーツを購入するための予算の確保が必要になる。ベシオ町では、適切な維持管理のための予算が確保されていないために収集車両が頻繁に故障しており、ベシオ町の財政状況を考えると、プロジェクトで供与した機

材の運営・維持管理費についても町の経常予算では賄えない可能性が高いと判断した。そこで、木質チップおよびコンポストの売却益、供与機材のレンタル費などで得た収入を機材の運転・維持管理費に充てる財務システムを確立するようベシオ町に対して提案した。これを受け、2015年3月にベシオ町書記官が有機ごみリサイクル活動に係る予算を独立会計化し、有機ごみリサイクル事業において財政面で持続可能な実施体制が確立された。

(3) キャパシティ・アセスメント (CA) 結果の活用

プロジェクト開始以来、定期的に CA を実施した。個人の能力評価では、廃棄物管理に特化した知識・スキルだけでなく、コンピュータスキルや情報・データの管理・利用方法など基本的な業務の遂行に必要な知識・スキルの有無についても評価した。

コンピュータスキルが業務遂行に必要なレベルに達していないことが判明した際は、コンピュータ研修を行うなどして、キャパシティの向上を図った。残念ながら、コンピュータ研修を受講した C/P (2名) は、研修後他省庁・他部署に異動になり、研修効果を確認することができなかった。

(4) 他ドナー機関との連携強化 (活動内容の調整)

専門家のキリバス国滞在は、年3回の派遣で一回あたりの平均派遣期間は2週間程度と短かった。そのため、プロジェクト単独では活動の成果を発現するのが困難であった。幸いにも、キリバス国では NZAID や台湾技術開発団といった他ドナー機関が長期にわたって活動を続けており、これらの機関とできる限り活動内容を調整し、プロジェクトの活動が他ドナーの活動と重複することなく、互いに補完し合うようにした。結果、プロジェクトの限定的な投入に対し、ある程度の成果を上げることができた。

c. トンガ国

(1) C/P 機関の意思決定者のプロジェクト活動への積極的巻き込み

プロジェクト後半は、プロジェクト終了後の活動の持続性を見据え、予算確保や適正な人員配置など、本島の本省から確約を得なければならない事項が多々あった。そのため、プロジェクト対象地域のババウ島に移動する前後で、本省の C/P とは打ち合わせの場を設け、プロジェクト活動の進捗状況や本省への依頼事項について協議を行った。トンガ国は「トップダウン型」の意思決定が行われる傾向にあるため、大臣や CEO、ババウ知事等 C/P 機関の上層部とは電話、メール、直接協議の場を通じて積極的なコミュニケーションを図り、直接的な働きかけを行った。

(2) コミュニティによるごみ収集システムの成果の定量的・定性的評価

本プロジェクトで導入したコミュニティによるごみ収集システムは、世界でもあまり例のない、ババウ島ならではの独自性をもつユニークな事例である。一つの収集システムのオプションとして構築するためにも、現象を生じさせている要因やそこに至るまでの経緯についてもできる限り分析を行った。具体的には、各コミュニティのごみ委員会から提出されるモ

モニタリング報告書に基づき、収集日ごとに実施日、所要時間、総トリップ数、住民の参加率、支出入など定量的な評価を行うとともに、収集当日に収集車両を追行し実際の実施状況を確認し、ごみ委員会へのインタビュー等を通じて優良事例、課題・教訓、波及効果等の定性的な情報についてもできる限り把握するように努め、C/P 機関やコミュニティのごみ委員会、関係機関と共有するようにした。結果、コミュニティによるごみ収集システムの意義および成果が関係組織に十分に理解され、システムの改善に活かされ、また、環境省の予算化などにもつながった。

(3) JCC を活用した関係機関との協力関係の構築

ババウ島のような離島の政府機関のキャパシティは非常に限られており、適正な廃棄物管理システムを構築するにあたって様々な制約（人的、財政的、物理的）を抱えている。本プロジェクトは環境省、保健省が主なカウンターパートであったが、社会基盤省やババウ知事など関係省庁をはじめ各ステークホルダーの協力が不可欠であった。とくに、最終的な意思決定者である本省の上層部が、離島の廃棄物管理の現状と課題、プロジェクトの成果を理解することが、プロジェクト終了後の活動の持続性を担保する上で重要と考えた。

そのため、年1回開催した合同調整委員会（JCC）は、プロジェクト対象地域であるババウ島で開催し、本島の関係省庁の上層部をすべて招致し、現場視察を企画してプロジェクトの成果を目の当たりにする機会を設けるとともに、JCC での発表・機会を通じて離島の廃棄物管理のあり方について各組織の役割を議論する場を設けた。

5.2 各国の成果の達成度

当初期待された成果の指標達成度は下記のとおり確認された。

a. フィジー国

成果1： 国家3R 戦略の実施がフォローアップされる

国家3R 戦略とは、フィジー国のPDM では「国家固形廃棄物管理戦略（2011-2014）」および「国家3R 政策（2015-2020）」を意味する。2016年1月時点では、現行の国家戦略は改訂準備中、かつ、国家3R 政策も未だ最終承認を得られていない。

一方、国（環境局）は国家3R 戦略の基本理念に基づき、2015年度に国家3R 推進枠組みとして「家庭用堆肥化容器の補助金制度」および「学校での3R 教育（CSP）の財政支援措置」を確立した。これによりプロジェクト対象6自治体のみならず、全国13自治体が3R 活動を実施するに至った。また、環境局は、プロジェクトを通じて自治体の3R 活動のモニタリングおよびフォローアップ活動を確立し、継続して実施するための予算も確保している。国家3R 推進枠組、ならびに環境局によるモニタリングおよびフォローアップ活動はプロジェクト終了後も継続される予定である。西部自治体のいくつかの自治体では、人員不足により活動の実施体制に懸念が残るものの、以上のことから、本成果は概ね達成されたことが確認された。

成果2： フィジーの3R モデルが国内外に普及される

国内のみならず、第三国からもフィジー国の廃棄物管理/3R システムを学ぶために多くの研修生が視察に訪れた。5年間のプロジェクト期間中に実施された地域研修は、16 研修、参加人数も 2015 年 12 月で 131 名に及ぶ。研修受入れ可能機関は 7 機関、研修テーマも廃棄物管理全般から学校での 3R 教育、廃棄物分野の労働安全衛生の 9 分野と多岐にわたる。本活動を通じて、フィジーの 3R モデルが国内外に普及されたことから、本成果は達成された。

b. キリバス国

成果 1 : 家庭ごみ（特に庭ごみ）がごみ分別とチップ化によりリサイクルされる

庭ごみのリサイクルによる有機ごみ削減率は 1%で、目標値（指標）の 5%には届かず、未達成となった。

しかし、予算も人員も不足しているベシオ町が、月に 1-2 回のシュレッター運転、チップを利用したコンポスト作成（苗センターでの自己消費）、薪の販売などの活動を 2 年間継続してきたことは評価できる。

2015 年 3 月に Work Supervisor として採用されたベシオ町 C/P (Mr. Kaiea Toromon) が、本邦研修（2015 年 6 月）で作成したアクション・プランに基づき開始した野菜畑で、2015 年 8 月よりコンポストや木質チップを用いて腐葉土作りを始めた。ベシオ町は野菜畑での収量が上がれば、この方法をコミュニティに普及することを計画しており、今後リサイクル率の向上が期待できる。

成果 2 : 学校プログラム実施を通じて固形廃棄物についての啓発が改善される

2015 年度は環境保全部、ベシオ町、テイナイナノ町がモニタリング担当校を分担したことで、アクション・プランを提出した 6 校が学校プログラムを継続して活動した。よって、おおむね指標を達成したとの評価になった。

c. トンガ国

成果 1 : ババウ島の既存処分場施設が改善される

プロジェクトは2013年2月に既存処分場の改善工事を完了し、プロジェクトで作成した運営管理マニュアルに基づき、保健省ババウ支所が改善処分場の運営管理を継続的に実施している。保健省は重機を社会基盤省から無償で借用し、二ヶ月に一回処分場埋立区画内の処分ごみの押し出しと転圧を行っている。プロジェクト開始時（2011年）に比べ、2015/2016年度は保健省ババウ支所の廃棄物管理の予算が8倍に増額、また、処分場境界線へのフェンスの設置も先方負担で行うなど、プロジェクトを通じて保健省のイニシアティブも発揮されつつある。一方で、人員不足等により、日々の処分場モニタリングが徹底されておらず、管理人による処分ごみへの点火、搬入記録の未徹底など運営管理に課題が残る。そのため、本成果は概ね達成という評価にとどまった。

成果 2 : ババウのごみ収集サービスが改善される

プロジェクトで導入したコミュニティによるごみ収集システムは、環境省ババウ支所によってプロジェクトで策定したごみ収集計画通りに普及された。終了時評価時の本システムの世帯数のカバー率は49%であり、指標の80%には及ばない。それでも、ババウ島ではプロジェクトの介入なく、コミュニティの自主的取り組みによってごみ収集を開始している地区も存在することから、実際のカバー率は60%以上となっている。そのため、本成果は概ね達成という評価になった。

成果3：ババウで長期的な固形廃棄物管理の基盤が確立する

ババウ島にはババウ知事を議長とし、関係省庁、住民、事業者、NGO等からなるババウ島廃棄物管理委員会がプロジェクト開始時より設立されており、ほぼ毎年一回ワークショップを開催し、ババウ島の廃棄物管理の現状と課題、また、プロジェクト活動の進捗等を共有してきた。2015年7月には廃棄物管理計画を最終化している。計画のレビューとモニタリングをプロジェクト終了後のメインの活動となることから、本成果は概ね達成という評価になった。

5.3 プロジェクト目標の達成度

当初期待されたプロジェクト目標の指標の達成度は、下記のとおり確認された。

a. フィジー国

指標1： SPREPの専門家リストにおける15名の専門家登録

2015年9月時点（終了時評価実施時）におけるプロジェクト・オフィスが作成した専門家データベース（PIDOC）に登録された専門家の数は21名であった。しかし、本データベースはSPREPの承認されたものではないため、本成果の評価結果は概ね達成の評価となっている。

指標2： 地域研修プログラムの確立

前述の通り、5年間のプロジェクト期間中に計16研修実施、参加人数131名、研修受入可能機関7機関、研修テーマ9分野という研修実績より、本成果は達成されたと判断された。

b. キリバス国

指標1： SPREPの専門家リストにおける2名の専門家登録

個人レベルでは確実に知識・実務能力が上がったものの、C/Pが転職や配置換えで頻繁に交代したり、長期病欠で不在だったりしたため、2015年9月時点（終了時評価実施時）におけるプロジェクト・オフィスが作成した専門家データベース（PIDOC）に登録された専門家は一人もいなかった。そのため、一部達成と評価された。

指標2： 最終処分されるごみ量（特に有機性ごみ）が5%減少する

ベシオ町より4倍の人口を有し、面積も広いテイナイナノ町で有機ごみリサイクル活動を

拡大できなかったため、テイナイナノ町の2つの処分場を含めた3つの処分場での有機ごみリサイクル率は目標に遠く及ばない0.2%であった。そのため、一部達成と評価された。

c. トンガ国

指標1： SPREPの専門家リストにおける6名の専門家登録

2015年9月時点（終了時評価実施時）におけるプロジェクト・オフィスが作成した専門家データベース（PIDOC）に登録された専門家の数は5名であった。本データベースはSPREPの承認されたものではないため、本成果の評価結果は概ね達成という評価となっている。

指標2： 50%以上の対象コミュニティで自立的にごみ収集を実施できる

2015年9月時点（終了時評価実施時）において、コミュニティが自立的にごみ収集を実施しているコミュニティの数は10地区のうち8地区（80%）であることから、本成果は達成された。

5.4 各国上位目標の達成に向けての提言

a. フィジー国

フィジー国の上位目標の指標は「3Rが全国で実施される」となっている。国（環境局）は、2015年度に国家3R推進枠組みとして「家庭用堆肥化容器の補助金制度」および「学校での3R教育（CSP）の財政支援措置」を確立した。これにより、2015年度以降、プロジェクト対象6自治体のみならず、全国13自治体において3R活動を実施されており、上位目標は既に達成されている。今後も全国での3R活動が継続実施されるためには、下記の事項に留意する必要がある。

（1）国家3R戦略の早期策定と確実な実施

一部の自治体では、人員不足等組織的な問題により自治体によっては計画通りの成果を発現できていない。C/Pの不在は、プロジェクト活動に限らず、廃棄物管理/3Rに係る全ての業務がその自治体で十分に遂行できていないことを意味する。国（環境局）が補助金制度等の推進体制を整えても、自治体側に実施体制が整っていない限り、効果的な実施は困難である。とくに、C/Pの未配置などの組織的な課題については、プロジェクトが解決するには限界があり、実施体制の確立に向けた各組織の自助努力が求められる。3Rはフィジーにとっていまだ新しいコンセプトであり、環境局が国家廃棄物管理戦略や国家3R政策の早急な策定と確実な実施を行うことで、3Rがフィジー国の廃棄物政策における重要施策として位置づけられ、各実施機関における実施体制が整うことが期待される。

（2）国家3R推進枠組の制度検証・再設計

開始した家庭用堆肥化容器およびクリーン・スクール・プログラムの財政措置制度は、2015年度試行的に実施され、プロジェクト終了後（2016年度）も継続されることが決定している。モニタリング活動、定例会議等を通じて抽出された様々な成果、課題・教訓を十分に考慮し、制度を再設計し、より効果的な活用を図ることが求められる。

(3) 3Rを軸とした廃棄物管理システムの構築

フィジー国では、一部の自治体を除き、自治体における廃棄物管理の基礎的データが不足しており、廃棄物管理計画も未策定である。そのため、3Rの戦略的展開や指標の設定が困難であった。

廃棄物管理システムは、ごみ収集や最終処分、財政システム、制度などの様々な要素が互いに絡み合ったものであり、3Rはこれらの既存のシステムに統合されるべきものである。3Rを単独で取り扱うのではなく、3Rを軸に据えた上での廃棄物管理体制の構築を目指すことが3R活動の持続性を確保する上でも重要である。C/P機関の限られたリソースを効率的に活用するためにも、廃棄物管理計画を策定し、3Rの戦略的展開を行うことが重要である。

(4) プロジェクトで確立した事業のモニタリング・システムの実施徹底・継続

プロジェクトでは、C/P機関(環境局、自治体)自身が活動をモニタリングし、課題の抽出や対策の検討を行えるように各種モニタリングの共通フォーマットの作成支援を行った。また、また、環境局—自治体間で情報共有し、互いに学び合う場として定例会議が継続的に開催されている。加えて、環境局による自治体の巡回指導は、自治体の活動の実施徹底、改善に非常に有効である。

一方、一部の自治体ではモニタリング結果の未記録、レポートの未提出などにより、活動結果の検証および改善が図れないケースも見受けられる。各自治体に対しては確実な提出を、環境局に対しては各自治体から提出されたモニタリング報告書に基づき適切な指導を行うことが望ましい。

(5) 自治体の最終処分場運営管理に対する環境局の関与

プロジェクト期間中は、専門家が処分場改善に向け現場確認および技術的提言を行うことを担ってきた。プロジェクト終了後は、このような外部からのプレッシャーがなくなり、自治体任せの処分場運営管理となり、状況悪化が懸念される。廃棄物管理の管轄官庁として、環境局が自治体の処分場運営管理のモニタリングを定期的に行う役割を担うことが期待される。環境局が実施する自治体に対する巡回指導の対象に、3R活動のみならず、最終処分場など廃棄物管理全般を含めることが望ましい。

(6) 地域の3Rモデル・拠点としてのフィジー国が果たす役割への期待

フィジー国は2008年の3Rプロジェクトに始まり、志布志草の根技術協力、5年間に及ぶJ-PRISMの活動、環境局主導での国家3R推進政策(補助金制度の確立等)等を通じて、3Rはフィジー全国に普及した。フィジー国には、国内のみならず、第三国からもフィジーの廃棄物管理/3Rシステムを学ぼうと様々な国が視察に訪れ、また、研修講師派遣に対する需要も高い。まさに、大洋州地域における廃棄物管理/3Rモデルの拠点として、その存在感はさらに高まりつつある。フィジー国が大洋州地域の廃棄物管理/3Rを牽引していくべく、今後一層の努力を期待する。

b. キリバス国

(1) 環境保全部のオーナーシップ強化と能力向上

環境保全部は、キリバス全土での廃棄物削減及び 3R 推進において中心的役割を担うことが期待されており、上位目標を達成するためには、環境保全部の能力向上が欠かせない。

環境保全部の活動の多くがドナープロジェクトであり、有期雇用のプロジェクトオフィサーが実施を担当している。そのため、環境保全部はプロジェクト終了後にプロジェクト実施で得た知識やノウハウを組織として継承できていない。ドナープロジェクトへ正規職員を積極的に関与させることで、プロジェクトが終了しても、知識やスキルが組織内に残るように実施体制を構築することが必要である。

また、正規雇用のオフィサーは、留学や国際会議への参加等を通じて知識は豊富であるが、実務面が弱い。経常予算でのインスペクション業務や苦情処理業務の改善も行う中で実務能力を強化するとともに、組織管理能力を高めていく必要がある。

(2) 内務省の役割強化

キリバス国で廃棄物管理業務を実際に行うのは自治体である。フィジー国に比べると自治体の組織が未熟で（中間管理職が機能していない）、自治体全体の実務能力は書記官（Town Clerk）の実務能力に大きく左右される。2013 年半ばに新しく赴任したベシオ町書記官は若く組織管理の経験がなかったため、組織全体の管理ができず（ワーカーの管理まで手が回らず）、ワーカーの規律が大きく乱れ、プロジェクト運営に支障が及んだ。書記官が交代しても、組織の管理体制が一定レベルに保てるよう、自治体を管轄する内務省が適切に自治体の活動を監督する必要がある。

また、有機ごみリサイクル活動の他自治体への普及においても内務省の役割が鍵となる。テイナイナノ町では、書記官、市長、議会が有機ごみリサイクルに対し消極的で、テイナイナノ町 C/P だけではなかなか本格的な活動に結びつかなかった。テイナイナノ町がベシオ町に続いて有機ごみリサイクル活動を本格的始めるよう、内務省から書記官、市長、議会へ積極的に働きかける必要がある。

一方、ベシオ町が有機ごみリサイクル活動に関わる予算を独立化し、2015 年末で 1,000 ドルの黒字となっているが、お金の不正利用を防止するために、内務省が定期的に内部監査をする必要がある。第 5 回 JCC で内務省代表者が独立会計の定期的監査を約束した。確実に実施してもらいたい。このように自治体が行う廃棄物管理業務における内務省の役割は重要であるため、一般ごみに関わる廃棄物管理プロジェクトでは、環境保全部に加え内務省も主要カウンターパート機関に含めることが望ましい。

(3) Local Government Act の改訂

キリバス国では、Local Government Act が自治体の業務範囲を規定している。現行の法制度ではごみ収集および最終処分場管理に係る業務は自治体が行うべき業務と明記されているが、廃棄物削減や 3R 推進は自治体業務に含まれていない。ベシオ町のリサイクル活動の実施が法的根拠をもって確実に実施されるよう、Local Government Act の改訂を行うことが望ましい。

(4) 教育省との連携強化による学校でのごみ教育推進（カリキュラムとの連動）

廃棄物管理関係では、2013年に小学3・4年生対象の環境科学及び生活改善関連教科、2015年末に小学5・6年生対象の環境科学及び生活改善関連教科のシラバスが承認され、また、小学4年生を対象としたごみ教育が2015年に始まったところである。本カリキュラムに基づきごみ教育を充実させることで、ごみ削減やコンポスト利用の重要性を理解する人が今後増えていくものと期待される。3Rやコンポストはキリバス国にとっていまだ新しい概念であり、学校の教師も当該分野において十分な知識や経験を有していないため、環境保全部や自治体が教材の提供や出張授業の実施を通じて学校を支援することが重要となる。

c. トンガ国

(1) Kalaka 最終処分場運営管理に対する保健省本省の積極的関与

Kalaka最終処分場は、保健省CPはプロジェクトが作成した処分場管理マニュアルに従って運営管理を実施しており、比較的良好な状況を維持している。保健省本省は、ババウ島の廃棄物管理予算をプロジェクト開始時に比べて8倍増額し、処分場のフェンスも先方負担で設置するなど、強いイニシアティブが発揮されつつある。しかしながら、現場の管理者が処分ごみに火をつけるため頻繁に火災が発生しており、処分場運営管理のみならず、コミュニティによるごみ収集や学校の社会科見学など他の活動の障害になりつつある。プロジェクトを通じてC/Pに培われた経験と技術、また、確保された予算を有効に活用するべく、処分場運営管理を現場のスタッフに責任を押し付けるのではなく、保健省が組織として責任をもって対処していくような体制の構築が求められる。

(2) 環境省の離島の廃棄物管理に対する責任・役割の明確化

環境省本省は、これまで廃棄物管理の予算を有していなかったにもかかわらず、2015/2016年度は街の美化事業の補正予算として、成果2関連のプロジェクト活動実施に十分な額の予算を確保した。プロジェクト活動の持続性を担保する上で非常に大きな投入であり、環境省の強いイニシアティブとして非常に評価できる。来年度以降も同様に廃棄物管理予算を確保できるよう、離島の廃棄物管理における環境省のマンデートを明らかにすることが望ましい。

(3) 廃棄物管理計画の実施を通じた関係省庁との協力体制の継続

現法体系上、離島の廃棄物管理の責任・実施主体は保健省にあるが、環境省、内務省（ババウ州知事室を含む）、社会基盤省、教育省、財務省、NGO(VEPA)、リサイクル業者（GIO）等の協力関係・連携がなければ、プロジェクトの成果をここまで発現することは困難であった。離島の政府機関のキャパシティは非常に限られており、離島ならではの様々な制約を克服するためには、関係省庁をはじめコミュニティを含む各ステークホルダーの協力が不可欠である。成果3の廃棄物管理計画の実施を通じて、プロジェクトを通じて構築されたこの協力関係が継続されていくことが望まれる。一方で、現実的な実施体制を見据えて現行の法体系が見直されることが期待される。

(4) プロジェクトで育成された人材のトンガ国内他離島での活用

本プロジェクトでは、プロジェクト活動を通じて廃棄物管理分野での人づくりに重点的に取り組んできた結果、5名のローカル専門家が育成された。これらの人材は、ババウ島モデルの各要素（処分場改善・運営管理、コミュニティによるごみ収集、CSP、3R、廃棄物管理委員会、廃棄物管理計画、関係機関との協力関係、など）に自身の経験を通じて精通しており、とくに、トンガ国内の他の離島に対し適用できる可能性が高い。来年8月以降に開始が予定されるフェーズ2では、本プロジェクトで育成されたこれらの人材を積極的に活用していくことが期待される。

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プロジェクト写真集

- (1) フィジー国
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1 プロジェクトデザインマトリックス(PDM)

1.1 フィジー国 PDM

Project Design Matrix (PDM) - Fiji				PDM: Version 2	
Project Title: Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM)				Project period: 5 years	
Target Group: C/Ps of DOE, LCC, NTC, STC, BTC, TTC, RTC, SCC				Date issued: 3rd Mar., 2014	
Implementing Agency: DOE, DoLG, LCC, NTC, STC, BTC, TTC, RTC, SCC				Important Assumptions	
Narrative Summary					
Overall Goal					
Sustainable management of solid waste in the Pacific Region is enhanced.					
Project Purpose				1. Natural disaster would not drastically affect the collaboration among PICs and SPREP.	
Human and institutional capacity base for sustainable Solid Waste Management in the Pacific Region is strengthened through implementation of the Pacific Regional Solid Waste Management Strategy (2010-2015) (RS2010)				2. Political changes of PICs would not drastically affect the collaboration among PICs and SPREP.	
#	Priorities under RS2010	Outputs		1. Political change in Fiji will not drastically affect the project implementation.	
1	Sustainable Financing				
2-1	3Rs/4Rs	Output 1: National 3R strategy ¹⁾ has been widely implemented in Fiji.	1-1. 100% of councils ²⁾ have been implementing the 3R promotion in the Western Division. 1-2. Targeted components of 3R promotion for each council has been steadily progressed	1-1. 3R annual monitoring reports from councils and rural authorities 1-2. Same as above	
2-2	Waste Disposal				
2-3	Waste Collection				
3	Legislation				
4	Awareness/Communication/Education				
5	Capacity Building	Output 2: Fiji 3R model is disseminated to the Region/Country through training program.	2-1. Training manuals/materials 2-2. # of training conducted and # of participants	2-1. Developed manuals/materials 2-2. Participants lists	
6	Environmental Monitoring				
7	Policy, Planning, Performance				
8	Solid Waste Industry				
*	Monitoring system of RS2010				
Activities				Inputs	
Please see PO for details.				Fiji side	
				Assignment of National PD/PM and OPs	
				Local Costs Sharing	
				Provision of necessary land/facility, work shops / training	
				Local cost support	
				Pre-condition	
1): National 3R strategy is regarded as National 3R policy and National SWM strategy (2011-1014)				1. Counterpart personnel keep working in the field of SWM.	
2): 100% of councils means six (6) councils of the Western Division including LCC, NTC, STC, BTC, TTC, RTC				2. Disasters, such as severe rain storm will not drastically affect the progress of project activities.	
3): Fiji National Solid Waste Management Strategy 2011-2014 will be replaced with "National Waste Management Strategy" (a name that has been assumed temporarily)				3. Necessary budget to carry out activities is allocated by the government.	

1.3 トンガ国 PDM

ANNEX III-1: Project Design Matrix (PDM) - Tonga			PDM: Version 3	
Project Title: Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM)			Project period: 02.2011 - 01.2016 (5 years)	
Target Group : C/PS of Ministry of Environment and Climate Change, Ministry of Health			Date issued: February 13, 2014	
Implementing Agency: Ministry of Environment and Climate Change, Ministry of Health			Target Area: Vavau	
Narrative Summary		Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
Overall Goal Sustainable management of solid waste in the Pacific Region is enhanced.		1. Kalaka landfill has been properly operated. 2. All households in Vavau have access to garbage collection system	Monitoring records MoH's working records (Kalaka)	
Project Purpose Human and institutional capacity base for sustainable Solid Waste Management in the Pacific Region is strengthened through implementation of the Pacific Regional Solid Waste Management Strategy (2010-2015) (RS2010)		1. 6 experts (Trainers) listed in the SPREP inventory 2. More than 50 % of target communities operate and maintain the garbage collection system with a minimum support from the government.	SPREP (Regional inventory of skilled people) Monitoring records	1. Natural disaster would not drastically affect the collaboration mechanism of SPREP. 2. Political changes of PIC countries would not drastically affect the collaboration mechanism of SPREP.
#	Priorities under RS2010	Outputs		
1	Sustainable Financing			
2-1	3Rs/ARS			
2-2	Waste Disposal	Output 1: The existing solid waste disposal facility and operation in Vavau is improved	MoH's working record (Kalaka) Progress report	
2-3	Waste Collection	Output 2: Solid waste collection service in Vavau is improved	Monitoring records Progress report	
3	Legislation			
4	Awareness/Communication/Education			
5	Capacity Building			
6	Environmental Monitoring			
7	Policy Planning, Performance	Output 3: Framework and system for long-term Solid Waste Management in Vavau is established	Minutes of Meeting Progress Report	
8	Solid Waste Industry			
*	Monitoring system of RS2010			
Activities		Inputs		
Please see PO for details.		Japanese Side	Tonga side	
		Dispatch of JICA experts	Assignment of National PD/PM and CPs	1. Counterpart personnel keep working in the field of SWM. 2. Disasters such as severe rain storm will not drastically affect the progress of project activities. 3. Necessary budget to carry out activities is allocated from the government.
		Provision of equipment and materials	Local Costs Sharing	
		Provision of Regional, sub-regional and in-country workshops / training	Provision of necessary land/facility, work space	
		Local cost support		
				Pre-condition
				Cooperation of community people of the target area is obtained.

2 運営計画(PO)

2.1 フィジー国

2.1.1 国レベル（環境局）

a. PO（2014年3月改訂版）

PO - FIJI		Indicator for Project Purpose: 1-1, 15 of experts (Trainers) in the SPREP inventory 1-2. Regional training program on 3R organized by Fiji is established												Version 2 Date issued: 3rd Mar., 2014													
Term: 2011 ~ 2015 (5years)	Outputs and Associated Activities	Indicators for Outputs	Person in-charge	Progress																							
JCC/SC/EV a	JCC ◇ Steering Committee ☆ Evaluation Studies ☆			2011 2012 2013 2014 2015																							
OUTPUT 1:	National 3R strategy ¹⁾ has been widely implemented in Fiji.	1-1 100% of councils have been implementing the 3R promotion in the Western Division 1-2 Targeted components of 3R promotion for each council has been steadily progressed.		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1-1	Prepare the action plan for implementation of national 3R strategy		Planned																								
1-2	Conduct training of 3R to be implemented		Actual																								
1-3	Implementing action plans in selected councils through pilot projects		Planned																								
1-4	Monitor the progress of 3R implementation in Fiji		Actual																								
OUTPUT 2:	Fiji 3R model is disseminated to the Region/Country through training program.	2-1 Training manuals/materials 2-2 # of training conducted and # of participants * This activity is also included in the Region-wide PO																									
2-1	Develop the training program on 3R to be used at the regional training workshop		Planned																								
2-2	Conduct the training for regional training workshop (This includes in-country training conducted in other countries)		Actual																								
2-3	Evaluate the training / revise the training program with feedbacks		Planned																								
			Actual																								
1) National 3R strategy is regarded as National 3R policy and National SWM Strategy (2011-1014) 2) 100% of councils means six (6) councils of the Western Division including LCC, NTC, STC, BTC, TTC, RTC 3) Fiji National Solid Waste Management Strategy 2011-2014 will be replaced with "National Waste Management Strategy" (a name that has been assumed temporarily)				(1) Study visit - Weighbridge system (Samoa x 3). (2) Study visit - 3R program (Solomon x 2, Tonga x 2). (3) Study visit - Dumpsite management (PNG x 1). (4) Study visit - Waste management (PNG x 1). (5) Country attachment program (Waste Collection (Tualulu x 2) (6) Trainer delivery - Clean School Program (2 trainers to Krabat) (7) Regional Training (J-PRISM/Shibushi) (Region x 11, Fiji x 11)												(1) Shibushi Training (D+E, LCC, NTC, STC, RTC, Nauru, Nainu, SCC, USP, etc)											

b. PO（2015年3月改訂版）

PO - FIJI		Indicator for Project Purpose:		Person in-charge		Progress		2011		2012		2013		2014		2015	
Term: 2011 ~ 2015 (5years)		1-1. 15 of experts (Trainers) in the SPREP inventory 1-2. Regional training program on 3R organized by Fiji is established															
JCCS/eva	Outputs and Associated Activities	Indicators for Outputs	Person in-charge	Progress	2011	2012	2013	2014	2015								
JCCS/eva	Steering Committee ☆ Evaluation Studies ☆				1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12								
OUTPUT 1:	National 3R strategy¹⁾ has been widely implemented in Fiji.	1-1 100% of councils have been implementing the 3R promotion in the Western Division 1-2 Targeted components of 3R promotion for each council has been steadily progressed.			1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12								
1-1	Prepare the action plan for implementation of national 3R strategy			Planned													
1-2	Conduct training of 3R to be implemented			Actual													
1-3	Implementing action plans in selected councils through pilot projects			Planned													
1-4	Monitor the progress of 3R implementation in Fiji			Actual													
OUTPUT 2:	Fiji 3R model is disseminated to the Region/Country through training program.	2-1 Training manuals/materials 2-2 # of training conducted and # of participants			1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12								
2-1	Develop the training program on 3R to be used at the regional training/workshop			Planned													
2-2	Conduct the training for regional training /workshop (This includes in-country training conducted in other countries)			Actual	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12								
2-3	Evaluate the training / revise the training program with feedbacks			Planned													
				Actual	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12								

1) National 3R strategy is regarded as National 3R policy and National SWM strategy (2011-1014)
 2) 100% of councils means six (6) councils of the Western Division including LCC, NTC, STC, TTC, RTC
 3) Fiji National Solid Waste Management Strategy 2011-2014 will be replaced with "National Waste Management Strategy" (a name that has been assumed temporarily)
 ① Study visit - Weighbridge system (Samoa x 3).
 ② Study visit - Weighbridge system (Samoa x 1).
 ③ Study visit - Domestic management (PNG x 1).
 ④ Study visit - Waste Management (PNG x 4).
 ⑤ Country attachment program (Waste Collection (Tuvalu x 2).
 ⑥ Trainer delivery - Clean School Program (2 trainers to Kiribati)
 ⑦ Regional Training of PPGSM (Shibushi) (Region x 11, Fiji x 11).
 ⑧ Shishuoh Training (DoE, LCC, NTC, STC, RTC, Nauru, Nienu, SOO, USP, etc)
 ⑨ Site visit - Weighbridge system (Samoa x 1).
 ⑩ Site visit - 3R program (Kiribati x 1).
 ⑪ Site visit - Market waste composting (PNG x 1).
 ⑫ Site visit - 3R program (Palau x 1).

c. PO (2015年12月改訂版)

PO - FIJI		Indicator for Project Purpose: 1-1, 15 of experts (Trainers) in the SPREP inventory; 1-2. Regional training program on 3R organized by Fiji is established												Version 4 Date issued: 4th Dec., 2015		
Term: 2011 ~ 2015 (5 years)	Person in-charge	2011			2012			2013			2014			2015		
JCC/ISC/EV a	Outputs and Associated Activities	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
JCC/ISC/EV a	Outputs and Associated Activities	Progress														
JCC/ISC/EV a	Indicators for Outputs	Progress														
JCC/ISC/EV a	Person in-charge	Progress														
OUTPUT 1:	National 3R strategy has been widely implemented in Fiji.															
1-1	Prepare the action plan for implementation of national 3R strategy															
1-2	Conduct training of 3R to be implemented															
1-3	Implementing action plans in selected councils through pilot projects															
1-4	Monitor the progress of 3R implementation in Fiji															
OUTPUT 2:	Fiji 3R model is disseminated to the Region/Country through training program.															
2-1	Develop the training program on 3R to be used at the regional training workshop															
2-2	Conduct the training for regional training /workshop (This includes in-country training conducted in other countries)															
2-3	Evaluate the training / revise the training program with feedbacks															
	1) National 3R strategy is regarded as National 3R policy and National SWM strategy (2011-1014)															
	2) 100% of councils means six (6) councils of the Western Division including LCC, NTC, STC, BTC, TTC, RTC															
	3) Fiji National Solid Waste Management Strategy 2011-2014 will be replaced with "National Waste Management Strategy" (a name that has been assumed temporarily)															
		① Study visit - Weightbridge system (Samoa x 3). ② Study visit - 3R Program (Solomon x 2, Tonga x 2). ③ Study visit - Waste management (PNG x 1). ④ Study visit - Waste Management (PNG x 1). ⑤ Country attachment program (Waste Collection (Tuvatu x 2) ⑥ Trainer delivery - Clean School Program (2 trainers to Kiribati) ⑦ Regional Training (U-PRISM/Shabaub) (Region x 11, Fiji x 11)														
		① Trainer delivery - Clean School Program (2 trainers to Kiribati) ② Shiloh Training (DeE LCC, NTC, STC, RTC, Nauroi, Nauru, SCC, USP, etc) ③ Site visit - Market waste composting (PNG x 1) ④ Site visit - 3R Program (Palau x 1)														
		① Study visit - GSP (Solomon x 2, Tonga x 1, PNG x 1) ② Trainer delivery - Clean School Program (NTC x 1 to RMI) ③ Trainer delivery - WARM OHS (LCC x 1 to RMI)														

2.1.2 地方自治体レベル（7自治体）

a. PO（2014年3月初版）

a.1 スパ市役所

PO - FIJI - Suva City Council		Indicator for Project Purpose:		Date Issued: 3rd Mar., 2014														
Term: 2011 ~ 2015 (5years)		Indicator for Project Purpose:		2011			2012			2013			2014			2015		
Output	Outputs and Associated Activities	Person in-charge	Indicators for Outputs	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
JCC/SC/ Eva	JCC Steering Committee Evaluation Studies	Robert Randolph																
OUTPUT 1:	Data & information collection (for SWM Master Plan)																	
1-1	to collect existing data and information (to conduct a baseline survey if necessary)	Planned																
1-2	to analyze collected data & information	Actual																
OUTPUT 2:	Market Compost Project		At least 15% of waste from Suva Market is recycled															
2-1	to collect existing data and conduct baseline surveys	Actual																
2-2	to make consensus with stakeholders (vendor association, Ministry of Agriculture, pig farmers, and so on)	Actual																
2-3	to formulate an action plan, including collection/transportation system	Actual																
2-4	to prepare for awareness materials and conduct awareness activities (before starting waste separation)	Actual																
2-5	to conduct regular monitoring and awareness activities	Actual																
2-6	to keep records and analyze the data	Actual																
2-7	to modify (expand) the plan based on the data and to implement it	Actual																
OUTPUT 3:	Clean School Program		The number of participating schools is at least 10.															
3-1	to organize Teachers' Workshop	Actual																
3-2	to support schools to prepare for action plans	Actual																
3-3	to conduct monitoring and provide advice if necessary	Actual																
3-4	to conduct judging	Actual																
3-5	to review and modify the plan	Actual																

a.2 ラウトカ市役所

PO - FIJI - Lautoka City Council		Indicator for Project Purpose:														
Term: 2011 ~ 2015 (5years)		2011			2012			2013			2014			2015		
Indicator for Project Purpose:	Person In-charge	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Outputs and Associated Activities	Indicators for Outputs	JCC Steering Committee ☆ Evaluation Studies ☆														
OUTPUT 1: Separate Collection of Recyclables	Target 20% Recycling Rate - if not achieved, council will have the option to cease Recyclable Collection Component and focus on Recycling Activity of Waste pickers in Dump site	Planned Actual Planned Actual Planned Actual Planned Actual														
1-1	Strengthen Awareness Activities	Planned Actual Planned Actual Planned Actual Planned Actual														
1-2	Involve other stakeholders	Planned Actual Planned Actual Planned Actual Planned Actual														
1-3	Revisit communities	Planned Actual Planned Actual Planned Actual Planned Actual														
1-4	Monitoring and evaluation	Planned Actual Planned Actual Planned Actual Planned Actual														
OUTPUT 2: Home Composting	350 bins to be promoted by end 2016	Planned Actual Planned Actual Planned Actual Planned Actual														
2-1	Strengthen Awareness Activities	Planned Actual Planned Actual Planned Actual Planned Actual														
2-2	Purchase more Composters	Planned Actual Planned Actual Planned Actual Planned Actual														
2-3	Strengthen Monitoring Process	Planned Actual Planned Actual Planned Actual Planned Actual														
OUTPUT 3: Market Waste Composting	Collect 15 tons of market vegetable waste and revenue of \$4,500	Planned Actual Planned Actual Planned Actual Planned Actual														
3-1	Strengthen Awareness Activities	Planned Actual Planned Actual Planned Actual Planned Actual														
3-2	Strengthen Monitoring Process	Planned Actual Planned Actual Planned Actual Planned Actual														
OUTPUT 4: Clean School Program is implemented	48 schools to implement 3R	Planned Actual Planned Actual Planned Actual Planned Actual														
4-1	Launching of program for schools	Planned Actual Planned Actual Planned Actual Planned Actual														
4-2	Monitoring school progress	Planned Actual Planned Actual Planned Actual Planned Actual														
4-3	Conduct Judging	Planned Actual Planned Actual Planned Actual Planned Actual														
4-4	Award Ceremony	Planned Actual Planned Actual Planned Actual Planned Actual														
OUTPUT 5: Vunato Dump Site Rehabilitation	100% coverage on site improvement in dump site	Planned Actual Planned Actual Planned Actual Planned Actual														
5-1	Improvement of Disposal Site	Planned Actual Planned Actual Planned Actual Planned Actual														
5-2	Improvement of Access Road & Drainage	Planned Actual Planned Actual Planned Actual Planned Actual														
5-3	Maintenance of Weighbridge & Heavy Machinery	Planned Actual Planned Actual Planned Actual Planned Actual														
5-4	Promoting Recycling and OHS/WARM issues with Waste pickers	Planned Actual Planned Actual Planned Actual Planned Actual														

a.3 ナンディ町役場

PO - FIJI - Nadi Town Council		Indicator for Project Purpose:														
Term: 2011 ~ 2015 (5years)		Date issued: 3rd Mar., 2014 Version 1														
		2011			2012			2013			2014			2015		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
JCC/SC/ Eva	Outputs and Associated Activities	Planned														
	JCC Steering Committee ☆ Evaluation Studies ☆	Actual														
OUTPUT 1:	Separate Collection of Recyclables - CBD Town Expansion	Participation Rate : 20 % by 2016														
1-1	Prepare educational materials															
1-2	Organise a meeting with stakeholders															
1-3	Advocacy awareness campaign															
1-4	Implementation															
1-5	Evaluate and examine the system															
OUTPUT 2:	Separate Collection of Recyclables	Amount of Recyclables : 90 000kg														
2-1	Create awareness to improve participation rate															
2-2	Recruit and Train Casual Workers to do Recyclable collection															
2-3	Develop and Distribute Recyclables Calendars															
2-4	Implementation and Monitor															
2-5	Maintenance and Repairs of MPT (Stereo, Amplifier)															
OUTPUT 3:	Home Composting	Compost bins to be sold : 330 bins														
3-1	Purchase of Compost Bins															
3-2	Continue promotion of Subsidy Programmes															
3-3	Monitor of Home Composters and create awareness on home composting to improve participation															
OUTPUT 4:	Clean School Program	Schools to participate by 2016 : we have already covered all the schools in our boundary area and also interested outside boundary schools. We are unsure of the number of schools in the rural areas therefore cannot predict the number of schools which can participate. However we are ensuring an increase of 3 schools every year.														
4-1	Action Plan- Submission from Schools															
4-2	First and Second Monitoring															
4-3	Final Judging															
4-4	Awarding Ceremony															
OUTPUT 5:	Ecobag Promotion	Eco bags to be sold by 2016 - 3000 bags.														
4-1	Printing of Labels															
4-2	Collection of Materials from Garment and Tailors															
4-3	Production of Ecobags															
4-4	Promotion and Selling of Ecobags															

a.4 シンガトカ町役場

PO - FUJ - Sigatoka Town Council		Indicator for Project Purpose:																								
Term: 2011 ~ 2015 (5years)		Date Issued: 3rd Mar., 2014 Version 1																								
JCC/SC/Eva	Outputs and Associated Activities	2011					2012					2013					2014					2015				
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Person in-charge	Indicators for Outputs																									
JCC	◇ Steering Committee Evaluation Studies ☆																									
OUTPUT 1: The existing final disposal site is rehabilitated																										
1-1	Prepare a rehabilitation plan and detailed drawings																									
1-2	Develop an Environmental Management Plan																									
1-3	Implement of rehabilitation works																									
1-4	Monitor daily operation and maintenance of the rehabilitated site																									
OUTPUT 2: The amount of hotel waste disposed at final disposal site is reduced																										
2-1	Conduct a questionnaire survey for target hotels to understand the current waste management system in hotels.																									
2-2	Develop a pilot project plan																									
2-3	Implement a pilot project																									
2-4	Review and share the results of pilot project with other hotels through the hotel workshop																									
2-5	Promote hotel waste reduction program																									
OUTPUT 3: The amount of market waste is reduced in collaboration with OISCA																										
3-1	Develop a market waste composting system																									
3-2	Implement a market waste composting																									
3-3	Review and improve the system																									
OUTPUT 4: Clean School Program is implemented																										
4-1	Develop an implementation plan																									
4-2	Conduct a teacher's workshop																									
4-3	Monitor school activities																									
4-4	Conduct a judging and award ceremony																									

a.5 八町役場

PO - FUJI - Ba Town Council		Indicator for Project Purpose:														
Term: 2011 ~ 2015 (5years)		Version 1 Date issued: 3rd Mar., 2014														
JCC/SC/ Eva	Outputs and Associated Activities	2011			2012			2013			2014			2015		
JCC	Steering Committee ☆	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Eva	Evaluation Studies ☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
OUTPUT 1:	Market Compost	market waste to use market waste for compost: 10 tonnes/year														
1-1	meeting with ministry of agriculture to provide market waste for pig farmer															
1-2	forming of market committee															
1-3	meeting with market committee															
1-4	conducting monitoring and awareness in the market with committee to the vendors															
1-5	exchange green waste with farmers															
1-6	compost making 2 times a month															
OUTPUT 2:	Clean School Program is implemented	2014 at least 23 schools participated 11 urban schools 12 semi-urban														
2-1	Develop a implementation plan															
2-2	Conduct a teacher's workshop															
2-3	Monitor school activities															
2-4	conduct a teacher's refresher workshop															
2-5	Conduct a judging and award ceremony															
OUTPUT 3:																
3-1																
3-2																
3-3																

b. PO (2015年3月改訂版)

b.1 スパ市役所

PO - FIJI - Suva City Council		Indicator for Project Purpose:		Date Issued: 3rd Mar., 2014 Version 1														
Term: 2011 ~ 2015 (5years)				2011			2012			2013			2014			2015		
	Outputs and Associated Activities	Indicators for Outputs	Person in-charge	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	JCC Steering Committee ☆ Evaluation Studies ☆		Robert Randolph															
	OUTPUT 1: Data & information collection (for SWM Master Plan)																	
1-1	to collect existing data and information (to conduct a baseline survey if necessary)		Planned															
1-2	to analyze collected data & information		Actual															
	OUTPUT 2: Market Compost Project	At least 15% of waste from Suva Market is recycled																
2-1	to collect existing data and conduct baseline surveys		Plan															
2-2	to make consensus with stakeholders (vendor association, Ministry of Agriculture, pig farmers, and so on)		Plan															
2-3	to formulate an action plan, including collection(transportation system)		Actual															
2-4	to prepare for awareness materials and conduct awareness activities (before starting waste separation)		Plan															
2-5	to conduct regular monitoring and awareness activities		Actual															
2-6	to keep records and analyze the data		Plan															
2-7	to modify (expand) the plan based on the data and to implement it		Actual															
	OUTPUT 3: Clean School Program	The number of participating schools is at least 10.																
3-1	to organize Teachers' Workshop		Plan															
3-2	to support schools to prepare for action plans		Plan															
3-3	to conduct monitoring and provide a advice if necessary		Actual															
3-4	to conduct judging		Plan															
3-5	to review and modify the plan		Actual															

b.2 ラウトカ市役所

PO - FIJI - Lautoka City Council		Indicator for Project Purpose:															
Term: 2011 ~ 2015 (5 years)		2011			2012			2013			2014			2015			
Indicator for Project Purpose:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	
OUTPUT 1: JCC/SC/ Eva Steering Committee ☆ Evaluation Studies ☆	Outputs and Associated Activities JCC ◇ Steering Committee ☆ Evaluation Studies ☆	Person in-charge															
	Indicators for Outputs Target 20% Recycling Rate - if not achieved, council will have the option to cease Recyclable Collection Component and focus on Recycling Activity of Waste pickers in Dump site	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
	Strengthen Awareness Activities																
	Involve other stakeholders																
	Revisit communities																
Monitoring and evaluation																	
OUTPUT 2: Home Composting	350 bins to be promoted by end 2016	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
2-1 Strengthen Awareness Activities																	
2-2 Purchase more Composters																	
2-3 Strengthen Monitoring Process																	
OUTPUT 3: Market Waste Composting	Collect 15 tons of market vegetable waste and revenue of \$4,500	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
3-1 Strengthen Awareness Activities																	
3-2 Strengthen Monitoring Process																	
OUTPUT 4: Clean School Program is Implemented	48 schools to implement 3R	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
4-1 Launching of program for schools																	
4-2 Monitoring school progress																	
4-3 Conduct Judging																	
4-4 Award Ceremony																	
OUTPUT 5: Vonato Dump Site Rehabilitation	100% coverage on site improvement in dump site	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
5-1 Improvement of Disposal Site																	
5-2 Improvement of Access Road & Drainage																	
5-3 Maintenance of Weightbridge & Heavy Machinery																	
5-4 Promoting Recycling and OHS/WARM issues with Waste pickers																	

b.4 シンガトカ町役場

PO - FUJI - Sigatoka Town Council		Indicator for Project Purpose:														
Term: 2011 ~ 2015 (5years)		Date Issued: 3rd Mar., 2014 Version 1														
Outputs and Associated Activities		2011			2012			2013			2014			2015		
JCC/SC/Eva	Indicators for Outputs	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
JCC Steering Committee Eva Evaluation Studies																
OUTPUT 1:	The existing final disposal site is rehabilitated															
1-1	1-1. Rehabilitation master plan was made by JICA expert															
	1-2. EMP was submitted to the Department of Environment															
1-2	1-3. All the rehabilitation works to be done based on the Master Plan															
1-3	1-4. Number of fire/smoke and complaint from the citizens															
1-4	Monitor daily operation and maintenance of the rehabilitated site															
OUTPUT 2:	The amount of hotel waste disposed at final disposal site is reduced															
2-1	2-1. Survey summary report															
	2-2. Hotel implementation plan made by JICA expert															
2-2	2-3. Regular monitoring, hotel monthly meeting															
2-3	2-4. Workshop report, number of participants, media exposure															
2-4	2-5. Number of hotels who implement 3Rs/ 4Rs															
2-5	Promote hotel waste reduction program															
OUTPUT 3:	The amount of market waste is reduced in collaboration with OISCA															
3-1	3-1. The system was established by STC and JICA volunteer															
	3-2. Number of bags received from OISCA and sales of compost manure															
3-2	3-3. Record book, Hiring of 3R Officer															
3-3	Review and improve the system															
OUTPUT 4:	Clean School Program is implemented															
4-1	4-1. The project plan had been written by JICA Volunteer															
	4-2. Number of participants and questionnaire															
4-2	4-3. School judging sheet															
4-3	4-4. Awarding ceremony and program report															
4-4	Conduct a judging and award ceremony															

b.5 バ町役場

PO - FUJI - Ba Town Council		Indicator for Project Purpose:														
Term: 2011 ~ 2015 (5years)		2011			2012			2013			2014			2015		
Version 1 Date issued: 3rd Mar., 2014		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
JCC/SC/Eva	Steering Committee Evaluation Studies	Person in-charge														
JCC Steering Committee ☆ Evaluation Studies ☆		Maria Ravestivesi														
OUTPUT 1:	The amount of market waste is reduced in collaboration with PIG & Poultry farmers	Indicators for Outputs														
market waste to use market waste for compost: 10 tonnes /year to provide market waste for pig farmer: 2.5 tonnes /year vendors sell market waste by themselves: 26 to mty/year total: 38.5 tonnes /year to use used chips for compost: 7 tonnes /year																
1-1	meeting with ministry of agriculture	Planned														
1-2	forming of market committee	Actual														
1-3	meeting with market committee	Plan														
1-4	conducting monitoring and awareness in the market with committee to the vendors	Actual														
1-5	exchange green waste with farmers	actual														
1-6	compost making 2 times a month															
OUTPUT 2:	Clean School Program is implemented	2014														
2-1	Develop a implementation plan	at least 23 schools participated														
2-2	Conduct a teacher's workshop	11 urban schools														
2-3	Monitor school activities	12 semi-urban														
2-4	conduct a teachers refresher workshop	3R committee - 20 schools														
2-5	Conduct a judging and award ceremony	Awareness activity - 20 schools														
OUTPUT 3:		Compost - 20 schools														
3-1		Waste Separation - 20 schools														
3-2																
3-3																

b.6 タバア町役場

PO - FUJI - Tavua Town Council		Indicator for Project Purpose:												Version 1 Date Issued: 3rd Mar., 2014					
Term: 2011 ~ 2015 (5years)		plan												actual					
		2011			2012			2013			2014			2015					
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Outputs and Associated Activities		Person in-charge																	
JCC Steering Committee ☆ Evaluation Studies ☆		Robert Reuven Anita Khan																	
Indicators for Outputs																			
OUTPUT 1:		The number of participating schools is 4.																	
Clean School Program																			
1-1 support schools to prepare for action plan (have a meeting at each school, support schools to organize committees)																			
1-2 conduct a regular monitoring																			
1-3 conduct judging and organize a reward ceremony																			
1-4 make a report																			
OUTPUT 2:																			
2-1																			
2-2																			
2-3																			
2-4																			
2-5																			
OUTPUT 3:																			
3-1																			
3-2																			
3-3																			

b.7 ラキラキ町役場

PO -Rakiraki		Indicator for Project Purpose:					Date issued: 3rd Mar., 2014 Version 1																							
Term: 2011 ~ 2015 (5years)							2011			2012			2013			2014			2015											
Indicator for Project Purpose:							1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
JCC/SC/Eva	Steering Committee Evaluation Studies	Outputs and Associated Activities					Person In-charge																							
Indicator for Project Purpose:		Indicators for Outputs					Person In-charge																							
JCC	◇	Clean School Program					The number of participating schools is at least 7.																							
1-1	Attend/Conduct teachers workshop	Planned																												
1-2	Support schools to prepare for action plans	Planned																												
1-3	Monitor school activity	Planned																												
1-4	Conduct judging and ward ceremony	Planned																												
OUTPUT 2:		Data collection work																												
2-1	collect data and information on SWM in Rakiraki	Planned																												
2-2	conduct a disposal site survey	Planned																												
2-3	conduct a hotel survey	Planned																												
OUTPUT 3:																														
		Planned																												
		Actual																												
		Planned																												
		Actual																												
		Planned																												
		Actual																												

c. PO (2015年12月改訂版)
c.1 スバ市役所

PO - FIJI - Suva City Council		Indicator for Project Purpose:														
Term: 2011 ~ 2015 (5years)		Date issued: 3rd Mar., 2015 Version 2														
		2011			2012			2013			2014			2015		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Outputs and Associated Activities	JCC	★														
	JCOS/ Eva Steering Committee Evaluation Studies	★														
INDICATORS FOR OUTPUTS	Person in-charge	Robert Randolph														
OUTPUT 1: Data & information collection (for SWM Master Plan)	Indicators for Outputs	At least 2 officers can utilize the database of municipal waste and market waste collection data and analyze the data														
1-1	to collect existing data and information to conduct a baseline survey (if necessary) and compile into database															
1-2	to analyze collected data & information															
OUTPUT 2: Market Compost Project	Indicators for Outputs	At least 15% of waste from Suva Market is recycled														
2-1	to collect existing data and conduct baseline surveys															
2-2	to make consensus with stakeholders (vendor association, Ministry of Agriculture, pig farmers, and so on)															
2-3	to formulate an action plan, including collection/transportation system															
2-4	to prepare for awareness materials and conduct awareness activities (before starting waste separator)															
2-5	to conduct regular monitoring and awareness activities															
2-6	to keep records and analyze the data															
2-7	to modify (expand) the plan based on the data and to implement it															
OUTPUT 3: Clean School Program	Indicators for Outputs	The number of participating schools is at least 10.														
3-1	to organize Teachers' Workshop															
3-2	to support schools to prepare for action plans															
3-3	to conduct monitoring and provide advice if necessary															
3-4	to conduct judging															
3-5	to review and modify the plan															
OUTPUT 4: Home Composting	Indicators for Outputs	In total, 80 compost bins are distributed and properly used in 2015 (both under UNDP and DOE subsidy program)														
4-1	to promote/advertise home composting															
4-2	to monitor compost use															

c.3 ナンディ町役場

PO - FIJI - Nandi Town Council		Indicator for Project Purpose:					Date issued: 3rd Mar., 2015 Version: 2																						
Term: 2011 ~ 2015 (5years)		Outputs and Associated Activities		Indicators for Outputs		2011			2012			2013			2014			2015											
JCC/ISC/Eva	Steering Committee / Evaluation Studies	Planned	Actual	Person in-charge	Person in-charge	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
OUTPUT 1:	Separate Collection of Recyclables - CBD Town Expansion	Participation Rate of target premises: 20 % by 2016																											
1-1	Prepare educational materials																												
1-2	Organise a meeting with stakeholders																												
1-3	Advocacy, awareness campaign																												
1-4	Implementation																												
1-5	Evaluate and examine the system																												
OUTPUT 2:	Separate Collection of Recyclables	Amount of Recyclables : 15 000kg annually																											
2-1	Create awareness to improve participation rate																												
2-2	Recruit and Train Casual Workers to do Recyclable collection																												
2-3	Develop and Distribute Recyclables Calendars																												
2-4	Implementation and Monitor																												
2-5	Maintenance and Repairs of MPT (Stereo, Amplifier)																												
OUTPUT 3:	Home Composting	Compost bins to be sold: 330 bins by end of project 60 % of them use bins properly																											
3-1	Purchase of Compost Bins																												
3-2	Continue promotion of Subsidy Programmes																												
3-3	Monitor of Home Compostors and create awareness on home composting to improve participation																												
OUTPUT 4:	Clean School Program	20 Schools to participate by 2016																											
4-1	Action Plan - Submission from Schools																												
4-2	First and Second Monitoring																												
4-3	Final Judging																												
4-4	Awarding Ceremony																												
OUTPUT 5:	Ecobag Promotion	Eco bags to be sold by 2016 - 3000 bags.																											
5-1	Printing of Labels																												
5-2	Collection of Materials from Garment and Tailors																												
5-3	Production of Ecobags																												
5-4	Promotion and Selling of Ecobags																												

c.4 シンガトカ町役場

PO - FIJI - Sigatoka Town Council		Indicator for Project Purpose:														
Term: 2011 ~ 2015 (5years)		Date issued: 3rd Mar., 2015 Version: 2														
Indicator for Project Purpose:		2011			2012			2013			2014			2015		
JCC/SC/Eva	Outputs and Associated Activities	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
JCC Steering Committee Evaluation Studies	Number of fire/smoke and complaint from the citizens is decreased															
OUTPUT 1:	The existing final disposal site is rehabilitated															
1-1	Prepare a rehabilitation plan and detailed drawings															
1-2	Develop an Environmental Management Plan															
1-3	Implement of rehabilitation works															
1-4	Monitor daily operation and maintenance of the rehabilitated site															
OUTPUT 2:	The amount of hotel waste disposed at final disposal site is reduced															
2-1	Conduct a questionnaire survey for target hotels to understand the current waste management system in hotels.															
2-2	Develop a pilot project plan															
2-3	Implement a pilot project															
2-4	Review and share the results of pilot project with other hotels through the hotel workshop															
2-5	Promote hotel waste reduction program															
OUTPUT 3:	The amount of market waste is reduced in collaboration with DISCA															
3-1	Develop a market waste composting system															
3-2	Implement a market waste composting															
3-3	Review and improve the system															
OUTPUT 4:	Clean School Program is implemented															
4-1	Develop an implementation plan															
4-2	Conduct a teacher's workshop															
4-3	Monitor school activities															
4-4	Conduct a judging and award ceremony															
OUTPUT 5:	Home Composting															
5-1	Develop Home Composting Implementation Plan															
5-2	Conduct awareness on Home Composting															
5-3	Monitor Compost															
5-4	Review and improve the system															

c.5 バ町役場

PO - FIJI - Ba Town Council		Indicator for Project Purpose:																	
Term: 2011 ~ 2015 (5years)		2011			2012			2013			2014			2015					
JCC/SC/ Eva		Person in-charge			Maria Ravestresi														
Outputs and Associated Activities		Indicators for Outputs																	
JCC Steering Committee Evaluation Studies		collected vegetable waste for reuse/recycling; 38.5/year			7/year														
OUTPUT 1: The amount of market waste is reduced in collaboration with PIG & Poultry farmers		1-1 meeting with ministry of agriculture			1-2 forming of market committee			1-3 meeting with market committee			1-4 conducting monitoring and awareness in the market with committee to the vendors			1-5 exchange green waste with farmers			1-6 compost making 2 times a month		
OUTPUT 2: Clean School Program is implemented		at least 23 schools participated			11 urban schools			12 semi-urban			(if it is possible to cooperate with a rural health inspector, if not, the goal of semi-urban school is 5.)								
2-1 Develop a implementation plan		Plan			Actual			Plan			Actual			Plan					
2-2 Conduct a teacher's workshop		Plan			Actual			Plan			Actual			Plan					
2-3 Monitor school activities		Plan			Actual			Plan			Actual			Plan					
2-4 conduct a teachers refresher workshop		Plan			Actual			Plan			Actual			Plan					
2-5 Conduct a judging and award ceremony		Plan			Actual			Plan			Actual			Plan					
OUTPUT 3: Home Composting		10 bins are properly used.																	
3-1 Select the Target Area/ Population		Plan			Actual			Plan			Actual			Plan					
3-2 Sell 10 Compost Bins		Plan			Actual			Plan			Actual			Plan					
3-3 Monitoring		Plan			Actual			Plan			Actual			Plan					

c.7 ラキラキ町役場

PO -Rakiraki		Indicator for Project Purpose:												Version 2												
Term: 2011 ~ 2015 (5years)		2011			2012			2013			2014			2015			Date Issued: 7th December, 2015									
Outputs and Associated Activities	Indicators for Outputs	Person in-charge	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
JCC/SC/ Eva	JCC ◇ Steering Committee Evaluation Studies	☆ ☆																								
OUTPUT 1: Clean School Program	The number of participating schools is at least 7.																									
1-1	Attend/Conduct Teachers workshop																									
1-2	Support schools to prepare for action plans																									
1-3	Monitor school activity																									
1-4	Conduct judging and ward ceremony																									
OUTPUT 2: Data Collection Work	Basic strategy to promote organic waste recycling is made																									
2-1	collect data and information on SWM in Rakiraki																									
2-2	conduct a disposal site survey																									
2-3	conduct a hotel survey																									
	make a organic waste recycling plan																									
OUTPUT 3: Home Composting	At least 4 bins are properly used.																									
3-1	advertise/promote compost bins and select targets																									
3-2	distribute bins and provide an instruction on how to use																									
3-3	conduct a regular monitoring																									
3-4	review the result and modify the plan																									

2.2 キリバス国

a. PO（2014年2月改訂版）

PO - Kiribati		Indicators of Project Purpose												Version 3 Date issued: 30th Jan., 2013																
Term: 2011 ~ 2015 (5years)		Volume of disposal waste (especially organic waste) is reduced by 5%																												
Indicators of Project Purpose		Organization In-charge																												
Outputs and Associated Activities		Indicators for Outputs																												
JCC/SC/ Eva	JCC Steering Committee Evaluation Studies	2011	2012	2013	2014	2015	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
OUTPUT 1:	Household waste, especially green waste is recycled through waste separation and chipping (recycling of organic waste)	1-1 5% of households (of South Tarawa) using compost																												
1-1	Development of a work plan for the baseline survey	1-2 The amount of green waste for recycling (compost, firewood, etc.) is increased at Beito landfill site. (5% of recycling rate)																												
1-2	Conducting of baseline surveys																													
1-3	Conducting trial of home composting using compost bins																													
1-4	Making compost at BTC from green waste																													
1-5	Conducting public education and environment awareness program on the importance of waste minimization and waste separation																													
1-6	Promoting the use of wood chips and fire woods																													
1-7	Establishing financial system for shredder operation at BTC																													
OUTPUT2:	Community awareness on solid waste is improved.	2-1 seven schools of South Tarawa is implementing the Clean School Program.																												
2-1	Promoting 3R related activities at schools through Clean School Program																													
2-2	Conducting of workshop to disseminate the lessons and experiences learnt																													

* ECD: Environment and Conservation Division, MELAD
BTC: Beito Town Council
TUC: Tairaitao Urban Council

b. PO（2015年2月改訂版）

PO - Kiribati		Date issued: 10th of February, 2015																
Term: 2011 ~ 2015 (5years)		Version 4																
Indicators of Project Purpose		Volume of disposal waste (especially organic waste) is reduced by 5%																
Outputs and Associated Activities		Indicators for Outputs																
JCC/SC/ Eva	Steering Committee Evaluation Studies	Organization in-charge																
OUTPUT 1:	Household waste, especially green waste is recycled through waste separation and chipping (recycling of organic waste)	1-1 5% of households (of South Tarawa) using compost																
1-1	Development of a work plan for the baseline survey	1-2 The amount of green waste for recycling (compost, firewood, etc.) is increased at Beto landfill site. (5% of recycling rate)																
1-2	Conducting of baseline surveys	ECD																
1-3	Conducting trial of home composting using compost bins	ECD																
1-4	Making compost at BTC from green waste	BTC																
1-5	Conduction public education and environment awareness program on the importance of waste minimization and waste separation	BTC																
1-6	Promoting the use of wood chips and fire woods	BTC, TUC, ECD (MPA), ALD																
1-7	Establishing financial system for shredder operation at BTC	BTC																
OUTPUT2:	Community awareness on solid waste is improved through Clean School Program.	2-1 seven schools of South Tarawa is implementing the Clean School Program.																
2-1	promoting 3R related activities at schools through Clean School Program	ECD (MPA), TUC, BTC																
2-2	Conducting of workshop to disseminate the lessons and experiences learnt	ECD (MPA)																
		ECD: Environment and Conservation Division, MELAD BTC: Beto Town Council TUC: Teinainao Urban Council																
		2011	2012	2013	2014	2015	1	2	3	4	5	6	7	8	9	10	11	12

c. PO（2015年11月改訂版）

PO - Kiribati		Version 5 Date issued: 18th of November, 2015											
Term: 2011 ~ 2015 (5years)		Volume of disposal waste (especially organic waste) is reduced by 5%											
Indicators of Project Purpose		Indicators of Project Purpose											
Outputs and Associated Activities		Indicators for Outputs											
JCC/SC/Eva	Organization in-charge	2011 2012 2013 2014 2015											
OUTPUT 1:	Organization in-charge	1	2	3	4	5	6	7	8	9	10	11	12
JCC ◇ Steering Committee ☆ Evaluation Studies ★													
Household waste, especially green waste is recycled through waste separation and chipping (recycling of organic waste)													
1-1	ECD												
1-2	ECD												
1-3	BTC												
1-4	BTC												
1-5	BTC, TUC, ECD (MPA), ALD												
1-6	BTC, TUC, ALD												
1-7	BTC												
OUTPUT2:													
2-1	ECD (MPA), TUC, BTC												
2-2	ECD (MPA)												
		ECD: Environment and Conservation Division, MELAD BTC: Baito Town Council TUC: Teinainao Urban Council											

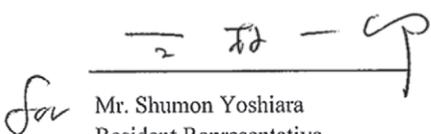
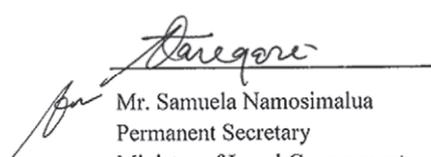
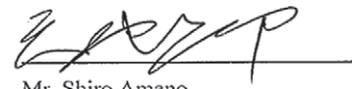
3 合同調整委員会(JCC)議事録

3.1 フィジー国

a. 第4回JCC議事録

MINUTES OF MEETING
FOR
THE THIRD JOINT COORDINATING COMMITTEE
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR
PROMOTION OF REGIONAL INITIATIVE ON
SOLID WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES (J-PRISM)
FIJI

Lautoka, Fiji, 3rd March, 2014.

 Mr. Shumon Yoshiara Resident Representative Japan International Cooperation Agency Fiji office.	 Mr. Samuela Namosimalua Permanent Secretary Ministry of Local Government, Housing and Environment. Fiji.
 Mr. Shiro Amano Regional Chief Project Advisor JPRISM Project.	 Ms Iliana Maiesia Acting Director Department of Local Government Ministry of Local Government, Housing and Environment.

MINUTES OF MEETING
FOR
THE FOURTH JOINT COORDINATING COMMITTEE
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR
PROMOTION OF REGIONAL INITIATIVE ON
SOLID WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES (J-PRISM)
FIJI

Suva, Fiji, 3rd March, 2015.

1.0 Welcome and Opening of the Meeting

1.1 Mr. Naresh Narayan (Senior Health Inspector) of Suva City Council welcomed members to the fourth annual meeting of the Joint Coordinating Committee for the JPRISM Project.

1.2 The Opening Address was then delivered by the Acting Director of Environment, Mr Aminiasi Qareqare.

1.3 The meeting was then chaired by Mr. Qareqare on behalf of the Permanent Secretary (PS) of Local Government, Housing and Environment (LGHE).

1.4 Members of the committee had made a short self-introduction before proceeding to the meeting agenda. Agenda of Meeting is attached as Appendix 1 and a listed attendant of members is attached as Appendix 2.

2.0 Matters arising out of Second JCC Meeting, 05 March 2013

2.1 Minutes of the third JCC was then adopted by all members with minor changes to be made the numbering of the minutes.

3.0 Progress of the Project Activities of the past year and Work-plan for 2014

3.1 Lautoka City Council Update

3.1.1 Home Composting:

- 272 bins (Achieved 77 %) have been sold so far, 54 compost bins monitored.
- Replication of 3Rs by councils to rural areas
- In average, 25 % of household waste can be reduced (recycled) by composting most effective 3R Strategy
- LCC is in the process of acquiring 100 bins.

Market Waste Composting:

- Sell 15tons of market vegetable waste and revenue of \$4,500 generated by March 2016 - Target already achieved in January 2015
- Sold 16.61tons of compost worth \$4,983.00.
- Sold 7,590 Kg (\$2,277.00) from January, 2014. (198% of 2013).
- Separated and composted 180 tons of market green waste in FY 2014.
- Grass composting was sustained.

3.1.2 Clean School Program:

- Target of 48 schools was to be achieved, 34 schools participated in 2014. (79.8%)
- Council implemented the CSP program in 2014.
- Council conducted the final judging in October, 2014.

- Awards function was held on Nov 14, 2014.
 - Chief Guest was Acting Director of DOE, Mr Qareqare.
 - Council budgeted \$2,000.00 for the function and DoE funded \$250.00
- 3.1.3 Vunato Dumpsite Improvements:
- Only improvement works for Special Waste Area left (85.7 % achieved)
 - Sustained normal landfill operations, improvements and maintenance.
 - Total of 27,505 tonnes of waste disposed in 2014 (~75.4toncs/day).
 - 359.1 tonnes of recyclables collected in 2014: Average 29.93 tons/month or 1.15 tonnes /day.
- 3.1.4 Separation of Collection of Recyclables
- Separate collection of recyclables in Veitari Ward, Lautoka hospital and schools.
 - Only achieved 5.6 % participation rate (PO target - 20%)
 - Communal recyclable collection Centre was launched by JPRISM Chief Advisor, Amano San at IYC Park as a pilot project on March 2, 2015. This centre will cater for collection of Pet bottles, Aluminium cans, food tin cans and hard plastics only.
 - The centre will be also used for selling of compost.
 - Council's two attendants at the park will manage the receiving and discharge of the recyclables.
 - The recyclable collection service will be stopped from June 2015.
 - The initiative was launched with media awareness, 4,000 circulars and signboard.
- 3.1.5 Awareness, Meetings and Visitation
- Council conducted total of 20 training for 980 participants in FY 2014
 - 5 training/visits were facilitated for JPRISM C/Ps from the Region.
 - Council staffs participated in 3 international and 1 regional training related to SWM and Environment.
- 3.1.6 2015 Project Work Plan
- Home Composting Program
- Liaise with DoE for procurement of 30 compost bins under the home compost subsidy of the DoE and LCC will order 100 compost bins in FY2015
 - Strengthen monitoring and awareness.
- Market Waste Composting
- Work with JOCV to improve separation at market by contractor/vendors to increase amount of organic waste composted/month.
 - Sell compost material from the proposed recycling centre for convenience of citizens.
 - Need for small shed and mini shredder at composting yard.
- Clean School Program
- CSP Program to be submitted by March.
 - Conduct at least 2 monitoring before final judging.

Vunato Disposal Site Rehabilitation

- Construct new secondary access for special waste area - Budget of S28,392.00 has been approved.

Comments/ Questions

3.1.7 Mr Bolalilai (MolI) thanked the Lautoka council for the presentation.

3.1.8 Mr Qareqare also added on and thanked Lautoka for the hard work put in to the 3R projects and for being role models to other pacific island countries such as Papua New Guinea.

3.2 Nadi Town Council Update

3.2.1 Separate Collection of Recyclables:

- Nadi Town Council has sustained and continued with separate collection of Recyclables as per scheduled.
- Circular on collection schedule and home composting was distributed house to house creating awareness to residents at the same time.
- The participation rate for FY 2014 was 9.36 % is low and not all residents are discharging their recyclables.
- Amount of Recyclables collected annually 15,000kg- Achieved 15,047kg in FY 2014 (excluding PET bottles, glass bottles and hard plastics)

3.2.2 Home Composting:

- 245 bins were sold and 38 compost bins sold in FY 2014.
- Monitored 92 compost bins for FY 2014 and advice was also given for improvements.
- Currently there are no stocks of compost bins left.
- 330 bins to be sold by end of the project- Achieved 74% (as of FY 2014).
- Council to acquire 50 compost bins by mid April 2015.

3.2.3 Eco Bag Promotion

- Continued with the promotion and sales of Eco-bags (made from waste cut pieces) in cooperation with the women's groups and the garment factories/ tailoring shops in Nadi.
- Sold 876 bags for 2014 and 2036 bags sold as of 2014.
- Eco bags to be sold by 2016 3000 bags. 2036 bags sold as of FY 2014: (will be achieved by end of 2015).

3.2.4 Clean School Program:

- NTC conducts the regular monitoring (2) and organises the Clean Schools Competition. 18 schools entered for the CSC (3 new schools outside boundary) also joined.
- Received visitors from other towns/cities and Pacific Island countries (Palau, Kiribati) to observe the 3R activities implemented in schools.

- Continued with the dissemination of the CSP to other towns/cities (Rakiraki)
- 13 boundary schools and 5 outside boundary schools.

3.2.5 Awareness Raising/ Training Conducted

- Prepared and distributed the circular house to house creating awareness to the residents on separate collection of recyclables and home composting.
- Awareness rising for 66 participants during the Award Ceremony for CSP.
- Conducted Teacher's workshop in Rakiraki upon invitation by RTC and 9 Schools participated in this workshop.
- Presentation was conducted at three schools in Mana Island on CSP through the assistance of Mamanuca Environment Society.

3.2.6 2015 Project Work Plan

Separation collection of recyclables

- Continue monitoring of mixing of recyclables with non-recyclables.
- Strengthening awareness rising to the residents to improve and increase the participation rate of discharge.

Home Composting Program

- Continue with the regular monitoring of the compost bins.
- To acquire 50 compost bins by mid April 2015.

Clean School Program

- Prepare CSP schedule for 2015 and continue with the regular monitoring followed by the Clean School Competition.
- Amend the judging sheet for the final judging of the Clean School Competition before the next Judging in 2015.

Eco Bag Promotion

- Meeting with the garment factories /tailoring shops.
- Order and Purchase labels for the bags.

Comments and Questions

3.2.6 Mr Bolalailai thanked JICA representatives for grounding their views and helping Nadi town council in achieving the targets. In addition he also commended the council in regards to the clean school program.

3.2.7 Furthermore, Mr Sawada added on to congratulate as well as remind councils and participants that the project is not JICA's and therefore Fiji needs to take responsibility in terms of continuing the projects in place.

Sigatoka Town Council Update

3.2.8 Market/Green Waste Project with OISCA – 20% of generation amount of market waste is being composted target was not achieved in 2014 due to market renovations from May to October and Closing of Youth camp in December for school break.

3.2.9 Clean School Program targeted 10 Schools (4 urban schools and 6 rural schools)

3.2.10 Sigatoka Dumpsite Rehabilitation (SDS) (203 – 2015 New Project) :

September- the SDS rehabilitation was carried out, after approval of CEMP.

Works carried out:

- Topographical and redefinition survey
- Construction of embankments (from existing waste)
- Construction of proper access road
- Created separate section for disposal of Green Waste, Bulky waste and Glass & Bottles
- Training for dump attendants and organization of waste pickers

3.2.11 Hotel Waste Minimization Project -:

Pilot hotel: Shangri-La's Fijian Resort & Spa

- Installation of shredder for wood chipping
- Implementation of separate collection and disposal of green waste and bottles.
- Construction of recycling yard for recyclable items collected from the resort
- Waste questionnaire survey for hotels was conducted.
- Implementation Plan for pilot project was drafted.
- Pilot Project will be implemented from March 2014 for six month.
- Lesson learnt to be gained from pilot project will be disseminated to all the hotels located in Coral Coast Areas.

Others activities implemented within the year 2014

- Council hosted the PNG counterpart, Ms. Nanai Raga, to observe Market Waste Composting Methods. The trip included visit to Sigatoka Municipal Market, OISCA, and Disposal Site.
- Hosted Palau counterpart, Mr. Etibek Shelby, to observe Waste management practices. The trip included visit to Sigatoka Municipal Market, OISCA, and Disposal Site.

3.2.12 2015 Project work plan

- Landfill fencing
- Office Upgrade for attendant at site
- Daily monitoring of site by Sigatoka Town Council
- Regular monitoring by the monitoring committee
- Daily operations

Clean School Program

- Continue with CSP with current schools in program
- Teachers Workshop to be conducted
- Monitoring of School Activities from March to December
- Judging and Awards Ceremony in October

Market Compost Program

- Purchase of new bins to replace existing bins.
- Workshop to be conducted for market vendors.
- Review and improve current system.

3.2.13 Comments and Questions

- Mr Bolalilai thanked the council's hard work in implementing the project activities. To add, he also thanked the council for working with the hotels as the hotels are significant waste generators.
- Mr Amano (JICA) commended Sigatoka Council for co sharing the costs of the rehabilitation of the sigatoka dump site.

3.3 Ba Town Council Update

3.3.1 Clean School Program

- 15 schools participated including 5 Rural schools
- Final monitoring was carried out before Judging of all schools in November, 2014
- Awards Function was carried out on 21st November, 2014 whereby prizes were awarded for 1st and 2nd Runner up and Overall winner for both Rural and Urban schools.
- 11 schools participated (only 10 were judged)
- Target 21 schools to participate in 2014 CSP

3.3.2 Market/Green Waste Compost

- Final product was ready by starting of February which was used in the BTC gardens.
- Total amount of collected vegetable waste for compost is not calculated yet (BTC is re-establishing its data collection system. Estimated amount of vegetable waste recycled is 2-3 tons per month)
- Piggery farmers are taking some of the green waste to feed their animals.

3.3.3 2015 Project work plan

Market Compost

- To carry out data collection for Green waste collected for the market compost
- To improve the compost production process & increase the production amount
- More awareness for vendors and people at market by March 2015

Clean Schools Program

- Get all 11 Urban schools to participate in CSP and existing 5 Rural schools
- Teachers workshop to be conducted for CSP Program

Home Compost Program

- Newly started activity (not done yet)
- Decide how to select targets for compost bins and advertise home composting program

3.3.4 Comments and questions

- Mr Bolalilai thanked Tavua Town Council for the presentation.

3.4 Tavua Town Council Update

- No reports are available for FY2014.

- Moreover Rakiraki Town Council has been assisting the council.
- Schools that have recycled bottles have kept the bottles in school as school management aren't aware of any company willing to picking the bottles.

3.4.1 Clean School Program

- Clean SP started in 2015
- Visited schools with the support from CEO of Rakiraki Town Council in February 2015
- Appointed a person in charge in February
- Will be joining one of workshops in Rakiraki in March;
- Action Plans were received from the 2 Primary Schools
- Action Plan were received from 2 Secondary Schools

3.4.2 2015 Project work plan

- To conduct workshop with head teachers /awareness training at 4 schools.
- Conduct constant monitoring to the schools.
- To conduct more Awareness in terms of advertisement/pamphlets on 3R's.

3.4.3 Comments and questions

- Mr Qareqare (Chairman) requests support is rendered to Tavua Town Council.
- Mr Rakesh (CO- RTC) informed participants that Tavua and Rakiraki were affected the most after the decree came out on companies picking and delivering scrap metals as these companies are the same companies that pick the bottles from Tavua and Rakiraki.
- Mr Ali (SA Nadi) offered Tavua Town Council support.

3.5 Rakiraki Town Council Update

3.5.1 Clean School Program

- Teachers Workshop was organized in March, 2014.
- 8 schools submitted Action Plan
- 3 schools completed CSP

3.5.2 No data on home composting and market waste

- 1 hotel Tanoa Rakiraki
- 1st meeting conducted with management
- Target 4 bins
- Training in March for workers.
- Advertisement for home composting and FOI will be called in April.

3.5.3 2015 Project work plan:

- The council plans to target 7 schools
- Meeting was held with teachers in January 2015
- Workshop in each school is organized (as of February 23, 3 workshops were completed)
- Support from JICA Rep
- Trainings on 3R and CSP to Teachers Continue till 1st Quarter.
- The council plans to implement the segregation and composting, awareness on judging criteria.
- Council plans to carry out CSP judging and awards in the 3rd Quarter .

3.5.4 Comments and Questions

- Mr Fukase (JICA HQ Director) praised Rakiraki town council on the hard work even though the council did not have all the resources. In addition, Mr Fukase commends Rakiraki town council for selecting a Counterpart
- Mr Bolalailai also thanks Rakiraki town Council.
- Mr Amano (JICA) reminded participants that even though the program is coming to an end the waste management will be ongoing and therefore all participants should continue working hard.
- Mr Qarqarc praised the cleanliness of the towns in the western division as this was evident as the officials toured the western councils. In addition, he also thanked the councils for hosting the tour.

3.6 Suva City Council Update

3.6.1 Compost & Green Feed Project:

- SCC plans to reduce the amount of market waste to the landfill by 15 % which is 21 tonnes a month.
- 2014 achievement – approximately 8-10% as achieved

Month	Green Feed (Kg)	Compost (kg)	Total (Kg)
March	7046.7	2,303.20	9,349.9
April	8189.8	3,466.60	11,656.4
May	11,803.9	1,872.50	13,676.4
June	12,722.1	997.6	13,719.7
July	16,871.5	1416.8	18,288.3
August	19,137.7	808.5	19,946.2
September	14,445.9	1,701.50	16,147.4
October	17,581.6	758	18339.6
November	14,601.5	7,935.30	22,536.8
December	18,283.3	2,747.4	21,030.7
Total	140,684.0	24,007.4	164,691.4
Percentage	85%	15%	

3.6.2 Waste data collection data tabulated below:

- October 2014: Inputting of garbage truck data carried out by SCC garbage and Refuse clerks using MS Access and approximately 20% of data has been collected.
- Training was carried out by J-PRISM Expert.

3.6.3 Clean School Program:

- 6 Primary Schools were piloted in 2014
- Teachers workshop was carried out on 21st of May 2014.
- Follow up of programs in piloted schools

- Conduct oratory contest to promote 3R in schools. Schools were invited from Lami and Nasinu to take part in the contest sponsored by BSP Bank.

3.6.4 Home Compost Bins:

- Bins sold/promotional from 2013 – 2014 is 379 bins.
- A total of 131 bins were sold (102 compost bins were sold and 29 were distributed for promotional purposes).

3.6.5 Other 3R activities given carried out in the 2014

Bagasau Green Village

- Each Block is provided with 3 Recycling bins for paper, pet bottles and cans.
- 2 Compost bins free.

Correctional Facilities

- Promote 3R (Composting/Eco Bags) in Prison to reduce their waste to the landfill.

Central Collection Points

- Promote recycling to the travelling public by placing 3 recycling bins at Total Service Station.

Working with overseas counterparts

- Ms Nanai from Papua New Guinea visited SCC from 28/8/14 – 29/8/14 to learn how SCC is carrying out Market Waste Separation and Composting Project.
- Ms. Bwaree Taorobwa and Mr Harry Langley visited SCC on June 6 to observe SCC Market Waste Separation and Composting Project.

3.6.6 2015 Project work plan:

Increase collection capacity to achieve 15% reduction of waste to the landfill by:

- Plan collection logistics for Saturday.
- Delaying collection of bins from 10.30am to 12.00pm
- Increase no. of pig farmers to increase outlet of waste.
- Increase production of compost to 6 ton/annum.

Clean school program

- To include all Primary Schools for CSP in 2015
- To visit schools and promote 3R to teachers.
- To carry out judging and awards towards the end of the 3rd term.

Home Composting program

- Supply interested people with 1 bin per house.
- Promote the use of compost bins.
- Monitor use of compost bins.
- Produce a broacher as guide to users on how to use and maintain their compost bins.

Comments and Question

- JICA Expert (Yurie Sakai) requested Ministry of Agriculture to provide a list of registered farmers to the councils.
- Ministry of Health commended SCC for the hard work put into the market waste program.
- Mr Qareqare (Chairman) asked whether SCC was distributing the bins as a promotional basis or did the schools apply for it.

3.7 Department of Environment Update

Department of Environment's presentation is as follows:-

3.7.1 Output 1: National 3R Strategy has been widely implemented in Fiji

Activity 1-1-1: Status of National Waste Management Strategy

- A Proposal paper was prepared and submitted to Management for approval as of October, 2014. The purpose of the Proposal Paper is to
 - I. propose the process for reviewing the National Solid Waste Management Strategy 2011 – 2014; National Liquid Waste Management Strategy 2006 and National Air Pollution Control Strategy 2007; and
 - II. Develop a National Waste Management Strategy The new National Waste Management Strategy will entail solid wastes management, liquid wastes management, air-pollution control management and chemical wastes management strategies and action plan for the next five to ten years.
- Issue that need to be addressed:
 - I. The Department does not have an existing Strategy to implement on waste management as all Waste strategies are out-dated.
 - II. Endorsement of Proposal paper by the Minister.
- Planned activities for the year 2015:-

Work Plan	Month
1. Development of Terms of Reference for NWMS review consultancy Workshop	March
2. Finalization of TOR and obtain A/Minister's Approval for the engagement of Consultant	April
3. Call for Tender via Fiji Procurement Office	April
4. Evaluation Process and A/Minister's approval	May
5. SGO approval on the Contract Agreement	June
6. Consultancy (3 months)	Jun - Aug
7. Submission of progress report	Jun - Aug
8. Submission of Final Draft NWMS 2015 - 2020	Aug
9. Submit to Minister & NEC for approval	Sep
10. Submit to Cabinet for approval	Oct
11. NWMS Steering Committee Meeting	Oct
12. Publish and Launch NWMS	Nov

Activity 1-1-2: Status of National 3R Policy

- In-house assessment of 3R Policy document
- Expression of Interest for the engagement of consultant to finalize draft 3R Policy advertised from 24th May to 11th of June 2014.
- Evaluation of Bidders
- Final Recommendations Report submitted to A/Minister on 5th August.
- Approval granted on 19th September.
- Environment Consultant Fiji Ltd was then engaged from 3rd November 2014 to 28th February, 2015.
- Final 3R Policy Consultation was conducted;
 1. 18th Feb in Nadi for Western Division
 2. 20th Feb in Labasa for Northern Division
 3. 25th Feb in Suva for Central Division
- Planned activities for the year 2015:-

Work Plan	Month
Finalize 3R Policy doc with the assistance of Environment consultants Consultant	March
Submit to SGO for legal approvals	March
Submit to Cabinet for endorsement	March

Activity 1-1-3: Home Composting Subsidy Program & Clean School Program (CSP) Financial Assistance.

- Preparation of Home Composting Subsidy Program and Clean School Program Financial Proposal in-house, with JPRISM council counterparts and experts.
- Proposal endorsed by PS for implementation for the year 2015.
- Planned activities for the year 2015:-

Work plan	Month
Launching and Training	26th March
Endorsement of Action Plan	April
Distribution of HC Bins and Awareness materials	April
Monitoring	Quarterly basis (June, Sep, Nov)
Review the program through bi-monthly meeting in each division	Nov. – Dec.

Activity 1-2: Conduct training program in cooperation with DOE and SCC

- Compost Training for workers/officers for councils in the Central Division was conducted at OISCA on October 6. A total of 10 participants attended the training and the lists are as follows:-
 1. Workers/officers from Suva City Council- 3
 2. Officer from Department of Environment- 2
 3. Workers/officers from other councils in Central Division- 2

- 4. Workers/officers from other organizations - 2
- 5. J-PRISM expert – 1
- Planned activities for the year 2015:-
 - 1. Training program for planners of market compost project will be conducted

Activity 1-3: Implementing action plans in selected councils through pilot projects

(Please refer to annual progress reports submitted by council counterparts above)

Activity 1-4: Monitor the progress of 3R implementation in Fiji

Activity 1-4-1: Bimonthly Meeting

- 6. As a result of discussion with council counterparts, the frequency of J-PRISM regular joint meeting was amended from on a monthly basis to on a bi-monthly basis in FY 2014.
- 7. Department of Environment has organized four bi-monthly joint meeting J-PRISM counterpart councils:

No.	Date	Venue
9th meeting	27 Jun. 2014	RTC
10th meeting	21-22 Aug. 2014	SCC
11th meeting	16 Oct. 2014	STC
12th meeting	22 Jan. 2015	NTC

- Non-targeted JPRISM Councils such as Lami, Nasinu and Nausori TC were invited and present in the bi-monthly meetings.

Planned activities for the year 2015:

- 1. Bi-monthly meetings to continue on regularly basis and to include central and northern division councils.

Activity 1-4-2: Monitoring template

- Monitoring template was developed by Aug. 2014 with the assistance of J-PRISM Experts.
- Since Sep. 2014, all target councils were requested to fill in the template and submit it to DoE on a monthly basis.
- Received monitoring reports from Lautoka City Council, Nadi Town Council, Suva City Council and Rakiraki Town Council.
- Planned activities for the year 2015:-
 - To request all councils submit a monitoring report every three months at least.
 - To conduct Monitoring based on the submission of Councils

- Monitoring Reports on a quarterly basis.

Comments and Questions

- Mr Bolalilai requested councils to not only be focused on solid waste but also liquid waste as it is a big health issue in Fiji. In addition, Mr Bolalilai also noted that people's mindset would have to alter from waste being treated as waste but as a resource.
- Mr Amano (JICA) stated that the NSWMS is expired and therefore new strategies need to be implemented. Furthermore he states that without any strategies, donor companies/countries will have difficulty in coming in and offering funds. Moreover, Mr Amano also thanked the council and department for making the project in Fiji successful even though there were difficulties in the beginning.
- Mr Fukase (JICA HQ Director) also reiterated Mr Amano's statement that is, that the progress of the NSWMS will affect have some effect on the JICA's Phase two JPRISM. In addition, he also praised DOE's leadership in the sharing of information. Lastly, Mr Fukase also stated that the final evaluation will be in July and so far JICA is very proud of the success.
- Mr Hiroyuki Sawada stated that waste management should be a priority in Fiji. To add, he also urges the department of Environment to formalise NSWMS and the 3R policy.
- SA Nadi offered support of his department in the implementation of 3R projects.

4 Closing Remarks

- 4.3 Mr. Qareqare (chairperson) thanked members of the JCC on the good deliberations and officially closed the meeting at 1pm.

Attachments:

Appendix 1: Agenda of Meeting

Appendix 2: List of attendance

Appendix 3: Progress of Project Activities presentation

Appendix 4: Results of Mid Term Evaluation Report presentation

Appendix 5: Modification of Project Design Matrix and Plan of Operations

Appendix 6: Municipal Councils Draft Plan of Operations

Appendix 1: Agenda of Meeting



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

4th Joint Coordinating Committee Meeting Tentative Agenda

Tuesday, 3rd March 2015 at Suva City Council Chambers.

09:00 - 09:25	Registration of JCC Members	
09:30 - 09:35	Welcome and Opening address	Chairperson
09:35 - 09:45	Introduction of the JCC Members	Chairperson
09:45 - 09:55	Matters arising from 3rd JCC Meeting	Chairperson
09:55 - 10:40	Progress Report of FY2014 and Work-plan for FY2015	Council (NTC, LCC, STC, BTC, TTC, RTC, SCC)
10:40 - 10:50	Morning Tea	
10:50 - 11:05	Progress Report of FY 2014 and Work Plan for FY2015 Updated Project Design Matrix (PDM) and Plan of Operations (PO)	DOE
11:05 - 11:20	Questions & Answers Other matters	Chairperson
11:20 - 11:35	Comments	
11:35 - 11:40	Closing Remarks	Chairperson
11:40	<i>Meeting Adjourn</i>	

Appendix 2: List of Attendants

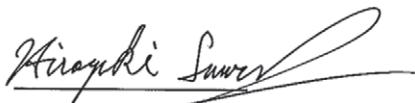
Name	Position	Email Address
<i>Ministry of Local Government and Urban Development & Housing and Environment</i>		
Mr Aminiasi Qareqare	Acting Director	
Ms Laisani Lewanavanua	Senior Environment Officer – Waste Management	
Ms Kelera Tokalan	Environment Officer, DOE West Office	
Ms Mere Leba	Environment Officer- Waste and Pollution Control unit	
Ms Laisa Matagi	Technical Assistant- Waste and Pollution Control unit	
<i>Ministry of Agriculture</i>		
Josivini Sausauwai	Environment Officer	
Epineri Cavanavanua	Senior Agriculture Assistant	
<i>Ministry of Health</i>		
Samuela Bolalailai	Senior Health Inspector	
<i>Sigatoka Town Council</i>		
Tulsi Ram	Chief Executive Officer	
Mr. Ashnil Sharma	Health Inspector	
Mr. Kouki Takano	JOCV	
<i>Lautoka City Council</i>		
Wally Atalifo	3R Officer	
Shalend Singh	3R Officer	
<i>Nadi Town Council</i>		
Mr. Rajeshwar Raj	Health Inspector	
Ms Nafiza Ali	Assistant Health Inspector	
Mr Robin Ali	SA- Nadi	
<i>Ba Town Council</i>		
Romika Mishra	Health Inspector	
<i>Tavua Town Council</i>		
Temalesi Henfiro	Chief executive officer	
Alvinesh Kumar	3R Officer	
Pramod Singh		
<i>Rakiraki Town Council</i>		
Mr Rakesh Chandra	Chief Executive Officer	
Rycichi Koya	JOCV	
<i>Suva City Council</i>		

Mr. Naresh Narayan	Senior Health Inspector	
Mr. Robert Randolph	Senior Assistant Health Inspector	
Mr Taito Waqaiyavana		
Maria Vulavou	SCC	
<i>Nasinu Town Council</i>		
Ashlyn Ali	3R officer	
Toshichika Kumagawa	JOCV	
Premila Chandra	NTC	
<i>JICA Office (Tokyo)</i>		
Mr Sawada	Resident Representative of JICA Fiji Office	
Mr Shiro Amano	Chief Advisor of J-PRISM	
Mr Yutaka Fukase	Director, Environmental Management Team 1, Global Environment Department, JICA	
Mr Toru Taguchi		
<i>JPRISM Project Expert</i>		
Ms. Yurie Sakai	Fiji Project Expert Officer	
Ms. Keiko Kani	Fiji Project Expert Officer	
Frances Tavaiqia	JICA Fiji	
Reiko Shido	JICA Fiji	

b. 第5回JCC議事録

MINUTES OF MEETING
FOR
THE FOURTH JOINT COORDINATING COMMITTEE
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR
PROMOTION OF REGIONAL INITIATIVE ON
SOLID WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES (J-PRISM)
FIJI

Suva, Fiji, 3rd March, 2015.



Mr. Hiroyuki Sawada
Resident Representative
Japan International Cooperation Agency
Fiji Office.



Mr. Aminiasi Qareqare
For Mr. Samuela Namosimalua
Permanent Secretary
Ministry of Local Government,
Housing and Environment.
Fiji.



Mr. Shiro Amano
Chief Advisor
J-PRISM, JICA

MS

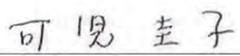
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3.2 キリバス国

a. 第4回JCC議事録

MINUTES OF MEETING
FOR
THE FOURTH JOINT COORDINATING COMMITTEE
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR
PROMOTION OF REGIONAL INITIATIVE ON
SOLID WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES
(J-PRISM)
KIRIBATI

South Tarawa, Kiribati, 10th of February, 2015


Ms. Keiko Kani
J-PRISM Expert
Japanese International Cooperation
Agency (JICA)


Ms. Teue Baikarawa
Deputy Secretary,
Ministry of Environment, Land and
Agriculture Development
Republic of Kiribati

**Japanese Technical Cooperation Project for
Promotion of Regional Initiative on
Solid Waste Management in Pacific Island Countries
(J-PRISM, Kiribati)**

4th Joint Coordinating Committee

Date: 10th February 2015

Time: 10:00am

Venue: ECD Boardroom

Minutes of the Meeting (Draft)

1	10:00 – 10:05	Welcoming & Opening Remarks by Chairperson – Teue Baikarawa, Deputy Secretary, MELAD - Warm welcome delivered by Deputy Secretary to participants especially new JCC members and J-Prism consultants. She gave words of appreciation for their continue support particularly their efforts in making it to the meeting.
2	10:05 – 10:10	Introduction of JCC Members - A brief introduction around the table by all JCC members present
3	10:10 – 11:40	a) Progress of Activities in 2014 - First presentation delivered by ECD on the progress of Clean School program for 2014. It was highlighted that only 2 schools completed the program for 2014 out of the 5 schools that submitted their action plan. These two schools (Tebwanimwaneka & St John have done their best to implement the 3 major components of the program with the assistance of ECD. Based on the final judging it shows that both schools are winners. o Tebwanimwaneka winner of Division 1 (Environmental Awareness Raising) o St John – winner of Division 3 (Waste Separation & Recycling) o For Division 2 (school compost) there's no winner. The process of compost hasn't completed. b). BTC progress of activities

		<ul style="list-style-type: none"> - This was presented by J-PRISM expert, because BTC representative was late due to the traffic problems. The progress of activities was mainly on Output1. The major activities conducted last year focus on the promotion of green waste for compost making at BTC every 3-4 months a year. - another progress made by BTC is on the promotion of the use of wood chips as firewood which has been continued. - Operation of shredder machine also continue at the Landfill - for awareness activities, there are no activities done. School program to be initiated this year 2015 <p>b) TUC progress of activities</p> <ul style="list-style-type: none"> - Progress has been made on school programs promoting the 3Rs-R. 2 schools have been visited by TUC with the support of ECD and the FSPK conducting a workshop with teachers on waste management. The presentation made by TUC is related with part of the training on waste management conducted in Japan. <p>c) Plan of Operation for 2015</p> <p>ECD</p> <ul style="list-style-type: none"> - ECD plan of operation presented highlighting the important roles of ECD and partners to support CSP for this year. ECD will take the leading role and to be supported by the councils (BTC & TUC) to be responsible at their own designated schools. NZ UDP will also provide support to the school program in terms of providing compost training to students. MoE – District officer to push primary schools interest to the program and support implementation at the same time. - Proposed schedule for this year will be start off with a meeting with teachers Feb 11th, preparation of action plans by the schools interested and to be submitted before end of March. - Monitoring will be then further discussed and finalized by ECD and the councils. <p>BTC</p> <ul style="list-style-type: none"> - BTC CEO provides updates on the plan of operation with regard to BTC activities for 2015. Most of the activities need further improvement on management and financing systems for this year. The current situation shows that there are issues faced with data management system as well as sales record. Therefore a plan is to be made to address such issues. - Other ongoing initiatives such as promotion of wood
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		<p>chips and firewood to be continued over the year.</p> <ul style="list-style-type: none"> - Public awareness and school programs has be to initiated to promote 3Rs activities at the schools. - Establishing a sustainable financing system for BTC shredder operation will also be considered improved for this year. <p>TUC</p> <ul style="list-style-type: none"> - To work in cooperation with ECD to implement number of school programs in TUC for this year 2015.
4	11:40 – 11:50	<p>New JCC Members – Ministry of Education and Ministry of Internal Affairs (MIA) are new members of JCC – MIA is not present in the meeting.</p>
5	11:50 – 12:20	<p>Questions & Answers</p> <ul style="list-style-type: none"> - Reiko <ul style="list-style-type: none"> o A suggestion to provide effective solutions to the problems faced with CSP last year to be included in this year's plan of operation as way of improving the program - MoE - CDRC <ul style="list-style-type: none"> o Concern about the amount of trees being cut down for the purpose of chipping process at the landfill <ul style="list-style-type: none"> ▪ Only fallen trees are the targets of separate collection (answered by J-PRISM) o Another concern raised with regard to the School compost training as part of CSP if there is a possibility to be put in as part of the curriculum for year 5 & 6 Environmental Science so there is no need to conduct ongoing training to the schools <ul style="list-style-type: none"> ▪ Teachers need training and support for implementing (in particular regular management) - TUC <ul style="list-style-type: none"> o Raise concern about the issue with the shredder machine which has been an issue before. BTC & TUC agreed that the issue with the shredder will be settled internally among the two councils (BTC & TUC mayors)
6	12:20 – 12:25	<p>AOBs BTC</p> <ul style="list-style-type: none"> - All J-PRISM activities with BTC will be ongoing and to work in collaboration with TUC on the issue with

		<p>shredder machine.</p> <p>Keiko</p> <ul style="list-style-type: none"> - Remind everyone about the meeting with the schools. Encourage ECD collaboration with MoE and the councils to participate in such initiative. <p>Reiko</p> <ul style="list-style-type: none"> - express sincere thanks for seeing ongoing cooperation among partners. She further explains on the opportunity for training in Japan on Waste Management. Finally is presenting the JICA pamphlet regarding Cooperation in the Pacific Region including J-PRISM <p>Taulehia</p> <ul style="list-style-type: none"> - concern with BTC cooperation with TTM on transportation of Green waste if it is possible to provide update to ECD once they start such initiative. He also asked question on bulky organic waste – can they be accepted at the BTC landfill? In response from TUC, they can accept it but should be in a proper size and is suitable for a place where it going to be disposed at. Finally is a request on progressive report for BTC if the responsible officer could continue to provide update. <p>TUC - Harry</p> <ul style="list-style-type: none"> - Seek advice on the monitoring of Clean school program since school has started (how are BTC, TUC and ECD going to work together to implement the program). A plan has been set for all primary schools where BTC will responsible for schools in Betio while TUC and ECD to work with the rest in TUC. The team will work together with the assistance of District officer from MoE. <p>Teema</p> <ul style="list-style-type: none"> - Provides updates on pilot project from UDP – collection of organic waste - Updates on the GB truck spare parts needed which hasn't been operate for a while <p>Ross</p> <ul style="list-style-type: none"> - NZ to work in cooperation with ECD - Ross and UDP team to access chipper in BTC - Request partners to join the site visit to the landfill where possible - NZ UDP ongoing supports to J-Prism Clean School program this year to be maintained through the support from UDP Project officers (GB and Organic waste PO)
7	12:25 - 12:30	Conclusion by Deputy Secretary – words of thanks to participants and to J-Prism consultants for their efforts in making a very productive and successful meeting.
8	12:30 - 1:00	Meeting concluded with lunch refreshment at 12:15pm

4th JCC Meeting, Kiribati

Participant List

1	Teue Baikarawa	MELAD, Deputy Secretary
2	Taulehia Pulefou	ECD
3	Teema Biko	ECD
4	Regina Rotitaake	ECD
5	Robite Teaeete	ECD
6	Ruube Barekiaua	ECD
7	Taraniman Rikiaua	ECD
8	Takena Redfern	ALD
9	Melea Taulua	MOE
10	Karawa Areieta	MOE
11	Harry Langley	TUC
12	Eliza Tokataake	BTC
13	Kaiea Toromon	BTC
14	Ross Craven	NZAID
15	Reiko Shindo	J-PRISM
16	Keiko Kani	J-PRISM

b. 第5回JCC議事録

MINUTES OF MEETING
FOR
THE FIFTH JOINT COORDINATING COMMITTEE
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR
PROMOTION OF REGIONAL INITIATIVE ON
SOLID WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES
(J-PRISM)
KIRIBATI

South Tarawa, Kiribati, 18th of November, 2015

可児 圭子

Ms. Keiko Kani
J-PRISM Expert
Japanese International Cooperation
Agency (JICA)



Ms. Timuaki Barekiau
Assistant Secretary,
Ministry of Environment, Land and
Agriculture Development
Republic of Kiribati

**Minutes of Meeting for
The Fifth Joint Coordinating Committee on
Japanese Technical Cooperation Project for
Promotion of Regional Initiative on
Solid Waste Management in Pacific Island Countries
(J-PRISM, Kiribati)**

Venue: ECD boardroom

Date: 18th December 2015

- 1. Introduction Remarks by Mr. Taulehia Pulefou, ECD/MELAD**
- 2. Welcoming and Opening Remarks by Chairperson – Assistant Secretary of MELAD**
- 3. Introduction of the members (see attached list)**
- 4. Results of Activities in 2015 and future plans (by ECD, BTC, TUC)**

Results are shared by different Organizations in power point presentations.

4.1. ECD

Achievements:

- Preparatory meeting happened
- 6 schools participating in the program
- Waste minimization
- Improved awareness for teachers in compost making
- Trial of School Visit at Abaunamou Primary School
 - Waste education along with a field trip to Nanikai Landfill and two recycling sites in Betio

Result of CSP activities

- Monitoring done – June, August
- School visits
- Activities (School kaoki maange,)

TUC Involvement School Program (refer to Table in ECD ppt)

- Harry involved in the school programs
- 3 components
 - ✓ 1. Waste separation
 - ✓ 2. School Compost
 - ✓ 3. Rubbish Separation and recycling

Questions raised

MOE rep:

- Is there other opportunity to involve Junior Secondary Schools?
 - ECD – Described that the project focus is on primary school which targeting children in this kind and level of information on solid waste management.
- Is there any MOE representative in the program –
 - ECD- there was a MOE participant but the result shows that it added work load to representative.
 - Suggested if two focus participants involved.
- Suggestion to establish a CSP committee and with an MOU bind the stakeholders involved in order to encourage and strength their participation.

MIA rep:

- How you can compete with other similar programs. To monitor effectively
- How can you encourage MOE to support the program? – integrating into the curriculum for Primary levels. Year 5 &6 is now in progress on integrating solid waste management in the Curriculum.

NZHC-rep:

- The Sustainability of the program – engaging school kids to see where waste ends such as in Kaoki Maange, green bag use and Landfill.
- Transport problems issue – NZHC Solid Waste Management program is confident to be able to support this to support waste minimization through supporting of ECD staffs for field trips.

ECD-Taulehia:

- Is there a prize for final judging of school clean program?
- A plan has been prepared that a signboard will be a prize and JICA will provide financial support on this, if ECD can arrange necessary documents and stuff.

4.2. BTC Result

- Separate account for organic waste recycling in March
- Shift of Organic waste recycling from landfill to BTC compound
- Continuous Shredder operation
- Will develop equipment procurement plan such as purchase new equipment every 4 years.
- Will start community based green waste reduction activities using fallen leaves.

Questions raised:

JICA/J-PRISM

- Can BTC use the profit anytime? Yes
- Suggested if BTC can make rules/policy on how to utilize the profit from sales of chips and firewood and renting a chainsaw/grass cutter, in order to prevent misuse of the money. Propose MIA check the account regularly.

ECD

- Do BTC also receive big trunks and shredder? Issue from KRRP-Macdonald bulky organic waste if can be solved using BTC shredder/compost program. BTC's shredder can only shred small trunks.

TUC PPT (refer to table in PPT)

- Chainsaw use, one in landfill and one outside.
- Spare part is hard to find but BTC know where to order so TUC can get information from BTC. They can also request JICA to assist if still no progress.
- In order to realize the organic waste recycling activities at a landfill with a shredder, TUC has to establish a separate collection system for organic waste in the first place. Transportation issue is more important than a shredder (TUC has to give a priority to the improvement of its rubbish collection system for a while). J-PRISM expert proposed TUC to promote the community based organic waste recycling with BTC, before it can solve the problem of truck arrangement.

Questions raised:

MOE suggestion

- If TUC can also start initiating compost program that BTC is now working on it.
 - TUC responded that it is a good initiative and can able to conduct but it depends on the decisions the council higher level. If they can take into account the importance of this program. If not then no funding support will be provided from JPRISM.

5. Terminal Evaluation delivered by JICA

J-PRISM expert showed the result of the terminal evaluation and analyze its result.

5.1 Degree of achievement and factors of successful/unsuccessful results

Goals and Result of J-PRISM Kiribati

Goals	Indicators	Result	Evaluation
Overall goal (in 2019)	1.80% of household engaged in the green waste recycling	not evaluated yet (need to conduct a survey in 2019 by ECD)	Not yet
Project Purpose	1. 2 of experts (1 trainers) in the field of 2 listed in the SPREP inventory 2. Volume of organic waste at three Landfill sites is reduced (recycled) by 5%	1. 0 2. 0.2%	0 Partly achieved
Output	Output 1 1-1 5% of households using compost 1-2 The amount of green waste for recycling is increased at Betio landfill site. (5% of recycling rate)	1-1 more than 10% of household use compost 1-2 1% of organic waste at Betio Landfill was recycled in 2015	Partly achieved
	Output 2 2-1 Seven schools of South Tarawa are implementing the Clean School Program	2-1 Six schools in 2015 (2 schools in 2014, and 4 schools in 2013)	Almost achieved

Degree of achievement and factors of successful/unsuccessful results

	Result	Positive/negative factors*	Possible countermeasures
Project Purpose	<ul style="list-style-type: none"> No trainers were registered from Kiribati. Only 0.2% of organic waste was recycled at three landfill sites 1% at Betio Landfill and no data available at 2 landfills in TUC TUC cannot start a separate collection for organic waste 	<ul style="list-style-type: none"> Frequent change of counterparts is one of main reasons why no trainers can be registered. Difficulty of truck arrangement for a separate collection for organic waste (TUC) Need understand and support from Clerk and the council (SWM committee) in order to promote organic waste recycling and to set up an independent account 	<ul style="list-style-type: none"> Need to modify the contract, e.g. requesting to work for at least three years TUC has to improve its collection system before starting a separate collection for organic waste MIA needs to persuade SWM committee members to promote organic waste recycling and set up an independent account, by showing Betio's case
Output 1	<ul style="list-style-type: none"> BTC could not achieve its goal of 5%, but it continues organic waste recycling activities since 2012. Clerk created an independent account for organic waste recycling activities. (after 6 months, the balance is more than \$500) Clerk appointed younger workers, and this made BTC more active 	<ul style="list-style-type: none"> The amount of fallen leaves among organic waste is smaller than expected the maintenance work for trucks, a shredder and a chainsaw is not good Under the strong leadership of Clerk, newly appointed Work Supervisor worked hard. 	<ul style="list-style-type: none"> BTC need to make a maintenance and procurement plan of equipment and parts BTC has a new plan to promote to make and use leaf mold (rotten leaves) at communities, using fallen leaves (this makes it possible for BTC to increase a recycling rate)

Output 2	<ul style="list-style-type: none"> 6 schools continue Clean School Program in 2015 BTC continues to visit schools for monitoring 1-2 times per month ECD submitted a monitoring report once TUC has not submitted a monitoring result yet Some schools installed a storage place of fallen leaves, but could not maintain it properly (always mixed with rubbish) 	<ul style="list-style-type: none"> ECD, BTC and TUC shared monitoring work, this could result in no drop-out schools from the program There are building renovation works at two schools in Betio, and this made it difficult to implement the program smoothly at these schools Lack of vehicles/motor bikes for monitoring work 	<ul style="list-style-type: none"> Need to strengthen a cooperative relation with MOE ECD and councils develop programs & materials for waste education and composting and provide lectures based on the request from schools
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*: Sentences written in black and red are positive and negative factors respectively

- JICA raised the issue on the Kiribati-Officer involved in JICA project often changed, capacity skills lost which can able to assist in the future as JICA trainer staffs. It is important to be considered for JICA project progress in Kiribati
- ECD management to discuss with admin on this issue.

5.2 Progress of Recommended activities by Terminal Evaluation Team

Progress

Organization	Recommendations	Progress
ECD	<ul style="list-style-type: none"> To secure the budget for monitoring 	<ul style="list-style-type: none"> General budget for inspection can be used for monitoring work
BTC	<ul style="list-style-type: none"> To continue organic waste recycling activities 	<ul style="list-style-type: none"> YES BTC has a plan of new activities, promoting organic waste recycling at community bases
TUC	<ul style="list-style-type: none"> To continue organic waste recycling activities 	<ul style="list-style-type: none"> YES TUC cut fallen trees and provide them as firewood for neighbors for free
MIA	<ul style="list-style-type: none"> to make a plan of expanding organic waste recycling activities 	<ul style="list-style-type: none"> YES under preparation

- Regarding follow-up for the recommendation from the Terminal Evaluation Team, ECD also will discuss about budget secureness for activities like monitoring to schools. The expansion of the activities for green waste reduction to TUC is one of important issue and MIA can support this.

6. Recommendations/Proposals (by JICA/J-PRISM) - how to make current activities more sustainable -

J-PRISM expert propose counterpart organizations such as ECD, MIA, Councils, MOE,

and NZHC to take actions or activities in order to promote existing activities further.

6.1 How to support BTC to continue its organic waste recycling activities

Issues	NZAID	MIA	BTC
Regardless of Changes of Clerks, BTC should continue its activities	•	<ul style="list-style-type: none"> To consider amending Local Government Act, adding "waste minimization" as a one of councils' functions, along with rubbish collection service To supervise the performances of Works Department of BTC 	<ul style="list-style-type: none"> To consider amending Local Government Act, adding "waste minimization" as a one of councils' functions, along with rubbish collection service To continue waste minimization work
BTC need to arrange a means of transportation for monitoring work for Works Supervisor	•	<ul style="list-style-type: none"> To encourage councils to procure used motor bikes from MOH for monitoring work 	<ul style="list-style-type: none"> To procure a second hand motor bike from MOH for monitoring work
BTC need to implement a maintenance and procurement plan of machines and parts	<ul style="list-style-type: none"> to provide a technical support to buy necessary parts and renew a chainsaw with BTC's budget to provide a financial support, if possible, to buy expensive parts of a shredder 	<ul style="list-style-type: none"> to provide a support to arrange procurement, if necessary 	<ul style="list-style-type: none"> to make a maintenance and procurement plan to buy a chainsaw first
BTC need to promote organic waste recycling at community base	<ul style="list-style-type: none"> to provide a support to promote to make rotten leaves at communities 	•	<ul style="list-style-type: none"> To support Works Supervisor to promote organic waste recycling at communities
BTC has to manage the independent account properly	•	<ul style="list-style-type: none"> To supervise the management of the independent account 	<ul style="list-style-type: none"> To establish the rules in order to prevent the misuse of money

6.2 How to expand organic waste recycling activities to TUC

Issues	NZAID	MIA	TUC
TUC needs support from SWM committee members to promote organic waste recycling and an independent account	•	<ul style="list-style-type: none"> To amend Local Government Act, adding "waste minimization" as a one of councils' functions, along with rubbish collection service To promote a site tour to BTC in order to persuade SWM committee members 	<ul style="list-style-type: none"> To amend Local Government Act, adding "waste minimization" as a one of councils' functions, along with rubbish collection service To set up an independent account for organic waste recycling activities
TUC needs to improve its rubbish collection system first in order to establish a separate collection system for organic waste	<ul style="list-style-type: none"> To support TUC to improve councils' rubbish collection systems, including examining the possibility of contracting out When TUC can arrange a truck regularly, to provide a technical support to 	<ul style="list-style-type: none"> To support TUC to improve councils' rubbish collection systems, including examining the possibility of contracting out 	<ul style="list-style-type: none"> To improve council collection service (if TUC can arrange a truck regularly for a separate collection service of organic waste, the council can start organic waste recycling at a landfill or near the council office)

	start a separate collection service for organic waste		
TUC need to promote organic waste recycling at community base	<ul style="list-style-type: none"> To support councils to promote to make and use leaf mold (rotten leaves) at communities 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> To support Works Supervisor to promote organic waste recycling at communities

- J-PRISM asked ECD to emphasize the importance of waste minimization in the Solid Waste Management strategy.
- ECD to discuss further with NZHC on waste minimization officer. Hence to reword to the second point on “ to provide a financial support, if possible, to buy expensive parts of a shredder

6.3 How to promote waste education at schools

Issues	MOE	ECD/councils
Development of programs and educational materials	<ul style="list-style-type: none"> to establish a cooperative relation with organizations concerned To develop programs and educational materials of field visits in cooperation with organizations concerned to make a list of possible field visits for schools 	<ul style="list-style-type: none"> To develop programs and educational materials of field visits based on the result of J-PRISM and UDP with consultation from MOE To train lecturers To support schools to conduct a monitoring for their activities
Implementation of field visits	<ul style="list-style-type: none"> To encourage schools to arrange field trips and arrange necessary budget 	<ul style="list-style-type: none">

Question raised:

ECD-Taulehia:

- Are there any plans for J-PRISM?
- JICA responded that next phase is in preparation but it is based on the result of the evaluation of the first phase.

ECD-Nenenleili:

- Timetrame of the feedback
- JICA will communicate with Office from Tokyo and see when.

TUC:

- Evaluation report if can shared, ECD responded that it has been circulated via email to the stakeholders.

7. Summary and Closing Remarks (by Secretary of MELAD)

MELAD remarks:

Programs links to Kiribati Development Policy

Benefits are relayed

Expand life's (capacity usage) for the landfill and

Promote cleanliness to our country

JPRISM remarks:

- Hope that Kiribati will continue the program on solid waste management what JICA has initiated as solid waste is a continuous issue. A positive point of Kiribati Collaboration/cooperation between involved stakeholders was easier to work with.
- A question for next phase will be relayed back once Tokyo main office has been consulted.

ECD: Taulehia remarks:

- Appreciation to the all different government organizations for their positive contributions and JICA for its patience in working with Kiribati in this project. Also acknowledging the attendance of both the Deputy Director and Director of ECD. Lastly to the Chair (Assistant Secretary) for chairing the meeting and also in giving an opening and closing remarks.

Meeting adjourned at 1:45pm

FINAL JCC MEETING PARTICIPANT LIST – 18TH NOV 2015.

FULL NAME	ORGANIZATION	EMAIL ADDRESS/PHONE NUM
1. Ross Craven	NZHC	
2. Kaiea Toromon	BTC	
3. Tanana Bakoa	MOE	
4. Harry Langley	TUC	
5. Taulehia Pulefou	ECD	
6. Reiko Shindo	J-PRISM/JICA	
7. Keiko Kani	J-PRISM	
8. Timuaki Barekia	Assistant Secretary - MELAD	
9. Robite Teate	ECD-MELAD	
10. Taouea Titaake	ECD Ag Director - Officer in Charge	
11. Nenenteiti Teariki	Director, ECD(on study leave)	
12. Eliza Tokataake	MIA	
13. Bweneata Kaoti	ECD-MELAD	

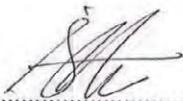
3.3 トンガ国

a. 第4回JCC議事録

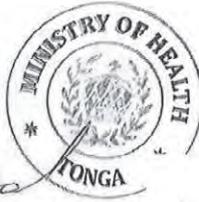
MINUTES OF MEETING
FOR
THE FOURTH JOINT COORDINATING COMMITTEE
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR
PROMOTING OF REGIONAL INITIATIVE ON
SOLID WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES (J-PRISM)
Neiafu, Mataika, Kalaka Landfill and Mala Island,
Vava'u February 11, 2015


.....
Mr. Paula Ma'u
Project Director
CEO
Ministry of Energy, Information,
Disaster Management, Environment,
Climate Change and Communication


.....
Dr. Siale 'Akauola
Deputy Project Director
CEO
Ministry of Health


.....
Mr. Shiro Amano
Chief Advisor
Project Office of J-PRISM


.....
Mr. Hiroshi Kikawa
Resident Representative
Tonga Office
Japan International Cooperation Agency
(JICA)



**Fourth Joint Coordinating Committee on the Project
11 February, 2015 - Vava'u Governor's Office Conference Room and Mala Island Conference Room, Vava'u**

- 1. Meeting started at 08:45am**
- 2. Attendants list of the meeting are given in Appendix 1**
- 3. Opening of the meeting**

Mr. Paula Tatafu, Master of Ceremony (hereinafter, MC), Vava'u Magistrate and Government Representative called for meeting to begin with respect to all participants, then he welcoming the arrival from Tongatapu and asked for the meeting to be opened with a prayer by assigned Mr. Samuela Fakatou, Vava'u Officer In Charge (hereinafter, OIC) and Sub Treasurer, Ministry of Finance and National Planning (hereinafter, MNFP) for Invocation.

MC continued by briefing the whole day program, and passed the floor to Ms. Feauini Laumanu, Vava'u OIC, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (hereinafter MEI-DECC) to proceed briefing the program in details. After Ms. Laumanu briefed the day in details, MC then took the floor and asked the meeting to move on to site visit program.

4. Site Visit

First Site Visit was to Mataika Community and observed the Community based collection System, and then moved to Kalaka landfill and observed the current operation status.

[Due to bad weather, original venue of the next part of the meeting to be held in Mala Island was hold back and proceed on at the Governor's Office Conference Room]

Ms. Feauini Laumanu apologized for the change of venue due to bad weather, and asked to proceed the next item of the agenda at the Governor's office, and will be move on to Mala Island if the weather is back to a satisfactory condition.

5. Welcoming Address (Mr. Paula Ma'u, Chief Executive Officer of MEI-DECC)

Mr. Paula Ma'u, Chief Executive Officer (hereinafter, CEO) of MEI-DECC delivered the welcoming speech. He welcomed everyone to the year 4th of the project, CEO for MEI-DECC reminded what MC expect a more short meeting but a productive one. He brought up the idea of having a good view through site visit of the successful in the project. Finally welcoming each participation to Vava'u and allowing asking the Governor of Vava'u, Lord Fulivai for Opening Address.

6. Opening Address (Lord Fulivai, Governor of Vava'u)

He reminded that this is the fourth JCC meeting of this solid waste management implemented in the region, Vava'u has chosen to implement this project in the Kingdom. He brought up memories when the project started, it was tough and now some of us are back here again. The whole idea of rehabilitation of dumpsite was hard but cooperation between the team who believed in this make things successful. He emphasized how surprise he was to see that a lot of work and commitment through awareness, and community meeting and at the end we experienced the support from the community. Mataika is a witness of that support, the expansion and success of the project. Again acknowledged J-PRISM, that this outreach change things to a much beautiful waste management area. He highlighted the idea of financial mechanism is a very important part here in raised to ensure the sustainability of the Project. Thanking the CEO for Ministry of Health (hereinafter, MoH) and CEO for MEIDECC for the working together, he commented that this is a witness that we can be involved and work together, Thanking Mr. Hiroshi and JICA in guidance for tackling financial and technical issues. He understand it's taking time to see the improvement and success, and like every other project has its own challenges, but at the moment he said "Our Waste Management Project has experience 80% success where only 20% remain that requires our cooperation".

7. Review and Matters arising from 3rd JCC Meeting

Mr. Filimone Lapao'o, from MEIDECC, presented the minutes and the matters arising from the 3rd JCC meeting held in Nuku'alofa, Tongatapu, in February 2014.

- i. Regards the Bacterial presence in the leachate pond, CEO for MoH and Co-chair of the Project mentioned about all the updates and work out they try to treat these bacteria problems (using of water treatment)
- ii. Lord Governor stated that there has been improvement after working done toward it
- iii. Hon. Minister of Health mentioned of building of fence can be a minor issue to be considered which is to look for funds and budget of the fence.
- iv. 80% of participation on waste collection, what can be done to Kalaka if after 10 years, all community will fill Kalaka in high volume
- v. Truck and Septic tank; consider to help in technical ways, this will be more helpful for sustainable collection
- vi. Governor agreed that we need to outreach. Capital operation, conserving of recycling systems
- vii. CEO for GIO mentioned that the international market price of steel that is mostly collected to GIO, is getting very low.

8. Progress of the Project Activities

(1) [Output 1] Improvement of the existing solid waste disposal facility and operation in Vava'u (Mr. Manase Malua (Health Inspector, MoH Vava'u))

Hon. Minister liked to see the differenced on the presenter's first slide that dumpsite in the previous stage has now become a landfill after rehabilitation.

Continued the presentation on water treatment system through artificial and natural treatment, and on showing how landfill has been rehabilitated and operated through the last 4 years. Water monitoring was conducted especially the leachate ponds.

CEO for MoH confirmed what the Governor just explained and confirmed the system is working.

Mr. Fa'afetai also explained that on the system that treatment can work for nutrients only, and heavy metal is not treated. The buffer zone designed is put in place to protect the waste from entering into the lagoon and to zoning the waste.

Ms. Yurie Sakai added that contamination can be caused by the sewage plant, which is located right at the back of the landfill, and need to be considered.

Mr. Manase Malua emphasized that fecal coliform was in high concentration, after put up the fence in place, the concentration drop into satisfactory level, a lesson learned that this might be from an outside source. The operation cost of rehabilitated landfill was financially assisted by JICA Project at the beginning, but it has been covered by MoH budget from FY 2014 without any financial assistance from the Project.

Hon. Governor said that the original purpose of the proposed fence to keep people away from landfill, but now it also aims to put rubbish inside of the landfill as proposed by presenter.

Recycling area was put in place at the entrance of landfill for those who brings recyclable items into the landfill, and it was abused by the dump users. The area has been now closed and cages are placed for only small recyclable items such as cans only. In order to ensure the proper landfill operation, the project proposed to allocate an extra person to work on the landfill office especially for monitoring the waste entering to the landfill. It was highlighted that the Tongan government will not be able to maintain and operate with insufficient budget once the J-PRISM is moving out.

Suggesting given from the Governor to move on to Mala Island since the rain was stopped. JCC members agreed.

BOAT RIDE to MALA Island

Chairman, CEO for MEIDECC asked Ms. Feauini Laumanu to continue the presentation.

(2) [Output 2] Improvement of solid waste collection service in Vava'u (Ms. Feauini Laumanu (Co-Project Manager, MEIDECC, MEIDECC, Vava'u))

As all JCC members witnessed from Mataika, however Ms. Laumanu made further explanation through her presentation. Community based garbage collection had been previously implemented on two communities before the project initiated, that become a base for the community based collection system. The garbage collection plan was developed by waste committee of each target community based on the community's capacity. By the year 2020, all communities in Vava'u are targeted and expected to be involved in the system. The system is going well, but there are still rooms for improvement such as row participation rate. Workers are mostly youth and men group. Advice is always given out throughout monitoring activity including the follow matters.

- safety in workers collection*

- building of platforms
- Wheelie bins have positive and negative impacts on the system depends on how each community will handle it.
- Mixing of waste without separation is still a problem in most communities

Financial records are also collected through the monitoring sheet. Refreshment for labors, fuels and hiring of trucks are the common expenditure, and the source of fund is varied from Kalapu fund or community fund. Radio program has been used since 2014 until today. Sometimes technical advice is given out on the air.

(3) [Output 3] Establishment of framework and system for long term solid waste management in Vava'u
(Ms. Mele Finau, MEIDECC, Vava'u)

Ms. Mele Finau explained that the school program was taken over from a JICA volunteer who left the program without anyone to handle the program. The basic concept of the Clean School program is followed by that of the community based collection. School's major challenge was the transportation of waste from the schools to the landfill. At the same time, we change the previous plan and make new plan to combine together the community with school. Since its already witness that community based collection take ownership so approaching their own school in their community will help to sustain the program. From this perception, the problems that faced with school in transferring of their wastes to Kalaka will be solved. This year plan for CSP that we will follow the community initiatives such as date of collection, building platforms and also put up their own recycling centre within their own school. Ongoing segregation awareness can still be enforce because as it believe that the only way to reach out messages to all people through schools awareness and training the kids. Composting System is one of the new idea will also proceed and establish to school is one way of motivation them to the program and teach the teachers and kids about the natural wastes and how it works naturally. The plan for FY 2015 is to request schools to build platforms as well that would be helpful for community to collect waste from schools. Waste segregation methods will be also introduced into schools, and composting is one of the future plans for school activities.

9. Status of Achievement (Project Design Matrix (PDM), Plan of Operations (PO))

(Ms. Yurie Sakai (J-PRISM Expert))

Ms. Yurie Sakai shared some regional initiatives. J-PRISM Solomon Islands counterparts visited Vava'u to learn about Vava'u SWM system and practices, and to take it to Solomon as a lesson learnt from Vava'u. In FY 2015, the Project will have two big events, namely terminal evaluation of the Project to assess the sustainability of the Project, and the final and last JCC meeting to be held in November or December 2015.

CEO of Health raised a concern on the community based collection system that is implemented based on the good enthusiasm of community. However, there are some risks since the system is totally voluntary. His concern was what kinds of support needed to sustain the collection system without the risk.

Hon. Governor explained that the sustainability of the system would depend on the outreach, and the support from all stakeholders who attended today's meeting. Coordination among stakeholders is also needed as solid foundation.

Mr. Tapu Panuve of WAL, expressed that there are lot of strength here in Vava'u, and participation of community is still amazing compared to WAL's own system in Tongatapu. He suggested that a funding mechanism should be established to sustain the operation as presented in Output 3.

CEO and Chairman Mr. Paula Ma'u supported the views of Mr. Tapu Panuve and mentioned that the sustainability of the project is linked with the budget issues. He proposed all the JCC members to have a special meeting during the 2nd week of next month to examine what should be done in the coming financial year.

Chairman also thanked the presenter and brought the meeting to the end of presentation part.

Discussion and Other topics

Comments

Hon. Minister of Health commented that the purpose of the project is well represented in attendance. He also mentioned that waste management is one of the important issues nowadays and worldwide. He recalled being part of the process of rehabilitation of the dumpsite. At that time the lifetime left for the dumpsite is about 5 years, but now we have witnessed that it can be live for another 20 years. He acknowledged the team work. There was confusion between MoH and MEIDECC on who to look after the landfill and waste management, but now both Ministries in collaboration with other stakeholders should share responsibility and work together. During the meeting we all have picked up a lot of idea. He reminded and encouraged everyone of taking responsibility and ownership of this project. He reminded the current outbreak of the dengue, its nationally impact on all not just a community, and his advise that community based garbage collection system can provide an opportunity to everyone to take and feel ownership of waste management. To Ms. Yurie Sakai and Mr. Faafetai, I hope this is not the end of our partnership. On our way we all experienced the nature of Vava'u and how great it is, but still we keep doing nothing in terms of tourism. We hope that the coordination, working together and partnership will uphold the beauty of Vava'u. Impact of improper management of solid waste will have an impact on the health and life of our people. Lastly, he appreciated everyone for inviting him.

Mr. Hiroshi Kikawa of JICA Tonga Office, commented that he is very very happy today of the Project, especially seeing a green landfill. He mentioned that the current landfill can be in the future happen to be one of a tourist destinations. For Output 1, he mentioned that it is very very successful and acknowledged the efforts of Mr. Manase of MoH Vava'u. For Output 2, as we seen today, he mentioned it was a very green community and we have achieved the outputs of the Project. Tonga is one of the top country out of eleven target pacific countries that J-PRISM is implement on. He continued by emphasizing the need to continue this kind of useful discussion and

from there we can move on to a new stage by continuing to make effort and sharing the happiness of our success.

Mr. Fa'afetai of J-PRISM Project Office commented that what observed here in Tonga is a different story, Tonga project has been the most successful in my J-PRISM experience and it is going all the right way. Encouragement and commitments have been given by CEOs and Minister, other important stakeholders. He also acknowledged the commitment from WAL, the current community based garbage collection system has developed a platform to move in to their system. He also stressed that we should not forget the commitment that has been laid out by the Governor and the team Vava'u. He acknowledged to everyone for working together and finished up his speech by emphasized... "with one hand, we can't do much but with many hands, we possibly do anything".

10. Closing Remarks

Dr. Siale Akauola as a co-chair acknowledged the Governor and our Waste Management team here in Vava'u, and also stressed that we have responsibility in keep our people safe and protect from the health hazards. Our purpose is to serve the people. Acknowledged the presence of the Minister and Lord Governor as they have ability for disperse and manage our resources. His last remarks "Be smart on approach our strength and use it wisely".

GEO of MEIDECC and Chairman thank for everything and assigned Director of Civil Engineer, MOI for Benediction and blessing of the Lunch.

Lunch

Meeting Closed at 03:00 pm

Appendix 1: List of Participants (23)

Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)

Mr. Paula Ma'u	Project Director Chief Executive Officer
Mr. Filimone Lapao'o	Counterparts of the Project Conservation Officer
Ms. Feauini Laumanu	Co-Project Manager of the Project Energy Planner
Ms. Mele Finau	Counterparts of the Project Environment Officer
Ms. Setaita Paea	Counterparts of the Project

Ministry of Health

Hon. Saia Piukala	Minister of Health
Dr. Siale 'Akauola	Deputy Project Director Chief Executive Officer
Mr. Manase Malua	Counterpart of the Project Health Inspector

Governor's Office

Hon. Lord Fulivai	Governor of Vava'u Vava'u Governor's Office
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Relevant Ministries and Organizations

Ms. Sinama Tupou	Ministry of Internal Affairs
Mr. Tapu Panuve	Chief Executive Officer Waste Authority Ltd
Mr. Filimone Tu'ikolovatu	Chief Executive Officer GIO Recycling
Ms. 'Asopesio Lakalaka	Ministry of Finance and National Planning
Mr. Samuela Fakatou	Ministry of Finance and National Planning Vava'u OIC and Sub-Treasurer
Ms. Lupe Mahe Latu	Ministry of Education and Training Vava'u OIC
Mr. Paula Tatafu	Ministry of Justice Chief Magistrate, Vava'u Gov't Representative
Mr. Pesalili Tuiano	Ministry of Infrastructure Director of Civil Engineer

JICA Expert for J-PRISM

Ms. Yurie Sakai	JICA Expert Kokusai Kogyo Co. Ltd
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J-PRISM Project Office Samoa

Mr. Faafetai Sagapolutele Assistant Chief Advisor

JICA Tonga Office

Mr. Hiroshi Kikawa Resident Representative

Mr. Shoichi Iwata Project Coordinator

Alfred Vaka Programme Officer

MEDIA

Mr. Pomana Tauape Radio FM Vava'u

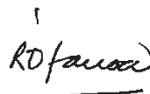
b. 第5回JCC議事録

**MINUTES OF MEETING
FOR
THE FIFTH JOINT COORDINATING COMMITTEE
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR
PROMOTING OF REGIONAL INITIATIVE ON
SOLID WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES (J-
PRISM)**

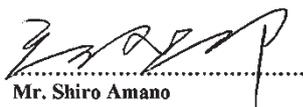
Neiafu and Tonga Beach Resort, Vava'u, November 23, 2015



.....
Mr. Paula Ma'u
Project Director
CEO
Ministry of Lands, Environment,
Climate Change & Natural Resources



.....
Dr. Raynold 'Ofanoa
Deputy Project Director
CEO
Ministry of Health



.....
Mr. Shiro Amano
Chief Advisor
Project Office of J-PRISM



.....
Mr. Hiroshi Kikawa
Resident Representative
Tonga Office
Japan International Cooperation Agency
(JICA)

Fifth Joint Coordinating Committee on the Project
23 November, 2015 - Governor's Office Conference Room and Tongan Beach Resort,
Vava'u

- 1. Meeting started at 09:30am**
- 2. Attendants list of the meeting are given in Appendix 1**
- 3. Briefing by Ms. Feauini Laumanu, MEIDECC Vava'u OIC**

At the Governor's Office Conference Room, Ms Feauini Laumanu, Master of Ceremony (hereinafter, MC), Vava'u OIC, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (hereinafter MEIDECC) called the meeting to begin by welcoming all the participants and those that arrived from Tongatapu and asked that the meeting be opened with a prayer by Mr Peni Lakai, Ministry of Education and Training, Vava'u Officer In Charge (hereinafter, OIC).

The MC continued by briefing the whole day program in details and asked the meeting to proceed to the site visit program.

- 4. Site visits**
 - (1) Kalaka rehabilitated landfill
 - (2) Community-based garbage collection in Pangaimotu community

The participants continued to the Tonga Beach Resort for the second part of the meeting.

- 5. Welcoming Address by Mr. Paula Ma'u, Minister of MEIDECC**

At the Tonga Beach Resort, Mr Paula Ma'u, Chief Executive (hereinafter, CEO) of MEIDECC delivered the welcoming speech. He welcomed everyone to the 5th year and/or final year of the project and hope that this meeting will be a productive meeting. Finally, he concluded by inviting the Chairperson of the meeting, Hon. Siaosi Sovaleni, Deputy Prime Ministry (hereinafter, DPM) and Minister of MEIDECC to lead the meeting in accordance with the agenda put forth.

The Chairperson, Hon. Siaosi Sovaleni, DPM and Minister of MEIDECC called the meeting to order and invited Hon. Saia Piukala, Minister of Health to conduct the opening address.

- 6. Opening Address by Hon. Saia Piukala, Minister of Health**

Hon. Dr Saia Piukala recalled that in 2011, he was first introduced to the project in his capacity as the OIC of the Ministry of Health (hereinafter, MoH) in Vava'u and has been a counterpart of the project ever since. He also added that at the time, it was merely impossible to rehabilitate the existing dumpsite, however, he is very impressed with the outcome of the project and continue to stress the importance of sustaining the project and the operation of Kalaka landfill. He raised the issue of whether the MoH should continue to look after the waste management in the Outer Islands or Waste Authority Ltd should

take over the responsibilities. He also showed expectations on the next phase of the J-PRISM Project by making use of lessons learned from Vava'u.

7. Review and Matters arising from 4th JCC Meeting by Ms Mafile'o Masi, MEIDECC

Ms Mafile'o Masi, from MEIDECC, presented the matters arising from the 4th JCC Meeting held in Neiafu, Vava'u, in February 2015. The current status and the progress of recommended activities are showed below.

8. MEIDECC

Matters arising from 4 th JCC Meeting	Current status
<p>[Output 1] Improvement of the existing solid waste disposal facility and operation in Vava'u</p> <ul style="list-style-type: none"> ① MoH to continue operation and maintenance works according to the manual. ② MoH to secure necessary budget for Kalaka operation and maintenance ③ MoH to allocate one more staff for Kalaka (recording of incoming waste, monitoring of recycling station, etc.) ④ MoH to strengthen communication between MoH head office and MoH Vava'u Office ⑤ MoH to examine the implementation system for water monitoring as the iWCM Project will end in Jul. 2015. ⑥ MoH to construct fence for the surroundings of Kalaka landfill to avoid scattering of disposed waste 	<ul style="list-style-type: none"> • MoH continues to conduct regular landfill maintenance works due to the cooperation of the Ministry of Infrastructure (hereinafter, MoI). • MoH increased the budget allocation for Kalaka landfill management from TOP\$4,000 (FY 2014/15) to TOP\$8,000 (FY 2015/16), that enable MoH to carry out soil covering works. • MoH has allocated the budget required to recruit one additional staff in the future. • MoH has allocated approximately TOP\$7,000 and constructed a fence along the landfill boundary with the aim of preventing of waste scattering in September 2015. • There is close collaboration between MOH, MEIDECC and Town Officers in a voluntary basis in conducting the community inspection as part of the solid waste management program.
<p>[Output 2] Improvement of solid waste collection service in Vava'u</p> <ul style="list-style-type: none"> ① MEIDECC/MoH to make efforts; <ul style="list-style-type: none"> - to increase participation rate - to improve the discharge manner - to improve the separation of waste/metals 	<ul style="list-style-type: none"> • MEIDECC allocated budget of TOP\$15,000 (FY 2015/16), that enables community garbage collections and awareness programme. • Vava'u's community-based garbage collection system has been identified as one of the best practices which were introduced by 5 years J-PRISM Project.
<p>[Output 3] Establishment of framework and system for long term solid waste management in Vava'u</p> <ul style="list-style-type: none"> ① In order to sustain all the project activities, MEIDECC/MoH to examine the sustainable funding mechanism, like budget allocation, CDL, environmental tax for tourism, etc. 	<ul style="list-style-type: none"> • MEIDECC/MoH continues to provide directions and advice and extra budget to meet the costs associated with the Project.

9. Progress of the Project Activities

- (1) [Output 1] Improvement of the existing solid waste disposal facility and operation in Vava'u (by Mr. Manase Malua, Health Inspector, MoH Vava'u)

The Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC thanked Mr Malua for the presentation and opened the floor to the members of the committee for further comments and/or questions.

Dr Raynold Ofanoa, Chief Medical Officer, MoH thanked Mr Malua for the presentation and added that the recruitment of additional staff is underway but found it difficult to attract applicants.

Mr Faafetai Sagapolutele, Assistant Chief Advisor, I-PRISM commented by suggesting that MoH should consider changing the post title in order to attract potential applicants.

The Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC mentioned that the comparison between the Waste Authority Ltd. (hereinafter WAL) system and Vava'u system would be useful. He also raised that the financial sources should be secured for sustainable landfill management.

Ms. Sonia of WAL explained the outlines of plastic imposed tax and environmental tax.

Ms. Yurie Sakai of JICA Expert mentioned that some options for financial sources are included in the Vava'u SWM Plan, including environmental tax. She also suggested that the necessary cost required for Kalaka landfill management needs to be amended according to the current landfill management system which is carried out in cooperation with Ministry of Infrastructure.

Ms. 'Ofa of Gio Recycling, explained that the purchase price of aluminum can has been decreased from 60 c per kg to 40 c per kg while steel has no value.

The Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC thanked the members of the committee for the positive feedback and invited the next presenter to continue with the presentation.

(2) [Output 2] Improvement of solid waste collection service in Vava'u (by Ms. Mele Finau, MEIDECC, Vava'u)

The Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC thanked Ms Finau for the presentation and invited comments and/or questions from the members of the committee.

Mr Shoichi Iwata, Project Coordinator, JICA Tonga Office commended on the achievements especially with the community collection system and highlighted the importance of ensuring that the work achieved is sustained in the future.

Ms Mafile'o Masi, Senior Environmentalist, MEIDECC commended that the budget allocation required to continue the project activities is estimated at TOP\$13,000 per annum. A small portion compared to the good work achieved at the end.

The Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC commented that MEIDECC could increase their budget allocation to assist the Project to TOP\$20,000 to ensure Project sustainability.

Mr Malakai Lomu, CEO of WAL congratulated the Project and how he's impressed with the Project achievements especially with the community collection system and it is something that Tongatapu can definitely learn from.

Ms 'Ofa Tu'ikolovatu, Managing Director, GIO Recycling congratulated the Project for doing a good job with community collection and the awareness programme and how GIO Recycling works together with the Project Team from the beginning to promote waste minimization and will continue to do so in the future.

The Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC thanked the members of the committee for the positive feedback and invited the next presenter to continue with the presentation.

(3) [Output 3] Establishment of framework and system for long term solid waste management in Vava'u (by Ms. Feauini Laumanu, Co-Project Manager, MEIDECC, Vava'u)

The Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC thanked Ms Laumanu for the presentation and invited comments and/or questions from members of the committee.

With no further comments from the members of the committee, the Chairperson, Hon. Siaso Sovaleni, DPM and Minister of MEIDECC highlighted the Vava'u Development Committee should be included for implementation of Vava'u Solid Waste Management Plan and the importance of strong commitment from Government, relevant stakeholders and private sectors in ensuring that the Project activities are sustained in the future.

10. Summary of the overall project and Way forward (by Ms. Yurie Sakai, J-PRISM Expert)

Ms Yurie Sakai, J-PRISM Expert, presented 5 years history of J-PRISM Tonga, (1) results of Terminal Evaluation, (2) Recommendations for the remaining period by the Terminal Evaluation Team and the Progress of recommended activities and (3) Successful and Inhibiting Factors and Recommendations for way forward.

(1) Degree of achievement and factors of successful/unsuccessful results

Terminal Evaluation Results of J-PRISM Tonga

Goals	Indicators	Result	Evaluation
Overall goal (in 2019)	1. Kalaka landfill has been properly operated 2. All households in Vava'u have access to garbage collection system	not evaluated yet (to be evaluated in 2019)	
Project Purpose	1. 6 of experts (Trainers) listed in the	1. 5 trainers	Mostly

		SPREP inventory 2. More than 50% of target communities operate and maintain the garbage collection system with a minimum support from the government	2. 80%	achieved
Output	Output 1	1-1 The existing dumpsite is rehabilitated 1-2 Rehabilitated landfill is operated in accordance with operation manuals	1-1 Fully rehabilitated in Feb. 2013. 1-2 It has not been fully operated in accordance with operation manuals	Mostly achieved
	Output 2	2-1 Collection service is provided according to the schedule (plan) 2-2 More than 80% of total households in Vava'u have access to garbage collection system	2-1 Community-based garbage collection system has been implemented as planned 2-2 Approx. 50% of all households in Vava'u have access to the system	Mostly achieved
	Output 3	3-1 Solid Waste Management (SWM) Plan 3-2 Meeting or workshop for Vava'u SWM Committee is held annually at least	3-1 The Plan was finalized in Jul. 2015, and will be endorsed at the 5 th JCC. 3-2 The workshops were held almost every year.	Mostly achieved

(2) Recommendations for the remaining period by the Terminal Evaluation Team and the Progress of recommended activities

At the end of the terminal evaluation, counterpart organizations were recommended to do some specific works/activities. The progress of recommended activities by each organization was presented during the JCC meeting.

Progress of recommended activities by each organization

Organization	Recommendations	Progress and Implementation Schedule
MEIDECC	<ul style="list-style-type: none"> To finalize the Solid Waste Management Plan in time prior to the JCC in November 2015. To endorse the Plan at the JCC meeting To put the Plan into action as scheduled by the concerned agencies. To continue securing a funding for garbage collection system, as well as CSP. To examine the funding mechanism, such as imposing the environmental tax, etc. in order to implement solid waste management plan. 	<ul style="list-style-type: none"> The continuous delay in the endorsement of the Vava'u Solid Waste Management Plan has caused concerned and it was recommended by the JCC that the Plan should be submitted to the Committee to be endorsed before the end of the Project early 2016.
MoH	<ul style="list-style-type: none"> The C/P person in charge of Kalaka Landfill should follow up regularly to inspect the current situation and to maintain the site as well report to the main office. To allocate additional staff to ensure the proper operation and maintenance of Kalaka landfill. To continue securing necessary budget for Kalaka landfill and solid waste management in Vava'u. 	<ul style="list-style-type: none"> MoH has allocated a replacement for Mr Manase Malua, Public Health Inspector, MoH, Vava'u. MoH is currently working on the recruitment of additional staff to oversee and manage the Landfill. The delay of the recruitment has caused problems especially with the proper management of the Landfill.
MEIDECC/MoH	<ul style="list-style-type: none"> It is identified that the community-based system is well set up through Town officers, Youth leaders, as well village committees. With these outstanding models, the result can be utilized in other outer islands as model to be followed. 	<ul style="list-style-type: none"> MEIDECC is working together with WAL to adopt the community-based system especially in the rural communities on the mainland. MoH has indicated that the same principle could apply to other Outer Islands.

(4) Successful and inhibiting factors and way forward

Factors of successful/unsuccessful results

	Successful factors	Inhibiting factors*	Countermeasures to be considered

Project Purpose	<p>1) The Project provided many opportunities to CPs to become trainers and/or resource persons for trainings/workshops held in Vava'u during the Project period.</p> <p>2) J-PRISM Project Office provided opportunities to Vava'u CP to attend trainer's trainings.</p>	<p>1) Turnover of counterparts and leaders of communities is one of the reasons why the indicator was not achieved.</p>	
Output 1	<p>1) Strong ownership and capacity development of MoH CP</p> <p>2) Appropriate landfill management methods introduced</p> <p>3) Strong commitment of MoH main office</p> <p>4) Cooperative relationship with stakeholders</p> <p>5) Synergy effects made with other project activity</p>	<p>1) Shortage of staff at the landfill site might have contributed to insufficient monitoring of the site</p>	<p>1) Increase of the number of the Health Inspectors and share the works, or allocation of additional staff for Kalaka</p>
Output 2	<p>1) Appropriate system was introduced.</p> <p>2) Implementation process to ensure the system to be taken root.</p> <p>3) Efforts to foster the ownership/initiative of community</p> <p>4) Strong ownership of MEIDECC/MoH CP</p> <p>5) Strong commitment of MEIDECC main office.</p> <p>6) Synergy effects made with other project activity.</p>	<p>1) Difficulty to apply the system into the town area</p> <p>2) Difficulty to force communities to implement Hiko VEVE</p> <p>3) Lack of commitment of Town Officers and VEVE Committee</p>	<p>1) Outsourcing to private company can be one of the options for town area.</p> <p>3) It is preferable that Governor's Office (through MIA) could follow up District/Town Officers.</p>
Output 3	<p>1) Efforts for building consensus among stakeholders through Vava'u Solid Waste Management Committee Workshop and JCC meetings</p> <p>2) Establishment of a cooperative framework with relevant organizations.</p>	<p>1) Delay of finalization of Vava'u SWM Plan</p>	
Common	<p>Communication between main offices and offices in Vava'u</p>		<p>1) Need to review and amend current Waste Management Act</p> <p>2) It is preferable to establish a "National Task Force" to oversee waste management in the whole country incl. Vava'u Islands.</p>

10. Comments

1) Mr. Hiroshi Kikawa (Resident Representative of JICA Tonga Office)

Mr Hiroshi Kikawa, Resident Representative of JICA Tonga Office, highlighted the importance for the Project counterparts to follow through the operational manual produce by the Project. Mr Kikawa acknowledged his appreciation towards the MOH for increasing their budget allocation for the operation of Kalaka landfill. He also acknowledged the tremendous support as seen by the increasing numbers of stakeholders involved in the Project

over the years. Last but not the least, Mr Kikawa acknowledged his gratitude for the positive outcome of the Project and pointed out that local counterparts can now be local experts in the field of waste management.

2) Mr. Faafetai Sagapolutele (J-PRISM Assistant Chief Advisor)

Mr Faafetai Sagapolutele, J-PRISM Assistant Chief Advisor, congratulated Team Tonga as one of the top best team in the Pacific region in all J-PRISM Projects. Mr Sagapolutele highlighted "Teamwork" of the Tonga Team and the differences shown from the starting of the Project in 2011 to 2015, where he witnessed huge improvements to waste management in Vava'u. He also acknowledged the collaborations and contributions made by the Project counterparts.

11. Closing remarks by Hon. Siasoi Sovaleni, DPM and Minister of MEIDECC

Hon. Siasoi Sovaleni, DPM and Minister of MEIDECC acknowledged the huge achievements of the Project with limited fund and resources. Hon. Sovaleni noted that the lessons learned from the Vava'u Project would be a foundation for future waste management in Tonga. He was also impressed with the community ownership initiatives as well as the commitment from JICA, MOH, MEIDECC and other relevant stakeholders. Lastly, Hon. Sovaleni emphasized the importance of sustaining the Project through continuous collaboration and partnership with other agencies and private sector.

Meeting Closed at 02:30 pm

Appendix 1: List of Participants (25)

Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)

Hon. Siaosi Sovaleni	Minister of MEIDECC
Mr. Paula Ma'u	Project Director Chief Executive Officer
Ms. Mafile'o Masi	Counterpart of the Project Senior Environmentalist
Ms. Feauini Laumanu Energy Planner	Co-Project Manager of the Project
Ms. Mele Finau	Counterpart of the Project Environment Officer
Ms. 'Anaseini Lataimaumi	Administration Assistant
Ms. Chie Hattori	JICA Volunteer for MEIDECC

Ministry of Health

Hon. Saia Piukala	Minister of Health
Dr. Raynold 'Ofanoa	Counterpart of the Project Chief Medical Officer
Ms Sela Fa'u	Counterpart of the Project Senior Health Public Inspector
Mr. Manase Malua	Counterpart of the Project Health Inspector

Governor's Office

Mr. Leinolo Lakai	Senior Assistance Secretary Vava'u Governor's Office
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Relevant Ministries and Organizations

Mr. Malakai Lomu Sika	Chief Executive Officer Waste Authority Ltd
Ms. Sonia Chirgwin	Waste Authority Ltd
Ms. 'Ofa Tu'ikolovatu	Chief Executive Officer GIO Recycling
Mr. Nick Lavemaau	Ministry of Finance
Mr. Koko Bruno	Ministry of Tourism Vava'u OIC
Mr. Peni Lakai	Ministry of Education and Training Vava'u OIC
Mr. Pesalili Tuiano	Ministry of Infrastructure Acting CEO

Ms. Sapate Ministry of Infrastructure
 Vava'u OIC

JICA Expert for J-PRISM

Ms. Yurie Sakai JICA Expert
 Kokusai Kogyo Co. Ltd

J-PRISM Project Office Samoa

Mr. Faafetai Sagapolutele Assistant Chief Advisor

JICA Tonga Office

Mr. Hiroshi Kikawa Resident Representative

Mr. Shoichi Iwata Project Coordinator

Alfred Vaka Programme Officer

4 キャパシティ・アセスメント結果

4.1 フィジー国

1. Objective

The objective of J-PRISM is: “Human and institutional capacity base for sustainable solid waste management in the Pacific Region is strengthened through implementation of the Pacific Regional Solid Waste Management Strategy (2010-2015)”. Therefore, the aim of the Capacity Assessment (CA) is to ensure that the individual and organisational capacities of the various Project counterparts are accurately assessed at the outset of the Project, to accurately ascertain progress in achieving this stated objective.

Individual and organizational capacity assessments were conducted two times during Project period, as shown in the table below.

Table 1: Timing and assessment period of the first and second capacity assessments

	Timing of CA	Period to be assessed
1st assessment	July 2014	July 2011 – July 2014
2nd assessment	July 2015	Aug 2014 – Jun 2015

2. Preparation of Capacity Assessment Questionnaire Sheets

Two capacity assessment questionnaire sheets were formulated, one for Department of Environment (DoE) counterparts and one for local council counterparts, as each has different capacity development objectives under the Project. The questions were based on expected capacities to be developed through Project activities as outlined in the project design matrix (PDM) and plans of operation (POs) of the various Project counterpart organisations.

The questionnaire sheets were developed in cooperation with DoE West counterparts (who are responsible for monitoring of council 3R activities in the Western Division) based on the previous experience of both sides in conducting capacity assessments and in reference to various other similar JICA project capacity assessments. Furthermore, extensive consultation was held with the various council counterparts in the course of Project activities, as well as formally in the bimonthly J-PRISM meeting.

3. Implementation of Capacity Assessment

3.1 Self-assessment

The interviews consisted of both individual and group interviews to ascertain individual and organisational capacities. Effort was made to ensure that all members of each counterpart who are engaging 3R activities were present in the group discussion interviews so as to obtain consensus amongst the entire team. Management level counterparts—such as the acting director of DoE, the CEOs of STC, RTC and BTC (incl. C/Ps) and special administrators of NTC and RTC—were also interviewed to gain a better understanding of the organisation’s capacity for implementation of 3R activities.

The individual interviews and group discussions each took a minimum of thirty minutes respectively, with some taking considerably longer as the counterparts were in no way restricted as to how much they wished to share regarding their experiences and thoughts on

each capacity assessment question.

The following table lists all of the counterparts interviewed in either the first or second, or both, capacity assessments.

Table 2: List of Target Counterparts for the Capacity Assessments

No.	City	Institution	Name	Position	1 st CA	2 nd CA
		DoE				
1	Suva	DoE WPU	Ms Laisani Lewanavanua	Senior Environment Officer	○	○
2	Suva	DoE WPU	Ms Mere Leba	Environment Officer	○	○
3	Suva	DoE WPU	Ms Laisa Matagi	Technical Officer		○
4	Suva	DoE WPU	Ms Mere Komailevuka	Environment Officer	○	
5	Lautoka	DoE West	Ms Senivasa Waqairamasi	Senior Environment Officer	○	○
6	Lautoka	DoE West	Ms Kelera Tokalau	Environment Officer	○	○
7	Lautoka	DoE West	Mr Sakenasa Namisi	Technical Assistant	○	○
		COUNCILS				
8	Lautoka	LCC	Mr Gyneshwar Rao	Director (Department of Health)	○	○
9	Lautoka	LCC	Mr Rouhit Singh	Manager (Department of Health)	○	○
10	Lautoka	LCC	Mr Shalend P Singh	Senior Health Inspector (Department of Health)	○	○
11	Lautoka	LCC	Mr Wally Pauu	Health Inspector (Department of Health)	○	○
12	Lautoka	LCC	Mr Mithun Prasad	Health Inspector (Department of Health)	○	○
13	Nadi	NTC	Mr Rajeshwar Raj	Health Inspector	○	○
14	Nadi	NTC	Ms Nafiza Ali	Health Inspector	○	○
15	Ba	BTC	Mr Dip Narayan	Chief Executive Officer (CEO)/Senior Health Inspector	○	○
16	Ba	BTC	Ms Ronika Mishra	Health Inspector		○
17	Ba	BTC	Mr Hiren Pillay	Head Gardener/Landscaper		○
18	Sigatoka	STC	Mr Tulsi Ram	Chief Executive Officer (CEO)/Senior Health Inspector (1st CA: CEO of TTC)		○
19	Sigatoka	STC	Ms Eseta Leawere	Senior Health Inspector	○	
20	Sigatoka	STC	Mr Ashnil Sharma	Health Inspector	○	○
21	Tavua	TTC	Ms Temalesi Henfiro	Chief Executive Officer (CEO)		○
22	Rakiraki	RTC	Mr Rakesh Chandra	Chief Executive Officer (CEO)/Senior Health Inspector		○
23	Rakiraki	RTC	Ms Emi Balemaiwai	Project Officer	○	
24	Suva	SCC	Mr Naresh Narayan	Senior Health Inspector	○	○
25	Suva	SCC	Mr Robert Randolf	Senior Assistant Health Inspector	○	○

3.2 Expert assessment

It was decided that in addition to the self-assessments by counterparts, the expert team members would also make an assessment of each counterpart and organisation's capacity with regard to each of the skills needed to implement the respective project activities. This was deemed necessary because, while every effort was made in the interviews to mitigate any individual bias in the self-assessments, various factors not least the various characters of the counterparts tended to limit the extent to which comparisons could be extracted from the data.

The J-PRISM experts, having had several years first-hand experience working closely with the counterparts in implementing the Project 3R activities, were considered suitable for making an objective evaluation of C/P capacity. Where the expert has had minimal interaction with the counterpart organisation, the expert was omitted from expert assessment (see table below).

Due to the fact that the experts had varying degrees of interaction with each of the counterparts, it was considered appropriate to use an average of the experts' scores to analyse each capacity.

Table 3: Counterpart organisations assessed by each expert

J-PRISM Expert	Counterpart organizations assessed by each expert								
	DoE WPU	DoE West	LCC	NTC	STC	BTC	RTC	TTC	SCC
Ms Yurie Sakai (Team leader/Waste Management F)	○	○	○	○	○				
Ms Keiko Kani (Waste Management B)	○					○	○	○	○
Mr James McLean (Capacity Assessment/Monitoring)	○	○	○	○	○	○	○	○	○

Moreover, to accurately assess the counterpart capacities certain counterparts (for whom the CA expert had insufficient recent first-hand knowledge of their 3R implementation capacity), the CA expert accompanied the counterparts in the field, ideally to observe them conducting their regular 3R activities. Among the numerous skills assessed at this time, an important skill was how well the counterpart explained and interacted with the various stakeholders while going about their tasks. The following photos are included to give an idea of how the 2nd Capacity Assessment was actually implemented.

Figure 1: Photos of the 2nd CA implementation



Group discussion at LCC

TTC C/Ps and CA expert visiting a CSP school

Robert (right) of SCC conducting compost training for JOCV volunteers from Lami and Nasinu

3.3 Feedback

J-PRISM 3R activities are being implemented based around a *plan-do-check-act* strategy. This Capacity Assessment is a valuable tool in accomplishing the *check* phase of this cycle. The interviews, group discussions and report are effective for checking on the progress of Project 3R activities, however, to effectively tie this evaluation process into concrete action one further step was deemed necessary. The CA expert revisited all of the counterpart councils and DoE offices to discuss the findings of the CA report relevant to their organisation to gain their feedback. The results of this CA report for each organisation were sent to all counterparts in advance and then discussed in person using colour (to clearly show radar chart results) printouts of the applicable results. The aim of these discussions was to positively reinforce the good practices and constructively discuss ways of improving those aspects identified by the C/Ps as being weaknesses. That is, action based on positive reflection.

Capacities assessed

Table 4 below outlines the main categories of interview questions according to Project activity.

All of these questions directly relate to capacities that are expected to be developed under J-PRISM activities. Activities 1.1 through to 2.3 for both DoE and councils are outlined in the project design matrix, while B.1 and B.2 relate to organisational capacities that are expected to be developed through the course of the Project. As mentioned previously, questions differed between councils and DoE due to differences in anticipated capacities to be developed in the Project and in the organisational objectives and nature of each.

Table 4: Capacities assessed in DoE and council interviews according to activity number

Activity	Expected capacity to be obtained through project activity
Individual:	
Activity 1.1	To prepare a national framework to promote 3Rs
Activity 1.2	To conduct training for 3R action
Activity 1.3	To implement 3R activities based on action plans
Activity 1.4	To monitor the progress of 3R implementation
Activity 2.1	To develop training programs on 3Rs for other councils in Fiji/Pacific Island countries
Activity 2.2	To conduct training programs
Activity 2.3	To improve the training programs
Organisational:	
B.1	To have the capacity to implementation the National 3R Strategy
B.2	To conduct training program(s) on 3R.

4. Results

As a general indicator of overall organisational capacity of each of the counterpart organisations, the overall average capacity scores (average of combined individual and organisational question responses of all counterparts at each organization) prove to be accurate to a certain extent.

Moreover, the fact that the expert evaluation of all of the counterpart organisations, besides STC (which remained the same on 4.5; possibly because the main C/P left STC just after the 2nd CA interviews, in late July 2015), have increased (from 1st to 2nd CAs), is a reflection of the positive progress made all around.

Table 5: Average expert and self-assessment scores of DoE counterpart organisations in the first and second capacity assessments

Organisation	Rank				Overall Average Capacity Score (out of 5.0)			
	1 st CA		2 nd CA		1 st CA		2 nd CA	
	Self	Expert	Self	Expert	Self	Expert	Self	Expert
DoE West	1	1	1	1	4.1	3.1	4.6	3.6
DoE WPU	2	2	2	2	3.6	3.0	4.0	3.3

Table 6: Average expert and self-assessment scores of each counterpart council in the first and second capacity assessments

Organisation	Rank				Overall Average Capacity Score (out of 5.0)			
	1 st CA		2 nd CA		1 st CA		2 nd CA	
	Self	Expert	Self	Expert	Self	Expert	Self	Expert
Nadi TC	1	1	1	1	4.9	4.5	5.0	4.6
Lautoka CC	2	2	2	3	4.6	4.0	4.9	4.2

Ba TC	6	5	2	4	3.5	3.2	4.9	3.6
Suva CC	4	3	4	2	4.0	3.8	4.7	4.5
Tavua TC	5	6	4	7	3.6	2.9	4.7	3.1
Sigatoka TC	3	4	6	5	4.5	3.5	4.5	3.5
Rakiraki TC	7	7	7	6	3.3	2.5	4.2	3.2

4.1 Rankings

4.1.1 Department of Environment

In the above Table 2, the Waste and Pollution Unit of the Department of Environment (DoE WPU) is ranked below DoE West, in both the self-assessed and expert rankings (while the expert scores for the two DoE offices are much closer than the self-assessed average scores). DoE WPU is a team specifically dedicated waste and pollution issues and policy development, and planning and budget allocation for solid waste management including the 3Rs at the national level. DoE WPU C/Ps, unlike their council counterparts, have not engaged in 3R activities in the field, therefore their responses in regards to understanding level for implementation of 3R activities are relatively low. Also, DoE WPU seems to know their limitations of organizational capacity and to have been quite humble in their replies to the interview questions. Meanwhile, DoE West has had more opportunity to get to know the progress and issues of 3R activities which have been implemented by councils through the J-PRISM meetings (previously monthly or bi-monthly; quarterly as of 2nd CA) and through its monitoring activities of council 3R activities. The above reasons can all be factors influencing the capacity assessment results.

4.1.2 Councils

The self-assessment rankings of the councils are generally considered to be quite accurate; and are mostly in line with those of the experts. A general trend apparent from these rankings is the general high capacity of the relatively larger councils, Nadi, Suva and Lautoka. Meanwhile, the smaller councils with fewer human, budgetary and physical resources are generally ranked lower, both self and expert.

There is some deviation apparent between self-assessment and expert rankings and averages. Suva City Council (SCC) ranks itself below the experts for both 1st and 2nd CAs. On the other hand, Tavua Town Council ranks itself much higher than the experts in the 2nd CA. This high self-appraisal—while having made some significant progress—is not regarded as entirely accurate in the opinion of the experts.

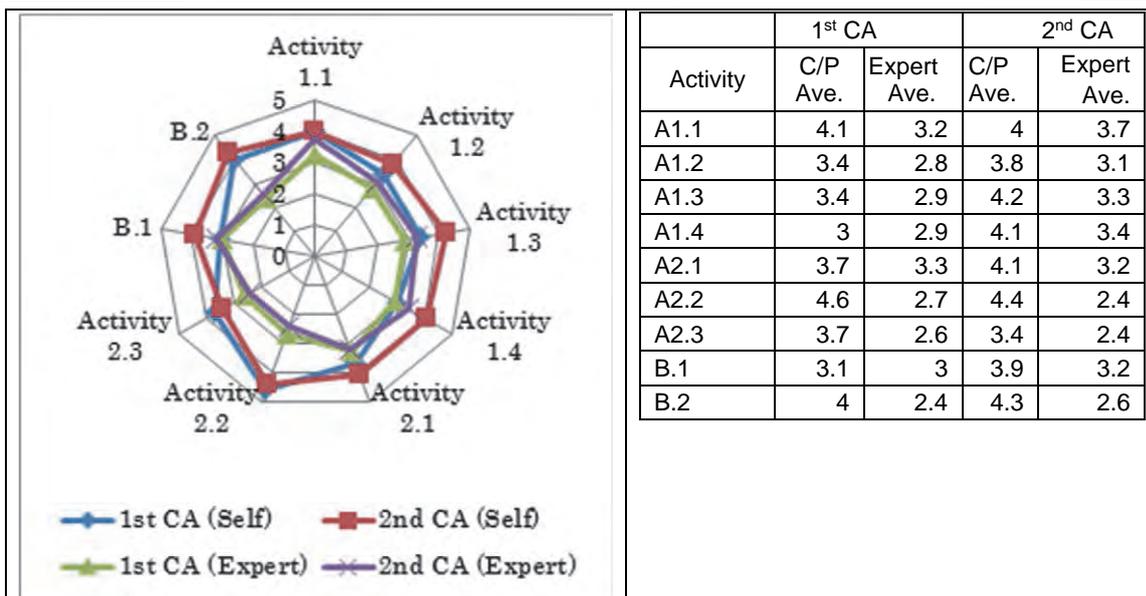
4.2 Radar charts of score averages

4.2.1 Department of Environment (WPU, West)

The following radar charts and tables show the averages of C/P and expert responses in the first and second capacity assessments for the Waste and Pollution Unit and Western Division office of the Department of Environment.

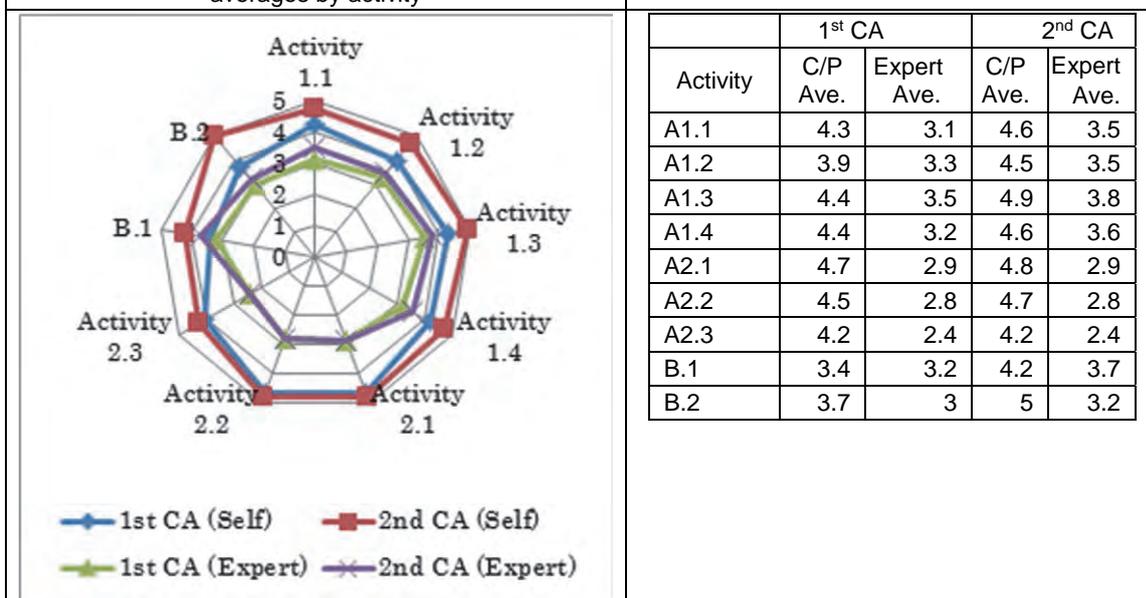
Table 7: Radar charts and tables depicting C/P and expert response averages in 1st and 2nd CAs for DoE WPU and DoE West

Radar chart of DoE WPU's assessment (self and expert) averages by activity	Table of DoE WPU's score averages by activity
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Radar chart of DoE Wests assessment (self and expert) averages by activity

Table of DoE West's score averages by activity



Strengths

Overall, similar trends are found in the 1st and 2nd CAs. In the last year WPU has implemented national subsidy programs for home composting and clean school programs (although individual responses show the C/P still (humbly) regard themselves as having room to improve in this regard (see weak points)). Meanwhile, DoE West has made significant progress in facilitating council cooperation and communication through regularly holding J-PRISM (quarterly) meetings. This combined with the councils increased submission of monitoring sheets has allowed both DoE teams to gain a greater understanding of council 3R activities. Therefore, both WPU and DoE West can be considered to have made praiseworthy progress over the last year.

DoE WPU ranked themselves high overall, with at least one of the team (particularly Ms Laisani Lewanavanua) having strength in all of the capacities besides those weak points mentioned below, in a similar trend to that in the 1st CA. The highest scores (all of which at least two of the three C/Ps ranked five) in the following capacities to:

- identify SWM issues (Activity 1.1, Q4)—same as 1st CA; experts generally agreed
- organise regular meetings for monitoring 3R progress (A1.4, Q1)—increased since 1st CA; experts generally agreed
- identify resource persons for conducting 3R training (A2.1, Q6)—same as 1st CA; experts generally agreed
- explain 3R activities to trainees (A2.2, Q1)—increased since 1st CA; experts assessed lower

While organizationally DoE WPU rated its capacity high to:

- recognise the need for a national 3R strategy (B1, Q1)—same as 1st CA; experts generally agreed
- have a clearly assigned unit and responsibilities for 3R promotion (B1, Q2/3)—same as 1st CA; experts generally agreed
- have a plan for 3R implementation (B1, Q4)—increased (from 3 to 5) since 1st CA; experts assessed lower (3)

There were two instances (both in the 2nd CA) whereby the experts assessed the WPU counterparts, particularly Ms Lewanavanua, higher than the self-assessments (which was very uncommon throughout both CAs). These were:

- capacity to set goals and indicators (A1.1, Q12)
- knowledge of status of councils' 3R activities

Meanwhile, **DoE West** ranked themselves very highly in every response besides those weaknesses mentioned below. DoE West has shown a marked improvement since the first capacity assessment. This is both apparent in the questionnaire responses (both self and expert) as well as the verbal responses in both DoE West's interview as well as those of numerous council counterparts (many of whom praised DoE West's proactive stance towards organising JPRISM meetings and training sessions (i.e. April 2015 CSP and home compost training), and facilitating communication and cooperation at these events). In fact, the experts assessed this aspect (A1.4, Q1, ability to organise meetings regularly) higher than the C/P. Moreover, this observed proactive attitude change shows through in an overall increase in response values, but particularly in *B.2 Organisational capacity for conducting training* (average increased from 3.7 to 5). However, as was the case in the first CA, DoE West has a tendency to rate themselves higher compared to some other counterpart organisations.

Weaknesses and challenges

Overall, the weakest ranked area for both DoE offices, lack of human and physical resource, stands out in both the 1st and 2nd CAs (self and expert assessed). The number of low scoring expert assessments was much less in the 2nd CA. There was greatest divergence between self and expert assessment (generally lower on the part of experts) for questions in activities 2.1, 2.2 and 2.3 for DoE West, and 2.2 in particular for WPU. DoE has not been active in regards to Output 2—developing, conducting and evaluating training—in the latter half of the Project (the last two years), making it difficult to assess such aspects. Otherwise, the areas of expert and self-assessed weakness were generally the same.

There were several questions that all three **DoE WPU** counterparts assessed lowly, namely, capacity to:

- develop national framework/programs to promote council 3R activities (A1.1, Q11)—this is regarded as rather humble by the experts based on the progress made implementing the nationwide home composting and CSP subsidy programs; however, in the interview Ms Lewanavanua expressed frustration at how long the new National Waste Management Strategy is taking to develop, which may be the main reason behind this low self-appraisal
- evaluate and revise 3R training programs (A2.3, Q1/2)—same as 1st CA and expert assessment

Meanwhile, DoE WPU and the experts assessed organizational capacity low in regards to:

- human, budgetary and material resources for 3R implementation (B1, Q 5-7)—same as 1st CA

DoE West's responses are remarkable for their lack of low scoring responses in the 2nd CA. Only two organisational capacities, human resources and establishment of a 3R monitoring system (ranked three), remained low from the previous CA, while all of the other weaknesses, such as lack of understanding of council 3R activities, had improved. There were some moderately low responses where all three counterparts scored four, namely capacity to:

- make an implementation schedule for 3R activities (A1.1, Q14)—same score by experts, but not low respectively; decrease by one C/P since 1st CA
- evaluate 3R training programs (A2.3, Q.1)— same as 1st CA; experts agreed

And organizationally:

- 3Rs assigned to a particular department (B1, Q2)—same score by experts, but not low respectively; no change since 1st CA
- sufficient budget and material resources (B1, Q6/7)—Q6 same in 1st CA and by experts; Q7 increased from 1 to 4 and 2 to 3 (self/experts respectively)
- recording and reporting system of 3R activities to top management (B1, Q9)—both increased, but greater increase by experts

The expert assessments for individual capacities were generally the same or lower as the self-assessment. Despite this, most areas were assessed by the experts as showing some improvement over the 1st CA results.

Feedback from DoE WPU – Ms Laisani Lewanavanua (Senior Environment Officer)

- Need more experience holding regional training – only once so far; very limited involvement of regional training conducted by J-PRISM compared to council counterparts such as LCC/NTC
- Staff situation major issue; vacant posts at the Department of Environment; as for Waste Management and Pollution Control Unit there is a need for dedicated officers for each SWM specialty, i.e. 3R officer, landfill officer; under the consultancy for drafting a 10-year national integrated waste management strategy, DoE, through the consultant will conduct a gap analysis of the unit to ascertain staffing needs.
- Need to define strategic way forward (policy) for integrated waste management in Fiji; vital for making decision such as is Nadi's request for development of new landfill, or should there be a regional landfill for the whole Western Division, etc. Several WPU/DoE initiatives expected to improve this situation (that are currently under tender): Consultant to devise national waste management strategy (terms of reference includes gap analysis of WPU); Feasibility study for waste management authority; Feasibility study for national waste management system master plan; Transfer station design

- Rural areas – challenge to enforce litter decree; need to collaborate with Ministry of Health
- Monitoring vital; J-PRISM template very useful, applicable to all SWM issues not only 3R progress; need to ensure all councils submit regularly

Feedback from DoE West – Ms Senivasa Waqairamasi (Senior Environment Officer)

Strengths:

- Coordination and networking capacity of DoE with (council, etc.) counterparts; organising of platforms for dialogue such as regular J-PRISM meetings and CSP/home compost subsidy program launching training
- Ability to work under pressure and arrange logistics (i.e. of regular J-PRISM meetings)
- Personal touch and strong relationship with counterparts enables stronger collaboration and mutual progress

Weaknesses & Challenges:

- Need to strengthen monitoring capability and prioritization of work
- Facilitating timely report submission; e.g. Monitoring Template from counterparts
- Lack of dedicated SWM/3R officer/desk officer for the project based at DoE and DoE West (staff have to balance current responsibilities with project work)

Solutions:

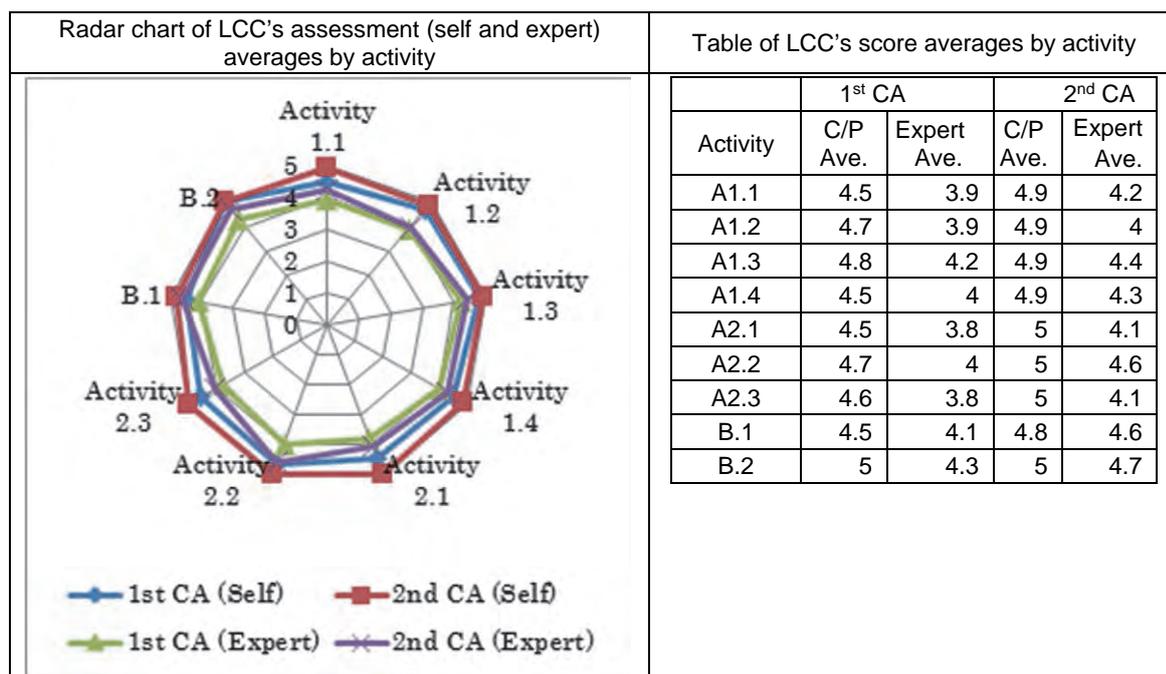
- Find time between environmental impact assessment inspections to visit municipal councils to monitor their 3R/J-PRISM activities
- Encouraging councils to submit their monitoring reports and so on when visiting them in person (not just on phone/email)
- Strengthening of team work and greater effort towards achieving SWM/3R goals

4.2.2 Councils

4.2.2.1 Lautoka City Council (LCC)

The following radar chart and table show the averages of C/P and expert responses in the first and second capacity assessments for Lautoka City Council.

Table 8: Radar chart and table depicting C/P and expert response averages in 1st and 2nd CAs for LCC



Strengths

LCC shows a clear high—in both the first and second CAs—in B.2 Organizational capacity for conducting of training programs on 3Rs (only Q3, critical analysis of the training programs was assessed lower by the experts). The averages of individual scores for the developing, conducting and evaluating of 3R training programs did not show up as particularly high in the first CA. This is mostly down to the fact that this is the average of all four counterparts, some of whom lacked experience in such training aspects at this stage. This changed dramatically by the second CA with maximum scores, five out of five, for all three, namely activities 2.1, 2.2 and 2.3 (expert assessments were generally in agreement, mostly for 2.2, conducting of training). Such results clearly reflect the extensive experience the LCC team has in training numerous stakeholders including J-PRISM counterparts from other pacific countries, council staffs from other councils and school students.

As can be seen from the tables and radar charts of expert and self-assessed responses below, by the stage of the second CA, the LCC capacities for all sections was very high (besides the training sections detailed above, all individual sections averaged 4.9).

Weaknesses and challenges

In contrast to the first CA—where LCC had relatively lower scores in individual activities: 1.1, developing an action plan for implementation of national 3R strategy, 2.1, developing 3R training programs; and organisational: B.1, capacity to implement the national 3R strategy—the only lower average response (4.8, still very high comparatively) remained B.1. Specifically this equates to a self-assessed lack of resources, both human (question 5) and material (question 7). The experts’ assessments were generally in agreement. LCC, as seen from the smaller councils, may seem to be organisationally much stronger, however the size of its municipality and the extent of tasks besides 3Rs demanded of LCC health department, are

reasons for the expert and self-assessed (relative; score of four) weakness of organisational capacity.

While the expert average for Activity 1.2 is ranked the lowest in Table 8 above, this is down to evaluation of training effectiveness (Q3), not actual training implementation ability. This was the only capacity that all four LCC C/Ps were rated lowly by the experts. The reason for this low evaluation is considered to be because the Project could not provide many opportunities for training evaluation.

Feedback from Lautoka City Council – All LCC counterparts involved in J-PRISM

Strengths:

- Sustainability is key; not over-relying on any one staff member; main expert is supported, task sharing to ensure dissemination of knowledge and experience throughout team
- Determination, commitment, perseverance and positive and proactive stance of council ensure success (even if takes time)
- Strong commitment of council to invest resources (human and physical and budget) to achieve SWM and 3R goals
- Overseas experience/knowledge of team members

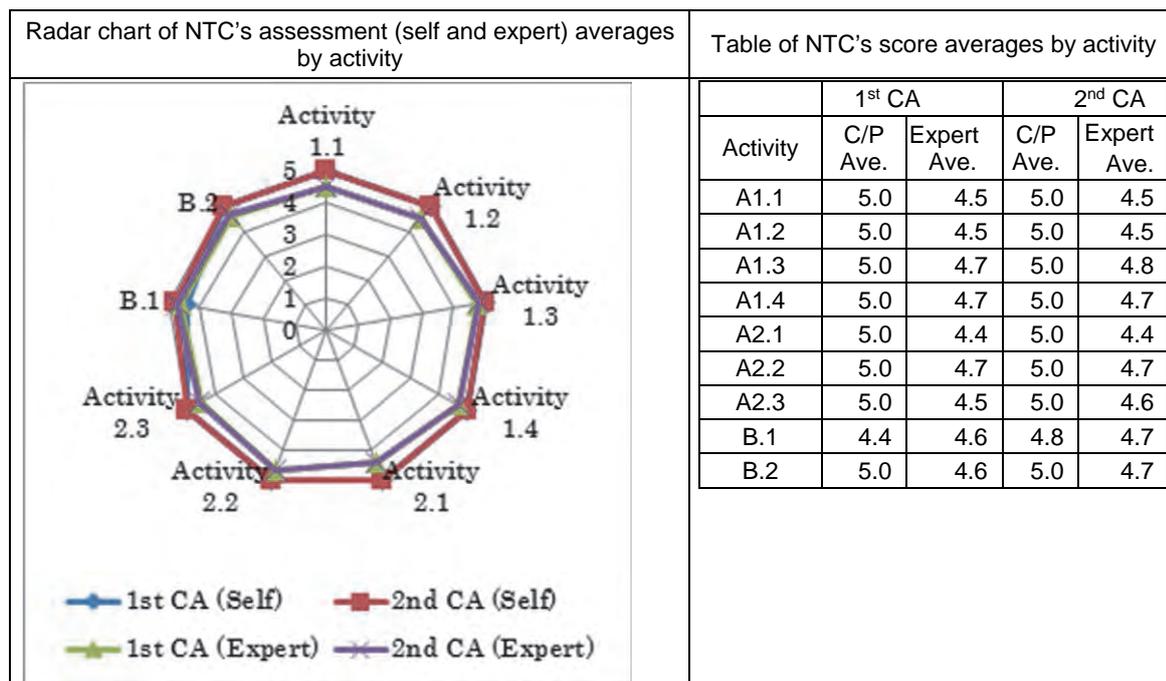
Weaknesses and solutions:

- Evaluation of training
 - Need to develop training evaluation form/system
 - Need to conduct follow-up assessment of trainees (i.e. 6 months after training) to assess actual use of newly learnt skills/knowledge
- Lack of computers in office; workers need to bring personal computers to work to record data, compile reports, etc.;
- Low market value of recyclables; possible solutions:
 - Container deposit legislation (CDL)
 - National government initiatives such as support of recyclers
- Need legislative disincentives to deter littering, encourage separation of waste, composting, etc.

4.2.2.2 Nadi Town Council (NTC)

The following radar chart and table show the averages of C/P and expert responses in the first and second capacity assessments for Nadi Town Council.

Table 9: Radar chart and table depicting C/P and expert response averages in 1st and 2nd CAs for NTC



Overall, the stand out factor for Nadi Town Council is the degree of consistently high—both self and expert—assessments between the first and second CAs. This consistency bodes well for the sustainability of 3R activities in Nadi.

Strengths

Nadi Town Council (NTC) has an extremely high self-assessment. As is the case with LCC above, NTC has been the recipient of significant training and technical transfer in the JICA 3R project starting in 2008, as well, of course, as the follow-up built upon this strong foundation throughout the J-PRISM project period, the invaluable experience the counterparts have gained through opportunities to give regional training, which have all combined to secure sound capacity at NTC. Therefore, Nadi’s high level of self-assessment is considered appropriate, and is backed up, admittedly at a generally lower trend line, by the experts’ evaluations. Another reason for NTC’s organisational capacity being assessed so highly, by both the C/Ps and experts, is that the C/Ps at Nadi receive solid support from their top management—the CEO and Special Administrator. This in fact, is considered Nadi’s strongest point.

Weaknesses and challenges

The only self-assessed weakness reported by NTC was in regard to system to organisational capacity, B.1. In fact, their responses to the questions in B.1 were exactly the same as for LCC. Specifically, they assessed their department as lacking in resources, both human (question 5) and material (question 7). Previously, in the first assessment, they assessed their budget (Q6) as being insufficient. In the team discussion on this matter, there was some disagreement, with the senior member, Mr Raj, reasoning that the total annual budget allocation as being sufficient. While it was pointed out there remains some difficulty obtaining budget for specific activities during the year, this was considered to be a resolvable issue so long as the overall (annual)

budget proves sufficient.

The experts assessed both counterparts three (as opposed to five by C/Ps) on two occasions; namely, in understanding of the National Solid Waste Management Strategy (2011-2014) and in ability to develop a waste stream. One of the counterparts, Mr Raj, was rated three by both experts (as opposed to five self-assessed) in his ability to develop a training program and training materials. The reason being, is that the majority of actual work to prepare for and conduct training is undertaken by the other NTC counterpart, Ms Nafiza Ali.

Feedback from Nadi Town Council – Mr Raj and Ms Ali (both health inspectors)

Strengths:

- Reporting system to top management—3R activity updates made monthly—facilitates strong support from management
- Top management, Special Administrator, shows ownership of 3R activities, evident when convincing other SAs to take part, showing commitment to help any other council or rural authority; also SA pushing to have 3R/CSP activities included in national school curriculum
- J-PRISM expert support and discussions with SA has been important factor in gaining support top management support
- Home composting: in addition to 30 bins from DoE, council has approved purchase of 50 additional bins (considered to be result of greater support from SA since launching of CSP national subsidy; SA pleased to see NTC initiative go national)
- Teaching in regional training has raised Ministry of Local Governments standing with recipient countries; positive for top managements' relationship with ministry

Weaknesses & Challenges:

- Extension of town boundary; population to double
- Need to strengthen human resources; Mr Raj and Mr Uday resigning
- Lack of participation by residents in recyclables collection (high turnover of tenants)
- National 3R Policy needs updating and greater awareness amongst citizens

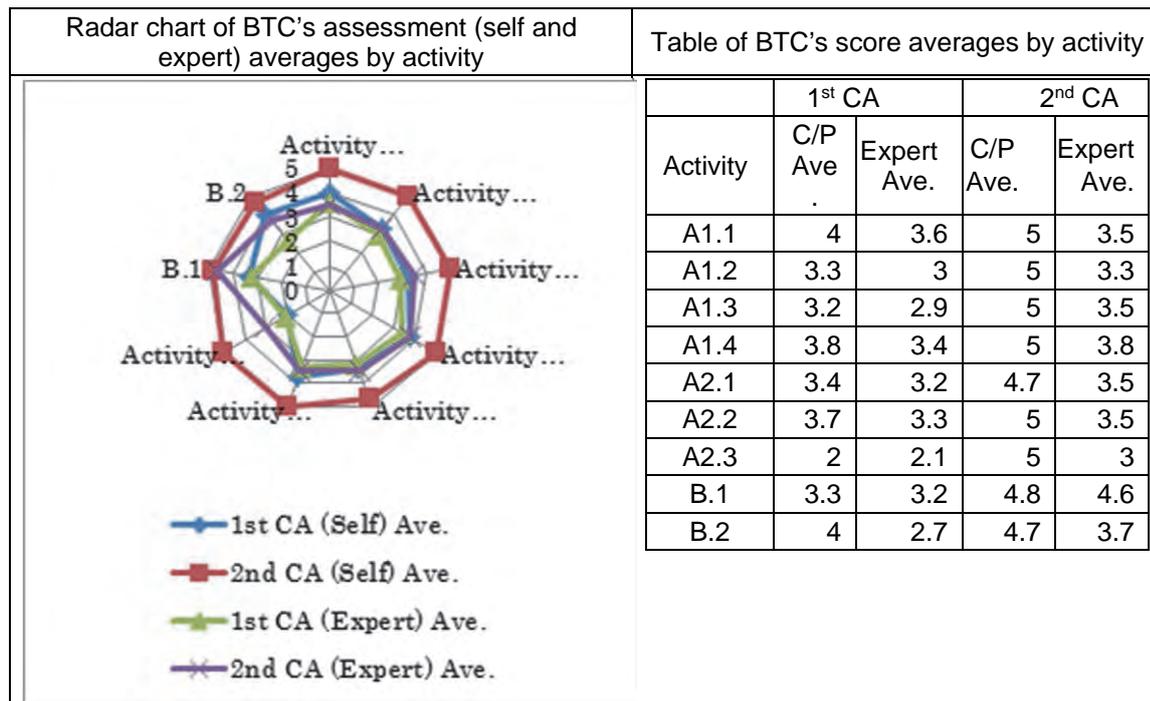
Solutions:

- Human resources: Ms Premila to return in January; more staff will be needed to cope with boundary extension (increased population, garbage/recyclables collection area)
- Awareness activities; increasing distribution of circulars from once to twice a year
- Strengthening of legislation to support National 3R Policy

4.2.2.3 Ba Town Council (BTC)

The following radar chart and table show the averages of C/P and expert responses in the first and second capacity assessments for Ba Town Council.

Table 10: Radar chart and table depicting C/P and expert response averages in 1st and 2nd CAs for BTC



First, a general explanation of the situation in Ba Town Council is necessary. As of the 1st CA Project activities were on hold due to only the CEO, Mr Dip Narayan, being available to implement 3R activities. The main two counterparts as of the 2nd CA, Ms Ronika Mishra (Health Inspector) and Mr Hiren Pirray (Head Gardener), resumed the market composting project around October 2014. The implementation system of the newly resumed market composting project is basically the same as previously, but the construction of a discharge place between the market and compost yard made it easier for collection workers to separate rubbish from vegetable waste in the separation bins, and this made it possible to minimize the awareness work, which used to be the biggest burden for C/Ps. In addition, the sharing of roles and responsibilities between the two counterparts enhanced the sustainability of the project. It is still too soon to accurately assess how successful or sustainable this new system is, but it is highly likely that BTC could continue the market composting by itself at an appropriate and sustainable scale, after J-PRISM finishes.

Strengths

BTC counterparts have assessed all of the organisational capacity questions very highly. Experts agreed with all but one question—B.2, Q3, critical analysis and improvement of 3R training—which increased from 3 to 5 and 2 to 3 in the self and expert assessments, respectively. BTC's responses to the questions in B.1 were exactly the same as for both NTC and LCC above. Even though they assessed their department as lacking in resources, both human (question 5) and material (Q7), for which the experts were in agreement, they overcame this weakness by utilizing resources of other departments as much as possible, when it is necessary. One organisational strength assessed by a Project expert is BTC's effective cooperation system and the sense of unity among departments.

Individual capacities were self-assessed very highly (average 5) for all of Activity 1 questions. While the self-assessments of one new C/P are regarded as being on the high side by the experts, they agree that the individual capacity for Activity 1 3R implementation has increased and is a strength at BTC as of the 2nd CA.

Weaknesses and challenges

In both capacity assessments BTC assessed its capacity with regards to training as lowest. This is not surprising as the aim of Project activities in BTC is to first improve their capacity to implement 3R activities. Once BTC has such a solid foundation, it can then progress into training. In fact, the expert considers the small-scale 3R activities in Ba to be a good example for other smaller councils, and hopes in future, once its program, particularly market composting, has had time to mature, it will be able to train other councils its lessons learnt.

Feedback from Ba Town Council – Ms Ronika Mishra, Health Inspector

Strengths:

- Intra-organisational cooperation: health department has many other tasks to undertake so cooperation from other council departments is vital; Buildings/ Engineering Dept. (Mr Unaiz Asum, Building Surveyor), Gardens Dept. (Mr Hiren Pillay, Head Gardener), Works Department (Mr Ramesh Kumar, Works Supervisor), Market Master (Mr Moh'd Shafiq) and their various workers and attachment staff help with market and home composting, CSP school monitoring, data collection and so on

Challenges:

- Human resources – lack of staff and already heavy workload for regular tasks
- CSP schools encouraged to recycle and separate waste and discontinue burning of waste, however neither recycling companies nor the council collect recyclables from the schools at present (one recycling company based in Lautoka makes infrequent trips to Ba for collection, but is not willing to collect from schools)
- Cost of solid waste collection contractor

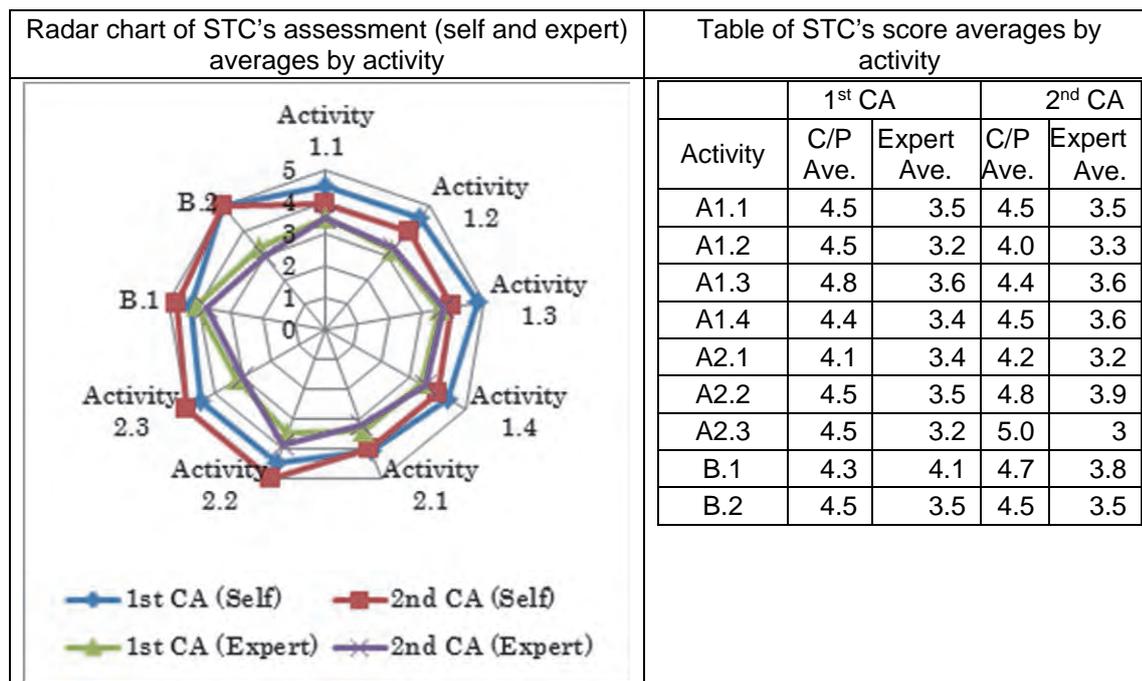
Solutions:

- Strengthen collaboration
- Request JOCV
- Recyclables collection center under consideration (possible location near current market composting site within close proximity of supermarkets, commercial area, schools)
- Upgrade of dump site to hygienic landfill under consideration (considering inclusion of leachate treatment ponds, sectional disposal layout, access roads, etc.)

4.2.2.4 Sigatoka Town Council (STC)

The following radar chart and table show the averages of C/P and expert responses in the first and second capacity assessments for Sigatoka Town Council.

Table 11: Radar chart and table depicting C/P and expert response averages in 1st and 2nd CAs for STC



While STC's overall average stayed the same for both expert and self assessments from 1st to 2nd CA, several areas showed a decrease in average. Some background information is needed to explain these. At the time of the 1st CA two counterparts, Mr Ashnil Sharma and Ms Eseta Leawere, were conducting J-PRISM activities. The situation at STC at the time meant that Mr Sharma, the 3R Officer, was able to focus on 3R activities. However, after Ms Eseta Leawere left STC there was no replacement health inspector, therefore Mr Sharma subsequently had to take over the entire workload previously conducted by the two of them. As a result, he could not allocate sufficient time to 3R activities, and his capacity was not able to be improved in all areas covered by this assessment. It must be mentioned though, the reasons for this cannot be simply put down to Ms Leawere leaving STC. The 2nd CA interviews were shortly before Mr Sharma was to leave STC, therefore both the counterparts (including the CEO of STC, Mr Tulsi Ram) and the experts were concerned about the future implementation structure—namely the organisational capacity—of 3R activities at STC.

Strengths

Sigatoka Town Council (STC) has a generally high self-assessment of its 3R capacity. One interesting point, is that the experts recorded more areas of increased individual capacity (from 1st to 2nd CA) than the counterpart (Ashnil). This kind of humility seemed to be fairly rare based on the interviews. The following are some of the individual capacities the experts assessed as increasing:

- understanding of SWM, issues and ability to devise solutions
- setting of goals/indicators
- knowing which organisations should be involved in 3Rs
- conducting awareness and giving guidance

- recording and reporting of 3R activities
- analysing success and failure factors
- explain and answer queries in 3R training

Meanwhile the counterpart and not the experts recorded an improvement in:

- evaluate, revise and conduct revised 3R training (A2.3, Q1-3)

And organisationally the counterpart and experts recorded improvement in:

- acknowledge the need for NSWMS (B1, Q1)
- have a clearly assigned unit and responsibilities for 3R promotion (B1, Q2/3)
- have a plan for 3R implementation (B1, Q4)

While only the counterpart recorded improvement in:

- has sufficient budget for 3R activities (B1, Q6)
- has cooperative relationships with stakeholders (B1, Q8)
- has a recording and reporting system of 3R activities to top management (B1, Q9)
- has a monitoring system of 3R activities (B1, Q10)

Weaknesses and challenges

As mentioned, STC ranked itself generally very highly, with only three responses below four: that is, three for knowing materials/budget/human resources needed for 3R implementation (A1.1, Q12); sharing plan and collecting views from staff/stakeholders/top management (A1.1, Q13); and its organisational human resource situation (experts agreed with all three, but more are listed in the next paragraph). This last point (human resource issues) is significant with the main counterpart leaving the organisation shortly after the 2nd CA. This has left STC in arguably the most difficult circumstances of all the counterpart organisations. In fact, as the CEO, Mr Tulsi Ram, transferred from Tavua in early 2015, the human resource situation reported in TTC in the 1st CA (basically only the CEO, Mr Ram, available to implement Project 3R activities) is now replicated in STC. Sigatoka has a stronger system for 3R implementation in place, with input from several outside organisations (OISCA, National Trust of Fiji (Sigatoka Sand Dunes), Shangri La Resort, CSP schools), however, it remains to be seen how sustainable this system is without a dedicated counterpart to oversee Project activities.

While the self-assessment was quite high, the experts highlighted several areas of weakness, including:

- understanding of national SWM strategy and 3R policy
- ability to develop a waste stream, scheduling of 3R activities
- evaluating training and 3R activity effectiveness
- revising plans
- improving processes and systems
- knowledge of necessary training
- development of training program and materials

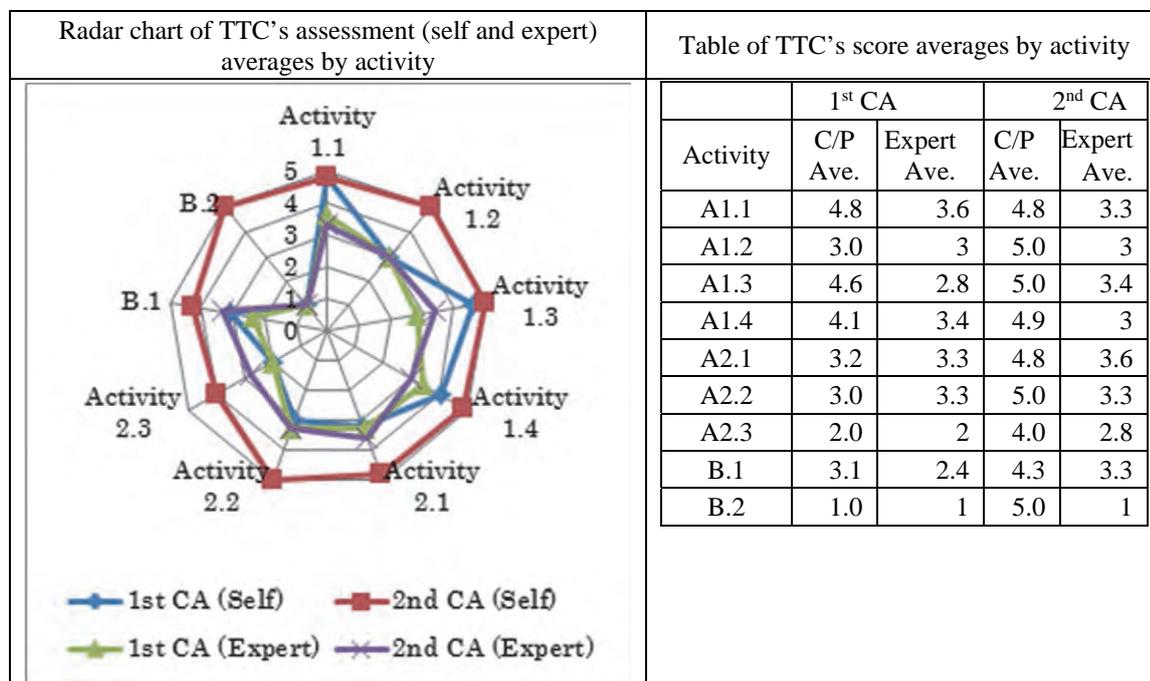
Feedback from Sigatoka Town Council – Mr Tulsi Ram, CEO

- Biggest weakness is human resources; currently no health inspector/counterpart for J-PRISM activities is CEO and one attachment
- Plan to have replacement health inspector by end of month (August 2015); plan to employ current intern when current contract expires in December, have her focus on 3R activities under health inspector
- Will concentrate on littering; greater awareness and outreach; utilise national government Challenge Fund; hope to spread compost bins, have all 247 ratepayers composting (some using bins communally) eventually
- Market waste composting going well thanks to OISCA; plan to renew current memorandum of understanding in October
- Landfill is greatest challenge; must show good example/commitment if want to gain trust and commitment of residents/stakeholders (incl. hotels) to cooperate on SWM/3R activities
- Committed to improve landfill by extending boundary; construct fence to control entry, fires, etc.
- Motto for future action: “action is better than words”

4.2.2.5 Tavua Town Council (TCC)

The following radar chart and table show the averages of C/P and expert responses in the first and second capacity assessments for Tavua Town Council.

Table 12: Radar chart and table depicting C/P and expert response averages in 1st and 2nd CAs for TTC



There is an obvious (as evident in the radar chart above and sharp change in the self-assessed status of Tavua Town Council. This trend for high self-assessment is not reflected in the experts' assessments. At the time of the 1st CA, Project activities were suspended in Tavua due to an absence of any counterpart assigned specifically to Project duties. As of the 2nd CA, a new CEO, Ms Temalasi Henfiro, had been assigned to TTC. Ms Henfiro was proactively

engaged in the Project and had implemented several changes. She had assigned two new workers—albeit inexperienced and regarded as having low 3R related capacity (the main duties of one is grass cutting while the other is a waste collection driver)—to implement and monitor 3R activities every Thursday. These two workers showed enthusiasm and appreciation of their new role. The fact that these changes are quite recent in terms of the Project term, means it is difficult to accurately assess the effectiveness, sustainability and operability of the newly restarted activities.

One factor that cannot be overlooked in this recent proactive stance towards Project activities is the positive influence monitoring activities of DoE West has had—first in bringing to light issues facing TTC and subsequent offers of support from other councils.

Strengths

Ms Temalasi Henfiro, the CEO of TTC, answered mostly five, with some fours and only two instances of three (see below). This is a good example of the need for a second opinion in the form of the J-PRISM experts' evaluations, due to these answers being considered comparatively too high, and not indicative of the true weaknesses of TTC, as well as making it hard to pinpoint (in the data) the actual strengths.

Some strength as assessed by the experts (scores in brackets):

- knowing organisations with necessary 3R information (4)
- awareness of necessity of 3R implementation (4 and 4.5)
- knowing resources needed for 3Rs (4)
- communication and management skills (4)

Weaknesses and challenges

The two self-assessed organisational weaknesses (scored three) were insufficient budget and machinery/materials to implement 3R activities. Both of these were reported as weaknesses in the first CA, while the previously reported lack of human resources is no longer (self) assessed as being an issue. The experts agreed with these weaknesses. The experts also assessed ability to conduct training programs as a weakness, however, as this is not currently required of TTC, this is not considered an issue.

Individual weaknesses are regarded as stemming from Ms Henfiro not having a background in waste management or health (prior to becoming TTC CEO in 2015 Ms Henfiro was an economist in the finance ministry). The experts generally assessed most of the C/Ps individual capacities as three (compared to mostly self-assessed fives). As mentioned before, more time is needed to accurately assess her capacity.

The inexperience of the two workers newly involved in 3R activities, while not a target of this CA, are also considered a weakness worthy of further mention. TTC will face challenges implementing 3R activities compared to other councils where health department staff are responsible. Therefore TTC will need continuing support to gradually improve the capacity of both these two workers and the CEO.

Feedback from Tavua Town Council – Ms Temalesi Henfiro, CEO

Strengths:

- Two officers fully assigned every Thursday to J-PRISM activities (CSP and home composting); ample time and human resources
- Motivation: success depends “not just on experience, but if you’re eager”
- Some schools showing high level of self-motivation

Challenges:

- Lack of awareness of residents, stakeholders
- Lack of experienced staff/unfamiliar tasks (both CSP and home composting); possibly take several years before can get qualified health inspector

Solutions:

- More capacity building and training (waste management, composting)
- J-PRISM regular meetings valuable opportunity for learning
- Need to study CSP guideline/invite Ms Nafiza to teach about CSP
- Distribute CSP Guidelines to schools (request more copies from DoE)
- Makes schedule for CSP; October monitoring, November judging
- Awareness raising activities – door-to-door, posters, pamphlets,
- Request for a JOCV
- Support from DoE

4.2.2.6 Rakiraki Town Council

The following radar chart and table show the averages of C/P and expert responses in the first and second capacity assessments for Rakiraki Town Council.

Table 13: Radar chart and table depicting C/P and expert response averages in 1st and 2nd CAs for RTC

Radar chart of RTC’s assessment (self and expert) averages by activity		Table of RTC’s score averages by activity				
<p>Legend: ● 1st CA (Self) ■ 2nd CA (Self) ▲ 1st CA (Expert) ✕ 2nd CA (Expert)</p>		Activity	1 st CA		2 nd CA	
			C/P Ave.	Expert Ave.	C/P Ave.	Expert Ave.
		A1.1	4.4	3	4.3	3.6
		A1.2	4.0	3.2	5.0	3.2
		A1.3	4.2	3	4.8	3.5
		A1.4	4.3	3.3	5.0	3.8
		A2.1	4.3	2.2	5.0	3.4
		A2.2	3.0	2	5.0	3.5
		A2.3	1.0	1.3	5.0	3
		B.1	2.3	2.1	2.3	2.3
		B.2	2.0	1	3.0	1.8

As can be seen in the above radar chart, there have been significant changes in capacity, both

self-assessed and expert assessed, at Rakiraki Town Council. However, as further explained below, this is mostly down to a change in counterpart personnel. At the time of the 1st CA, only limited Project activities were being conducted in Rakiraki due to capacity of the counterpart assigned to Project duties, Ms Emi Balemaiwai. As of the 2nd CA, a new CEO, Mr Rakesh Chandra, had been assigned to RTC, and has taken over Project responsibilities. However, there is no longer a specific working-level counterpart assigned to Project 3R duties. It is unclear to what extent Mr Chandra—due mainly to the fact that his main role is as CEO, which will occupy most of his time—will be able to conduct 3R activities. At a meeting in February, 2015, J-PRISM expert requested Mr Rakesh Chandra to assign working-level staff for implementing 3R activities by the end of the year 2015. In the CA interview Mr Chandra commented that he did not wish to assign working-level staff unless he can find someone with sufficient knowledge of 3Rs. Therefore, this may take some time. Without the assignment of working-level staff, it is considered that RTC would face extreme difficulty to continue any 3R activities.

Upon visiting a CSP school with Mr Chandra, he showed some knowledge of composting and communicated this well to the teacher in charge. However, it was clear that CSP activities at the school had been inactive for quite some time, and that Mr Chandra still had relatively limited knowledge of the Clean School Program activities, and had not as yet had time to conduct school visits for instruction or monitoring. Moreover, despite all ten of the compost bins allocated under the DoE sponsored national subsidy program being sold very rapidly, a visit to a hotel involved in Project activities (via JOCV Mr Koga), as well as the interview comments of the C/P confirmed that the compost bin recipients had not received sufficient composting advice nor monitoring to reinforce or correct composting techniques.

Strengths

The Rakiraki counterpart, Mr Chandra, ranked all of his individual capacities as either four or five besides one (see below). The experts—while confirming the increase in capacity at RTC due to the change of C/P from Ms Emi Balemaiwai (who had almost no experience in SWM) to Mr Chandra (who was previously a health inspector at Ra Rural Authority)—did not always agree with these high self-assessments (see below for capacities assessed as weaknesses by the experts).

The experts assessed all activities to have improved (again, due to a change in personnel, not as a result of Project activities) besides 1.2, conducting of 3R training. Three individual capacities were assessed as five by one of the experts. They were:

- knowing which organisations have necessary information for SWM
- identifying SWM issues in Fiji and Rakiraki
- awareness of necessity of 3Rs

Weaknesses and challenges

The only individual capacity to be self-assessed lowly (three) was in Activity 1.1, questions seven and nine:

- developing a waste stream
- setting goals and indicators to be achieved by 3R activity implementation

Meanwhile, organisationally, every answer (besides B1, Q1 and B2 Q3) was self-assessed as three or lower. Clearly, Mr Chandra recognises his council's organisational limitations, particularly with regard to budget and physical resources (scored one).

The above self-assessments were all in agreement with expert assessments. There were several other weaknesses highlighted by the experts, particularly:

- ability to conduct and evaluate training,
- making training materials,
- implementing and evaluating 3R activities,
- making schedules
- knowledge of 3R resources

Rakiraki Town Council is still a very young organisation and as yet does not have an established health department and its organisational capacity remains limited. Under such circumstances, the experts believe that it is appropriate that Project activities remain on a limited scale in RTC. It is expected 3R activities will be able to be increased gradually as new personnel join the council.

Feedback from Rakiraki Town Council – Mr Rakesh Chandra, CEO

Challenges:

- Staff situation is biggest challenge faced by RTC; currently only have seven laborers
- RTC does not possess sufficient capability to develop capacity of its staff
- Workers need training, such as training-of-trainers (TOT) to enable training of vendors, home composting, etc.; and therefore alleviate CEO's workload.
- Has been no solid waste related data collection since preliminary survey in 2011.
- Council only owns one vehicle (CEO's pickup truck) used for all purposes.

Solutions:

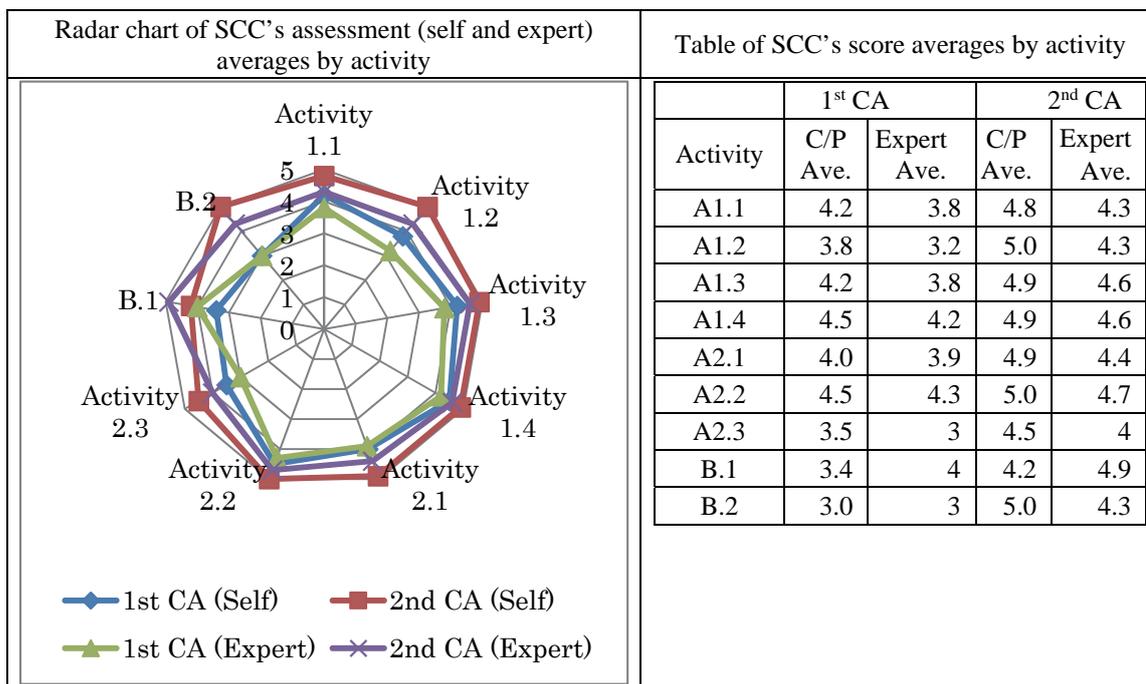
- Requests a replacement JOCV
- Ideally, a national institution, such as Fiji National University, needs to develop training programs to cater to the various 3R and SWM roles needed to be undertaken by councils
- In process of changing town planning scheme; smaller town boundary and purchase of land assets has been approved by Minister of Local Government; land assets expected to increase revenue and improve financial situation of council
- Developing 5-year plan including SWM and 3R strategy
- Plan to hire dedicated health inspector and building engineer within three to five years as well as several laborers by 2017.
- Will start data collection survey (by end of August/2nd week of September)
- Have applied to Ministry of Local Govt. for waste collection truck under the challenge fund; has been confirmed by the Minister, exact date of delivery still unknown.

4.2.2.7 Suva City Council (SCC)

The following radar chart and table show the averages of C/P and expert responses in the first

and second capacity assessments for Suva City Council.

Table 14: Radar chart and table depicting C/P and expert response averages in 1st and 2nd CAs for SCC



Strengths

With only one response below four (see below), both Suva City Council counterparts ranked their individual capacities in conducting the various 3R activities and training very highly. This is a marked improvement from the first CA, perhaps reflecting greater confidence after gaining further experience in both 3R implementation and 3R trainings through the project.

The experts also had increased their assessments of numerous capacities such as:

- developing a waste stream,
- formulating schedules for effective 3R implementation,
- conducting, evaluating and revising training/action plans/awareness activities
- analysing success and failure factors

These areas of increased capacity are regarded by the expert as a result of the on-the-job training (including data management training; not included in CA) and three training sessions conducted in cooperation with DoE as part of the Project. This is considered to have considerably strengthened SCC's organisational capacity, particularly in regard to conducting of training.

Weaknesses and challenges

The only individual capacity to be ranked as a weak point (three) was Robert's self-assessed knowledge of the National Solid Waste Management Strategy (2011-14). This was also the only individual capacity to be assessed by the experts as three.

As for organisational capacity, the counterparts stressed in the interview (as well as their

lowest questionnaire response of three for B1, Q4) their need for an overarching strategy or plan to provide direction for their 3R activities. They were hoping the JICA senior volunteer who was with them for several months in 2014 would be able to assist them in this regard. As they still consider their organisation to be lacking any personnel capable of this task, they seem to be hoping JICA or another donor will be able to assist them.

SCC's other self-assessed organisational (relative) weaknesses were all in B1, capacity to implement the national 3R strategy, namely human, physical and budgetary resources, cooperative relationships with stakeholders, and recording reporting and monitoring capabilities. These were all self-assessed as four, while the experts assessed all but human resources (assessed by one expert as 4.5 and the other 5) as five. Therefore, these relative weaknesses are not considered to be significant impediments to SCC's ability to conduct 3R activities. In fact, SCC's cooperative relationships with stakeholders—both within and outside the bounds of the Project—is worthy of highlighting as a best practice for other councils and DoE. SCC has utilised private sector companies' resources such as obtaining \$250,000 (verbally reported by Mr Naresh Narayan) in corporate sponsorship for its recyclables collection bins.

Feedback from Suva City Council – Mr Narayan and Mr Randolf

Strengths:

- Experience/Trainings: Team members have been exposed to 3R workshops and training overseas and within the country on what is expected of them during 3R planning, implementation, monitoring, revaluating and reporting. The lessons learnt have been put into practice whilst carrying out different phases of 3R projects being undertaken.
- Structure/Machineries: The investment of the Suva City Council in this area of waste management has allowed the team to be better equipped with better working area and equipment through the provision of composting shed and machineries which includes shredder machines, truck.
- Working with Stakeholders: The ability to identify and work with key stakeholders is also seen as strength as the team was able to secure funding for projects, works with target groups, NGOs and Government Ministries in promoting 3R.
- Able to share information with other municipalities and assist each other where possible.
- Good networking amongst municipalities, JICA, DOE, J-PRISM Technical expert which has been well set by JICA

Challenges:

- Solid Waste Management Procedures: The guiding principles to waste management and 3R for SCC are yet to be developed and we are looking at this as a challenge and weakness.
- Human Resource: The ability for the council to provide necessary manpower is always a challenge as work associated with 3R continually increases which also requires additional manpower. 3R activities are hindered due to human resource capability.
- Resource Capabilities: Even though we identify that our team have been adequately trained, 3R encompasses a wider range of skills and knowledge. We continue to see that 3R is a technical field which requires staffs ability to obtain data, record, interpret/analyze and report data which we see as a challenge.

Solutions:

The strengths identified can be a weakness if it is not properly monitored, upgraded and maintained to allow it to be productive. The team believes that to sustain and improve such relationships with stakeholders, improve knowledge with technologies and new ideas, we should be exposed to such environment through building work relationship networks and exposure to further trainings. In this way our team is better equipped to tackle and solve problems identified.

Weaknesses identified: is always a setback to any organization but to provide countermeasures may cause a weakness to become strength. In this assessment the team was able to identify some weakness and the way forward to overcome these weaknesses are through:

- Work towards formulating SCC Solid Waste Management Strategic Plan
- To formulate work plans with workers to allow them to carry out 3R activities without frustrations
- Continue training to upgrade knowledge of 3R workers.
- 3R activities to be seen as a KPI/KRA for the DOE and municipalities alike.

5. Conclusions

Evaluating from a wider perspective, the above results all point in the direction of gradual, and mostly consistent, general development of the counterpart capacities, both at individual and organisational levels. The counterparts—as well as the experts—have assessed themselves higher or the same in nearly all of their responses. Their verbal responses also pointed in this direction; revealing increased confidence in their ability to implement 3R activities. As mentioned in the first CA conclusion, there is a tendency of awareness of lack of evaluation capacity for improving on their 3R activity and training implementation, especially for counterparts from other countries. While this has shown improvement, such awareness is also a positive sign for the sustainability of the Project's achievements. Moreover, numerous counterparts expressed their appreciation for their improved skills as well as their commitment to continue on with the activities cemented during the Project period. In particular, the J-PRISM regular meetings, which have grown to encompass councils not officially part of the Project, were highlighted for their role in aiding communication, sharing of lessons learnt (both positive and negative), monitoring of councils' activities (on the part of DoE), as well as councils appreciating the role of the meetings in increasing DoE's involvement in and understanding and joint-ownership of 3R activities undertaken by councils.

Monitoring and evaluation capacity, namely *check* within the *plan-do-check-act* (PDCA)-based 3R implementation strategy central to J-PRISM activities, has been significantly strengthened by the regular J-PRISM meetings as well as the monitoring system developed in the Project. This system of each council filling out a standard monitoring sheet format to submit to DoE before each regular meeting—with the aim of establishing a foundation for evaluation, advice, support and communication between councils and DoE—while still not fully fledged, is seen as an important accomplishment of the Project. It is hoped this good practice can be further strengthened and improved and disseminated to all

councils in Fiji in future.

The process of gaining feedback in this capacity assessment has also been recognized by the counterparts as a vital tool for evaluating and analysing issues and impediments to progress. The counterparts expressed that this process has increased their awareness of their respective strengths, challenges and solutions to SWM and 3R issues, which will in turn enable them to more effectively turn this *check* process into real action.

A recurrent theme from the 1st CA is DoE WPU's awareness of its need for capacity to develop national frameworks/programs to promote council 3R activities. While it has made significant progress in this regard, such as the national home composting and CSP subsidies, the interviews revealed facilitating the development of the follow-up framework to the NSWMS 2011-14 to be one of DoE WPU's highest priorities. WPU staff, however, have encountered challenges that have delayed the development of the 3R Policy and the national integrated waste management strategy. Considering a general concern of councils is their lack of budgetary and material resources, strengthening and expanding national subsidy programs and platforms for 3R action is clearly an area that needs continued attention and effort.

Meanwhile, DoE West highlighted establishing a monitoring system of 3R activities as a priority for capacity development in the first CA. This has been an area of J-PRISM assistance, such as the abovementioned regular J-PRISM meetings and monitoring sheet/system development. While there is still room for improvement, such measures can be considered to have reached a point of sustainable implementation.

Another recurrent issue from the first assessment was the general—both DoE and councils—recognition of an organisational lack of human resources. The previous report highlighted the need to avoid over-reliance on any individual worker, particularly at smaller councils, as well as the need to involve stakeholders to ensure the sustainability of 3R activities. The case of Mr Sharma leaving STC highlights this as a recurring issue. However, the fact that STC had made progress in involving numerous stakeholders is considered to have left its prospects for future 3R implementation in better condition than at other councils that previously faced similar situations but were lacking in strong stakeholder cooperation. Moreover, Suva City Council's ability to involve stakeholders and obtain private sector sponsorship is another good practice for replication and expansion at other councils.

In the remaining period of the Project, it is considered important to continue to reinforce the particular strengths of each organisation and counterpart, so that they continue to build on these strengths—based on the foundations laid in J-PRISM, a *plan-do-check-act* framework for concrete progress—as they move forward with current 3R activities and face new challenges. Continued work to build capacity in regard to monitoring and evaluation to pinpoint both strengths and weaknesses is also considered important, and a valuable legacy of the Project to ensure its sustainability. The overall atmosphere of the capacity assessment interviews was positive, with the counterparts showing greater confidence and motivation, which bodes well for a bright future of 3Rs in Fiji.

4.2 キリバス国

Result of Capacity Assessment in Kiribati

Since the start of J-PRISM in Kiribati, Capacity Assessment, CA, was conducted regularly. The CA is divided into 2 parts, individual capacity assessment and organizational capacity assessment. The result of each assessment is summarized below.

1. Individual Capacity Assessment

Capacity assessment for individual counterparts was conducted several times since the start of the project in 2011. Due to the frequent changes of counterparts and medical leave, however, CA of individual counterparts was often interrupted, and the CA only for the following three counterparts is continued to be conducted so far.

1.1 Targets of individual Capacity Assessment

The targets of Individual Capacity Assessment are shown below.

Organization	Name and Position	Job experiences	Date of assessment
Environment and Conservation Division	Ms. Robite Teaete Media Public Awareness officer	<ul style="list-style-type: none"> She took the post in 2012 Previous job was an assistant at Climate Change Unit, ECD, for 3 years after graduating university 	(May 2013) Sep 2014 Aug 2015
Betio Town Council	Mr. Kaiea Toromon Work Supervisor	<ul style="list-style-type: none"> Started to work as Waste Supervisor in March, 2015. Previous job: law enforcement officer at BTC 	May 2015
Teinainano Urban Council	Mr. Harry Langley Work Supervisor	<ul style="list-style-type: none"> It's been around 3 years since he took the position of Waste Supervisor Previous job: Youth and Sport officer at TUC 	Feb 2014 May 2015

1.2 Assessment Methods

The method of capacity assessment is interview with targeted counterparts, based on the assessment sheets. The target items of assessment are divided into several categories, as shown in the table below, and CP and J-PRISM expert scored CP's knowledge and skills in each category, based on the result of discussion. The criteria of scores are also shown below.

Categories of Capacity Assessment

A-1	Knowledge on Laws, Regulations, Strategies and Plans
A-2	Skills of Laws, Regulations, and so on obtained through experience
B-1	Technical knowledge on Solid Waste Management
B-2	Technical skills on Solid Waste Management
C-1	Collection of Information and data
C-2	Information management capability
D	Communication skills

Criteria of Scores

1	No or quite a little knowledge or skill
2	Some knowledge or skill but needing great help to do occupational duties
3	Considerable knowledge or skill but needing some help to do occupational duties

4	Almost sufficient knowledge or skill to do occupational duties
5	Trainer Level

1.3 Result

The results of the individual capacity assessment are summarized below. The CA score sheets are attached at the end of the report.

(1) Environment and Conservation Division (ECD)

Name of CP	Ms. Robite Teaete	
Knowledge on Laws, Regulations, Strategies and Plans	<ul style="list-style-type: none"> in 2014, to know about Environment related laws but has little knowledge on regional and national SWM strategies to add knowledge on regional and national strategies of solid waste management during the project period 	
	average score in 2014: 1.8	average score in 2015: 2.7
Skills obtained through experience of Laws, Regulations, and so on	<ul style="list-style-type: none"> through the works under J-PRISM and NZAID project, have experiences to use SWM related laws and regulations, but the skills and experiences are still limited. 	
	in 2014: 1.4	average score in 2015: 2.3
Technical knowledge on Solid Waste Management	<ul style="list-style-type: none"> to acquire knowledge in the field of garbage collection and 3Rs to some extent under J-PRISM and NZAID project 	
	average score in 2014: 2.5	average score in 2015: 3.1
Technical skills on Solid Waste Management	<ul style="list-style-type: none"> to have little technical skills, due to the lack of chances to utilize them before the project to have some experiences in the field of garbage collection and 3Rs, but skills is still limited 	
	average score in 2014: 2.1	average score in 2015: 2.7
Collection of Information and data	<ul style="list-style-type: none"> no routine data collection work 	
	average score in 2014: 2.3	average score in 2015: 3.0
Information management capability	<ul style="list-style-type: none"> electronic data is saved on a computer (no backup) need to improve the management system, in particular for hard copy information 	
	average score in 2014: 2.0	average score in 2015: 3.6
Communication skills	<ul style="list-style-type: none"> need to improve skills to prepare for materials and make presentations 	
	average score in 2014: 3.6	average score in 2015: 3.6

(2) Betio Town Council (BTC)

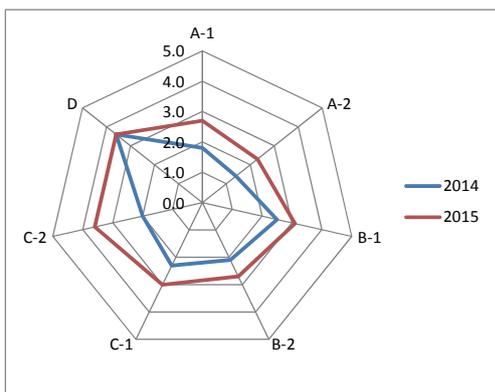
Name of CP	Mr. Kaiea Toromon (BTC)	
Knowledge on Laws, Regulations, Strategies and Plans	<ul style="list-style-type: none"> to have little knowledge on laws and regulations in the field of not only SWM but also environment, such as Environment Act 	
	score in 2015: 1.4	
Skills obtained through experience Laws, Regulations, and so on	<ul style="list-style-type: none"> to have limited skills in the field of solid waste management, but know about law enforcement issues thanks to the previous job 	
	1.0	
Technical knowledge on Solid Waste Management	<ul style="list-style-type: none"> to have very limited knowledge on solid waste management (just come back from a training program in Japan) 	
	1.3	
Technical skills on Solid Waste Management	<ul style="list-style-type: none"> no practical experiences need to develop practical skills through organic waste recycling and CSP monitoring activities 	
	1.1	
Collection of Information and data	<ul style="list-style-type: none"> to have no necessary references and information yet cannot search and collect necessary references and information by himself yet 	

	1.0
Information management capability	<ul style="list-style-type: none"> to just start the data collection work (Organic waste recycling) and learn how to manage collected data to have limited computer skills and need to learn more how to use Excel (recommended CEO to send him to a short-term computer training program)
	1.2
Communication skills	<ul style="list-style-type: none"> to facilitate good communication with workers (can manage workers) need to improve communication skill with donor organizations (need to learn basic business manners) not to have experiences of raising community awareness yet
	2.2

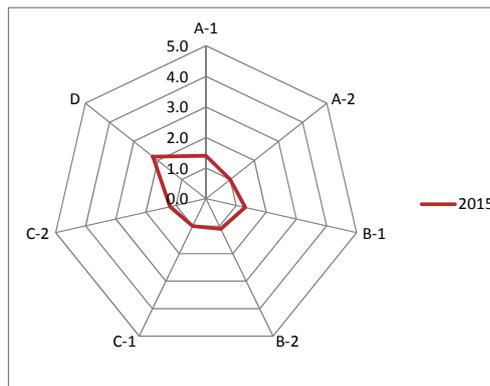
(3) Teinainano Urban Council

Name	Mr. Harry Langley (TUC)	
Knowledge on Laws, Regulations, Strategies and Plans	<ul style="list-style-type: none"> in 2014, to have basic knowledge on laws and regulations, such as Environment Act and council plan to collect documents on laws and regulations (soft copy) and save on computer in 2015, no major change since 2014 	
	score in 2014: 2.8	score in 2015: 2.6
Skills obtained through experience Laws, Regulations, and so on	<ul style="list-style-type: none"> Since 2014, to enhances his practical skills in the field of laws and regulations, working with MIA in order to prepare for a new law about tipping fee, Tipping fee by law, 	
	score in 2014: 3.0	score in 2015: 4.0
Technical knowledge on Solid Waste Management	<ul style="list-style-type: none"> to deepen the knowledge on SWM through a SPREP training program in Suva in 2013 and a JICA training program in 2014 	
	score in 2014: 1.9	score in 2015: 3.8
Technical skills on Solid Waste Management	<ul style="list-style-type: none"> to enhance technical skills through implementing an action plan to promote school compost, which was made at the end of the JICA training (sharing the monitoring activities with ECD) to take a practical training of landfill management under NZAID project, and to enhance the skills high enough to be sent as a trainer to a training program abroad 	
	score in 2014: 2.0	score in 2015: 3.9
Collection of Information and data	<ul style="list-style-type: none"> to try to collect references and information as much as possible at the training programs and workshops not to try to collection by himself by internet and other ways 	
	score in 2014: 2.0	score in 2015: 3.0
Information management capability	<ul style="list-style-type: none"> to save and sort electric files on a computer to computerize the data on collection vehicles at landfills. to have basic skills of Excel to have no knowledge of statistics 	
	score in 2014: 2.0	score in 2015: 3.6
Communication skills	<ul style="list-style-type: none"> to have good communications with donor organizations and actively participate in discussions at meetings to strictly supervise workers to improve communication skills with communities and customers of the council collection service. 	
	score in 2014: 3.0	score in 2015: 3.8

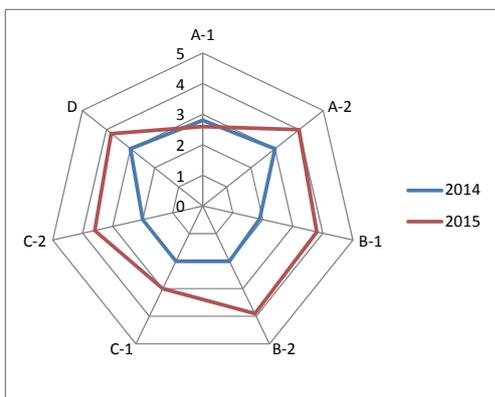
The changes (improvement) in scores in each category between 2014 and 2015 are shown in the figures below.



Ms. Robite Teaete (ECD)



Mr. Kaiea Toromon (BTC)



Mr. Harry Langley (TUC)

2. Organizational Capacity Assessment

The organizational capacity assessment was conducted twice, in 2011 and 2015, targeting ECD and BTC. The result of the assessment is shown below.

2.1 Assessment Methods

The method of capacity assessment is interview with counterparts of the targeted organizations, based on the assessment sheets. The target items of assessment are divided into several categories, as shown in the table below, and CP and J-PRISM expert scored targeted items, based on the result of discussion. The criteria of scores are also shown below.

Categories of Capacity Assessment

A	Structure of Organization
B	Human resources
C	Property
D	Finance
E	Information/ Data Management
F	Communications

Criteria of Scores

Category	Class	Evaluation item	Score	Evaluation standard	
				Grade	Standard
Organization	Structure of Organization	Degree of grasping roles of central government		1	Role of national level is not grasped.
				2	Role of national level is grasped partly but not sufficient.
				3	Role of national level is grasped to some extent.
				4	Role of national level is grasped almost completely.
		Appropriateness of structure of agencies		1	No agency for required roles.
				2	Some agencies for required roles but not sufficient.
				3	Agencies for required roles existing to some extent but their relations are not clear.
				4	Agencies for required roles existing and can cooperate together.
		Clearness of roles of each agency		1	Roles of each agency are not clear.
				2	Roles of each agency are partly clear but not sufficient.
				3	Roles of each agency are clear to some extent but not stipulated elaborately by law.
				4	Roles of each agency are very clear and stipulated by law.
		Appropriateness of staff arrangement		1	Staff personnel for SWM are not provided.
				2	Staff personnel for SWM are provided but not sufficient.
				3	Necessary staff personnels for SWM are provided to some extent.
				4	Sufficient staff personnel for SWM are provided.
	Human resources	Technical		1	No staff personnel with technical knowledge and skills on SWM exist.
				2	Staff personnel with technical knowledge and skills on SWM exist but not sufficient.
				3	Some staff personnel with technical knowledge and skills on SWM exist.
				4	Sufficient staff personnel with technical knowledge and skills on SWM exist.
		Finance & Accounts		1	No staff personnel with the knowledge and skills of finance and accounts on SWM exist.
				2	Staff personnel with the knowledge and skills of finance and accounts on SWM exist but not sufficient.
				3	Some staff personnel with the knowledge and skills of finance and accounts on SWM exist.
				4	Sufficient staff personnel with the knowledge and skills of finance and accounts on SWM exist.
		Public awareness		1	No staff personnel with the knowledge and skills of public awareness on SWM exist.
				2	Staff personnel with the knowledge and skills of public awareness on SWM exist but not sufficient.
				3	Some staff personnel with the knowledge and skills of public awareness on SWM exist.
				4	Sufficient staff personnel with the knowledge and skills of public awareness on SWM exist.
		General affairs		1	No staff personnel with the knowledge of general affairs exist.
				2	Staff personnel with the knowledge of general affairs exist but not sufficient.
				3	Some staff personnel with the knowledge of general affairs exist.
				4	Sufficient staff personnel with the knowledge of general affairs exist.
	Property	Office space		1	No office space for SWM staff is provided.
				2	Office space for SWM staff is provided but not sufficient.
				3	Some office space for SWM staff is provided.
				4	Sufficient office space for SWM staff is provided.
		Stationaries		1	No office furniture (desks, lockers etc.) for SWM staff is provided.
				2	Office furniture (desks, lockers etc.) for SWM staff is provided but not sufficient.
				3	Some office furniture (desks, lockers etc.) for SWM staff is provided.
				4	Sufficient office furniture (desks, lockers etc.) for SWM staff is provided.
		OA equipment		1	No OA equipment (computers, printers etc.) for SWM staff is provided.
				2	OA equipment (computers, printers etc.) for SWM staff is provided but not sufficient.
				3	Some OA equipment (computers, printers etc.) for SWM staff is provided.
				4	Sufficient OA equipment (computers, printers etc.) for SWM staff is provided.
Communication equipment		1	No communication equipment (telephones, faxes etc.) for SWM staff is provided.		
		2	Communication equipment (telephones, faxes etc.) for SWM staff is provided but not sufficient.		
		3	Some communication equipment (telephones, faxes etc.) for SWM staff is provided.		
		4	Communication equipment (telephones, faxes etc.) for SWM staff is provided sufficiently.		
Vehicles		1	No vehicles for SWM staff are provided.		
		2	Vehicles for SWM staff are provided but not sufficient.		
		3	Some vehicles for SWM staff are provided.		
		4	Vehicles for SWM staff are provided sufficiently.		
Intellectual asset	Literature and reference documents		1	No literature or reference documents on SWM exist.	
			2	Literature or reference documents on SWM exist but not sufficient.	
			3	Some literature or reference documents on SWM exist.	
			4	Sufficient literature or reference documents on SWM exist.	
	Accumulation of past data on SWM		1	No past data on SWM accumulated.	
			2	Past data on SWM accumulated but not sufficient.	
			3	Past data on SWM accumulated to some extent.	
			4	Past data on SWM accumulated sufficiently.	
	Accumulation of past data on facilities of SWM		1	No past data of facilities (final disposal sites, collection vehicles etc.) of SWM is accumulated.	
			2	Past data of facilities is accumulated but not sufficient.	
3			Past data of facilities is accumulated to some extent.		
4			Past data of facilities is accumulated sufficiently.		
Present data of final disposal site		1	No present data of final disposal site is collected.		
		2	Present data of final disposal site is collected but not sufficient.		
		3	Present data of final disposal site is collected to some extent.		
		4	Present data of final disposal site is collected sufficiently.		
International information		1	No international information on SWM is collected.		
		2	International information on SWM is collected but not sufficient.		
		3	International information on SWM is collected to some extent.		
		4	International information on SWM is collected sufficiently.		
Leadership	Coordination of related agencies		1	No leadership to coordinate related agencies is shown.	
			2	Leadership to coordinate related agencies is shown but not sufficient.	
			3	Leadership to coordinate related agencies is shown to some extent.	
			4	Leadership to coordinate related agencies is shown sufficiently.	
	Leadership to municipalities		1	No leadership to supervise/instruct/guide municipalities is shown.	
			2	Leadership to supervise/instruct/guide municipalities is shown but not sufficient.	
Leadership to business and citizen		1	No leadership to guide businesses and citizen is shown.		
		2	Leadership to guide businesses and citizen is shown but not sufficient.		
			3	Leadership to guide businesses and citizen is shown to some extent.	
			4	Leadership to guide businesses and citizen is shown sufficiently.	

2.3 Result

The results of the individual capacity assessment are summarized below. The CA score sheets are attached at the end of the report.

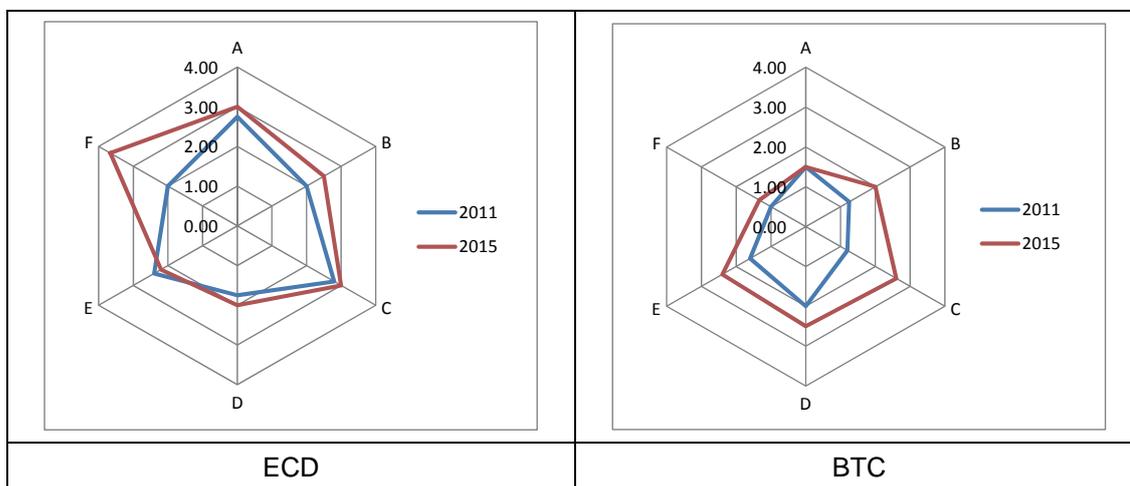
(1) Result of ECD Capacity Assessment

items	scores 2011	Scores 2015	
Structure of Organization	11/16	12/16	<ul style="list-style-type: none"> National Solid Waste Management Strategy, which was under the finalization process in 2011, supposed to define the roles and responsibilities of national/local government, citizens, and private sectors, but as of May, 2015, it was not enacted yet. The roles and responsibilities of each unit under ECD are clearly defined.
Human resources	8/16	10/16	<ul style="list-style-type: none"> The activities of donor projects are mostly implemented by project officers, who are temporality employed with the project budget only during the project period. This resulted in the difficulty of sustainability after donor projects finish.
Property	14/20	15/20	<ul style="list-style-type: none"> CPs claimed that there were not enough personal computers, OA equipment, and communication tools.
Finance	3.5/8	4/8	<ul style="list-style-type: none"> CPs claimed that the budget for human resources is not enough at all.
Information/ Data Management	12/20	11/20	<ul style="list-style-type: none"> The situations of data/information management has not been changed since 2011 The data on complaints and inspections are stored as hard copies The information/data acquired at each project is managed by individual officers, and there are no rules of information/data management and no back-up system There is a list of books and references at a library, but the management of the library is not good
Communications	6/12	11/12	<ul style="list-style-type: none"> In 2011, CPs evaluated the communications with other national organizations, councils, communities, and businesses Through J-PRISM and NZAID project, ECD improved communications with other organizations

(2) Result of BTC Capacity Assessment

items	scores 2011	Scores 2015	
Structure of Organization	6/12	6/12	<ul style="list-style-type: none"> The roles of responsibilities of each officer are clearly written on the contract, but the quality of work at BTC heavily depends on CEO's management abilities. Every time CEO changed, the result of J-PRISM activities fluctuated. Ministry of Internal Affairs should be involved in the management of councils.
Human resources	5/12	8/12	<ul style="list-style-type: none"> CPs evaluated that there are not officers and staff with technical knowledge and skills Even though CPs increased the knowledge and skills through daily activities and training programs, but due to the frequent changes of CPs, it was difficult for BTC to increase the capabilities as an organization.
Property	6/20	13/20	<ul style="list-style-type: none"> During the project period, a room for Work Supervisor was prepared and a set of computer was provided. In addition, a workshop was constructed under NZAID project and collection workers got a space for relaxation. The lack of communication tools (a cell phone) and transportation (a motor bike) makes it difficult for Work Supervisor to react quickly to problems.

Finance	4/8	5/8	<ul style="list-style-type: none"> BTC collects garbage collection fee by deducting from paychecks of government employees, charging as a part of business license fees, and visiting houses. The total f BTC created a separate account for organic recycling activities and the expenses for daily operation such as fuel cost is covered by the account.
Information/ Data Management	8/20	12/20	<ul style="list-style-type: none"> The bulldozer operator is in charge of keeping records of vehicles which transport waste for final disposal on the logbook. The records are summarized every month and the result is presented at the SWM committee meeting. The records of organic waste recycling activities are input on the computer and summarized every month. Due to the frequent change of Waste Supervisors, the quality of data management work cannot be improved much.
Communication s	3/8	4/8	<ul style="list-style-type: none"> Under NZAID project, training programs were provided in order to improve its customer service, but due to the frequent change of Waste Supervisors, the communication skill cannot be improved much as a whole organization. Under J-PRISM, CP tries to improve communication skill through school monitoring in 2015.



Individual CA Score Sheet

1) the basis of 5 points

- 1: No or quite a little knowledge or skill
- 2: Some knowledge or skill but needing great help to do occupational duties
- 3: Considerable knowledge or skill but needing some help to do occupational duties
- 4: Almost sufficient knowledge or skill to do occupational duties
- 5: Trainer Level

Capacity Assessment Sheet (Individuals)						
Name:		Robite		Organization: ECD		
				Date:		
Category	Evaluation item			May-13	2014/9/23	2015/8/20
Individuals	Knowledge	Knowledge on Laws, Regulations, Strategies and Plans	1 Laws and regulations on Solid Waste Management	3	3	3
			2 Regional Solid Waste Management Strategy	2	1	2
			3 National Solid Waste Management Strategy	3	2	3
			4 National Solid Waste Management Plan	3	2	
			5 Municipal Solid Waste Management Plan	2	1	
		Technical knowledge	1 Waste Amount Study	2	2	2
			2 Time & Motion Study	1	1	2
			3 Waste discharge system	2	2	2
			4 Waste collection system	3	2	3
			5 Road sweeping	4	2	3
			6 Waste Recycling	3	3	4
	Skill (obtained through experience)	7 3R	4	4	4	
		8 Waste compositing system	2	3	3	
		9 Final disposal system	3	1	4	
		10 Public awareness	4	4	4	
		11 Environmental Impact Assessment	2	3	3	
	Total (A)			43	36	42
	Target (B)					
	Situation (A/B)					
	Individuals	Management skill on Laws, Regulations, Strategies and Plans	1 Laws and regulations on Solid Waste Management	2	2	2
			2 Regional Solid Waste Management Strategy	2	1	2
			3 National Solid Waste Management Strategy	2	2	3
			4 National Solid Waste Management Plan	2	1	
5 Municipal Solid Waste Management Plan			2	1		
Technical Management Skill		1 Waste Amount Study	2	1	2	
		2 Time & Motion Study	1	1	2	
		3 Waste discharge system	2	1	2	
		4 Waste collection system	2	1	3	
		5				
		6 Waste Recycling	4	2	4	
Skill (obtained through experience)		7 3R	3	4	4	
	8 Waste compositing system	3	3	3		
	9 Final disposal	3	2	2		
	10 Public awareness	4	4	2		
	11 Environmental Impact Assessment	1	2	3		
Total (A)			35	28	34	
Target (B)			48			
Situation (A/B)						
Score	1 : No or quite a little knowledge or skill					
	2 : Some knowledge or skill but needing great help to do occupational duties					
	3 : Considerable knowledge or skill but needing some help to do occupational duties					
	4 : Almost sufficient knowledge or skill to do occupational duties					
	5 : Trainer Level					
Individuals	Information management capability	Awareness/intent on Daily Duties in official position	1 information gathering	4	3	4
			2 filing methods	3	2	3
			3 how to keep data	3	3	3
			4 digitizing data	3	1	2
			computer skills	3	3	4
			statistic knowledge	2	2	
	Communication skills	Awareness/intent on Project Activities	1 communication with colleagues	3	4	4
			2 communication with experts	3	3	3
			3 communication with other organizations	2	4	4
			4 communication with citizenz	3	4	4
			5 technique of communication with data, illustrations, photos	3	3	3
Total (A)				32	36	
Target (B)						
Situation (A/B)						

Capacity Assessment Sheet (Individuals)						
	Name:	Harry		Organization:	TUC	
					Date:	
Category	Evaluation item			Score Initial Feb 2014	May 2015	
Individuals	Knowledge	Knowledge on Laws,Regulations, Strategies and Plans	1 Laws and regulations on Solid Waste Management	4	4	
			2 Regional Solid Waste Management Strategy	2	2	
			3 National Solid Waste Management Strategy	2	2	
			4 National Solid Waste Management Plan	3	2	
			5 Municipal Solid Waste Management Plan	3	3	
				2.8	2.6	
		Technical knowledge	1 Waste Amount Study	1	4	
			2 Time & Motion Study	2	4	
			3 Waste discharge system	2	4	
			4 Waste collection system	3	4	
			5 Road sweeping	1	3	
			6 Waste Recycling	2	4	
	7 3R		2	4		
	8 Waste compositng system	1	4			
	9 Final disposal system	3	4			
	10 Public awareness	2	3			
	11 Environmental Impact Assessment	2	4			
			1.9	3.8		
	Total (A)					
	Target (B)					
	Situation (A/B)					
	Practical Skill (obtained through experience)	Mnagement skill on Laws,Regulations, Strategies and Plans	1 Laws and regulations on Solid Waste Management	3	4	
			2 Regional Solid Waste Management Strategy	3	4	
			3 National Solid Waste Management Strategy	3	4	
4 National Solid Waste Management Plan			3	4		
5 Municipal Solid Waste Management Plan			3	4		
			3.0	4.0		
Technical Management Skill		1 Waste Amount Study	1	4		
		2 Time & Motion Study	3	4		
		3 Waste discharge system	2	4		
		4 Waste collection system	3	4		
		5 Road sweeping	1	4		
		6 Waste Recycling	2	4		
	7 3R	2	4			
8 Waste compositng system	1	4				
9 Final disposal	3	4				
10 Public awareness	2	3				
11 Environmental Impact Assessment	2	4				
		2	3.9			
Total (A)						
Target (B)						
Situation (A/B)						
Score	1 : No or quite a little knowledge or skill 2 : Some knowledge or skill but needing great help to do occupational duties 3 : Considerable knowledge or skill but needing some help to do occupational duties 4 : Almost sufficient knowledge or skill to do occupational duties 5 : Trainer Level					
Individuals	Information management capability	Awareness/intent on Daily Duties in official position	1 information gathering	2	3	
			2 filing methods		5	
			3 how to keep data	3	4	
			4 digitizing data		3	
			5 computer skills	2	4	
			6 statistic knowledge	1	2	
			2	3.5		
	Communication skills	Awareness/intent on Project Activities	1 communication with colleagues	3	4	
			2 communication with experts	3	4	
			3 communication with other organizations	3	4	
			4 communication with citizenz	3	4	
			5 method of speaking	3	3	
with data, illustrations, photos						
		3	3.8			
Total (A)						
Target (B)						
Situation (A/B)						

Capacity Assessment Sheet (Individuals)								
Name: Kaiea			Organization: BTC		Date: May 2015			
Category	Evaluation item			Score Initial				
Individuals	Knowledge	Knowledge on Laws, Regulations, Strategies and Plans	1	Laws and regulations on Solid Waste Management	1			
			2	Regional Solid Waste Management Strategy	1			
			3	National Solid Waste Management Strategy	1			
			4	National Solid Waste Management Plan	1			
			5	Municipal Solid Waste Management Plan	3			
						1.4		
		Technical knowledge	1	Waste Amount Study	1			
			2	Time & Motion Study	1			
			3	Waste discharge system	1			
			4	Waste collection system	1			
			5	Road sweeping	1			
	6		Waste Recycling	2				
	7	3R	1					
	8	Waste compositng system	2					
	9	Final disposal system	2					
	10	Public awareness	1					
	11	Environmental Impact Assessment	1					
					1.3			
	Total (A)							
	Target (B)							
	Situation (A/B)							
	Practical Skill (obtained through experience)	Mangement skill on Laws, Regulations, Strategies and Plans	1	Laws and regulations on Solid Waste Management	1			
			2	Regional Solid Waste Management Strategy	1			
3			National Solid Waste Management Strategy	1				
4			National Solid Waste Management Plan	1				
5			Municipal Solid Waste Management Plan	1				
				1				
Technical Management Skill		1	Waste Amount Study	1				
		2	Time & Motion Study	1				
		3	Waste discharge system	1				
		4	Waste collection system	1				
		5	Road sweeping	1				
	6	Waste Recycling	1					
7	3R	2						
8	Waste compositng system	1						
9	Final disposal	1						
10	Public awareness	1						
11	Environmental Impact Assessment	1						
				1.1				
Total (A)								
Target (B)								
Situation (A/B)								
Score		1 : No or quite a little knowledge or skill 2 : Some knowledge or skill but needing great help to do occupational duties 3 : Considerable knowledge or skill but needing some help to do occupational duties 4 : Almost sufficient knowledge or skill to do occupational duties 5 : Trainer Level						
Individuals	Information management capability	Awareness/intent on Daily Duties in official position	1	information gathering	1			
			2	filling methods	1			
			3	how to keep data	1			
			4	digitizing data	2			
			5	computer skills	1			
			6	statistic knowledge	1			
					1.2			
	Communication skills	Awareness/intent on Project Activities	1	communication with colleagues	4			
			2	communication with experts	2			
			3	communication with other organizations	1			
			4	communication with citizenz	2			
5			technique of communication with data, illustrations, photos	2				
				2.2				
Total (A)								
Target (B)								
Situation (A/B)								

ECD

CA Sheet (Organization)							
Category	Class	Evaluation item	Score Sep 2011	Score Aug 2015	Evaluation standard		
					Grade	Standard	
Organization	Structure of Organization	1-1 Organizational structure (central - local relations)	3	3	1	Roles of each agency are not clear.	
					2	Roles of each agency are partly clear but not sufficient.	
					3	Roles of each agency are clear to some extent but not stipulated elaborately by law.	
					4	Roles of each agency are very clear and stipulated by law.	
					1	No agency for required roles.	
					2	Some agencies for required roles but not sufficient.	
				3	Agencies for required roles existing to some extent but their relations are not clear.		
				4	Agencies for required roles existing and can cooperate together.		
				1	Roles of each units are not clear.		
				2	Roles of each units are partly clear but not stipulated by documents		
				3	Roles of each units are stipulated by documents to some extent		
				4	Roles of each units are clearly stipulated by documents		
				1	Staff personnel for SWM are not provided.		
				2	Staff personnel for SWM are provided but not sufficient.		
				3	Necessary staff personnels for SWM are provided to some extent.		
				4	Sufficient staff personnel for SWM are provided.		
			Total score (A)	11	12		
			Target (B)				
			Achievement (AB)				
		Human resources	2-1 Technical	2	3	1	No staff personnel with technical knowledge and skills on SWM exist.
						2	Staff personnel with technical knowledge and skills on SWM exist but not sufficient.
						3	Some staff personnel with technical knowledge and skills on SWM exist.
						4	Sufficient staff personnel with technical knowledge and skills on SWM exist.
						1	No staff personnel with the knowledge and skills of finance and accounts on SWM exist.
						2	Staff personnel with the knowledge and skills of finance and accounts on SWM exist but not sufficient.
					3	Some staff personnel with the knowledge and skills of finance and accounts on SWM exist.	
					4	Sufficient staff personnel with the knowledge and skills of finance and accounts on SWM exist.	
					1	No staff personnel with the knowledge and skills of public awareness on SWM exist.	
					2	Staff personnel with the knowledge and skills of public awareness on SWM exist but not sufficient.	
				3	Some staff personnel with the knowledge and skills of public awareness on SWM exist.		
				4	Sufficient staff personnel with the knowledge and skills of public awareness on SWM exist.		
				1	No staff personnel with the knowledge of general affairs exist.		
				2	Staff personnel with the knowledge of general affairs exist but not sufficient.		
				3	Some staff personnel with the knowledge of general affairs exist.		
				4	Sufficient staff personnel with the knowledge of general affairs exist.		
		Total score (A)	8	10			
		Target (B)					
		Achievement (AB)					
	Property	3-1 Office space	4	4	1	No office space for SWM staff is provided. (only for supervisor)	
					2	Office space for SWM staff is provided but not sufficient.	
					3	Some office space for SWM staff is provided.	
					4	Sufficient office space for SWM staff is provided.	
					1	No office furniture (desks, lockers etc.) for SWM staff is provided.	
					2	Office furniture (desks, lockers etc.) for SWM staff is provided but not sufficient.	
					3	Some office furniture (desks, lockers etc.) for SWM staff is provided.	
					4	Sufficient office furniture (desks, lockers etc.) for SWM staff is provided.	
					1	No OA equipment (computers, printers etc.) for SWM staff is provided.	
					2	OA equipment (computers, printers etc.) for SWM staff is provided but not sufficient.	
				3	Some OA equipment (computers, printers etc.) for SWM staff is provided.		
				4	Sufficient OA equipment (computers, printers etc.) for SWM staff is provided.		
				1	No communication equipment (telephones, faxes etc.) for SWM staff is provided.		
				2	Communication equipment (telephones, faxes etc.) for SWM staff is provided but not sufficient.		
				3	Some communication equipment (telephones, faxes etc.) for SWM staff is provided.		
				4	Sufficient communication equipment (telephones, faxes etc.) for SWM staff is provided.		
				1	No vehicles for SWM staff are provided.		
				2	Vehicles for SWM staff are provided but not sufficient.		
				3	Some vehicles for SWM staff are provided.		
				4	Vehicles for SWM staff are provided sufficiently.		
		Total score (A)	14	15			
		Target (B)					
		Achievement (AB)					
	Finance	4-1 Budget for operation & management	1	1	1	No necessary budget for collection work, disposal site management, communication with citizens	
					2	There is budget for collection work, disposal site, and communications but not enough to implement work	
					3	There is budget for collection work and disposal site management but not enough for renewal of vehicles	
					4	There is enough budget for collection work and disposal site management	
				1	No necessary budget for human resources		
				2	There is budget for human resources but not enough		
				3	Some staff are employed with external fund		
				4	There is budget for human resources		
		Total score (A)	3.5	4			
		Target (B)					
		Achievement (AB)					
	Information/ Data Management	document management	3	3	1	No documents on SWM are not stored	
					2	Documents on SWM are stored but no clear rules	
					3	There are rules of documents management to some extent and some documents are stored	
					4	There are rules of documents management and documents are stored	
					1	No past data on SWM accumulated.	
					2	Past data on SWM accumulated but not sufficient.	
				3	Past data on SWM accumulated to some extent.		
				4	Past data on SWM accumulated sufficiently.		
				1	No past data of facilities (final disposal sites, collection vehicles etc.) of SWM is accumulated.		
				2	Past data of facilities is accumulated but not sufficient.		
				3	Past data of facilities is accumulated to some extent.		
				4	Past data of facilities is accumulated sufficiently.		
				1	No present data of final disposal site is collected.		
				2	Present data of final disposal site is collected but not sufficient.		
				3	Present data of final disposal site is collected to some extent.		
				4	Present data of final disposal site is collected sufficiently.		
				1	No literatures/references on SWM is collected.		
				2	Literatures/references on SWM is collected but not sufficient.		
				3	Literatures/references on SWM is collected to some extent.		
				4	Literatures/references on SWM is collected sufficiently.		
		Total score (A)	12	11			
		Target (B)					
		Achievement (AB)					
	Communication	Coordination of related agencies	2	4	1	No leadership to coordinate related agencies is shown.	
					2	Communication/Leadership to coordinate related agencies is shown but not sufficient.	
					3	Communication/Leadership to coordinate related agencies is shown to some extent.	
					4	Communication/Leadership to coordinate related agencies is shown sufficiently.	
					1	No Communication/Leadership to supervise/instruct/guide municipalities is shown.	
					2	Communication/Leadership to supervise/instruct/guide municipalities is shown but not sufficient.	
				3	Communication/Leadership to supervise/instruct/guide municipalities is shown to some extent.		
				4	Communication/Leadership to supervise/instruct/guide municipalities is shown sufficiently.		
				1	No Communication/Leadership to guide businesses and citizen is shown.		
				2	Communication/Leadership to guide businesses and citizen is shown but not sufficient.		
				3	Communication/Leadership to guide businesses and citizen is shown to some extent.		
				4	Communication/Leadership to guide businesses and citizen is shown sufficiently.		
		Total score (A)	6	11			
		Target (B)					
		Achievement (AB)					

BTC

CA Sheet (Organization)						
Category	Class	Evaluation item	Score Sep 2011	Score Aug 2015	Evaluation standard	
					Grade	Standard
Organization	Structure of Organization	1-1 Structure of organizations	2	2	1	No Departments/Units for required roles.
					2	Some Departments/Units for required roles but not sufficient.
					3	Departments/Units for required roles existing to some extent.
					4	Departments/Units for required roles existing almost completely.
		1-2 Roles of departments/units	2	2	1	Roles of each departments/units are not clear.
					2	Roles of each departments/units are partly clear but not stipulated by documents
				3	Roles of each departments/units are stipulated by documents to some extent	
				4	Roles of each departments/units are clearly stipulated by documents	
	1-3 Appropriateness of staff arrangement	2	2	1	Staff personnel for SWM are not provided.	
				2	Staff personnel for SWM are provided but not sufficient.	
				3	Necessary staff personnels for SWM are provided to some extent.	
				4	Sufficient staff personnel for SWM are provided.	
				Total score (A) 6 6		
				Target (B)		
				Achievement (A/B)		
	Human resources	2-1 Technical	1	2	1	No staff personnel with technical knowledge and skills on SWM exist.
					2	Staff personnel with technical knowledge and skills on SWM exist but not sufficient.
					3	Some staff personnel with technical knowledge and skills on SWM exist.
					4	Sufficient staff personnel with technical knowledge and skills on SWM exist.
		2-2 Finance & Accounts	2	2	1	No staff personnel with the knowledge and skills of finance and accounts on SWM exist.
					2	Staff personnel with the knowledge and skills of finance and accounts on SWM exist but not sufficient.
					3	Some staff personnel with the knowledge and skills of finance and accounts on SWM exist.
					4	Sufficient staff personnel with the knowledge and skills of finance and accounts on SWM exist.
		2-3 Public awareness	1	2	1	No staff personnel with the knowledge and skills of public awareness on SWM exist.
					2	Staff personnel with the knowledge and skills of public awareness on SWM exist but not sufficient.
				3	Some staff personnel with the knowledge and skills of public awareness on SWM exist.	
				4	Sufficient staff personnel with the knowledge and skills of public awareness on SWM exist.	
2-4 General affairs	1	2	1	No staff personnel with the knowledge of general affairs exist.		
			2	Staff personnel with the knowledge of general affairs exist but not sufficient.		
			3	Some staff personnel with the knowledge of general affairs exist.		
			4	Sufficient staff personnel with the knowledge of general affairs exist.		
			Total score (A) 5 8			
			Target (B)			
			Achievement (A/B)			
Property	3-1 Office space	1	3	1	No office space for SWM staff is provided. (only for supervisor)	
				2	Office space for SWM staff is provided but not sufficient.	
				3	Some office space for SWM staff is provided.	
				4	Sufficient office space for SWM staff is provided.	
	3-2 Stationaries	1	3	1	No office furniture (desks, lockers etc.) for SWM staff is provided.	
				2	Office furniture (desks, lockers etc.) for SWM staff is provided but not sufficient.	
				3	Some office furniture (desks, lockers etc.) for SWM staff is provided.	
				4	Sufficient office furniture (desks, lockers etc.) for SWM staff is provided.	
	3-3 OA equipment	1	3	1	No OA equipmet (computers, printers etc.) for SWM staff is provided.	
				2	OA equipmet (computers, printers etc.) for SWM staff is provided but not sufficient.	
			3	Some OA equipmet (computers, printers etc.) for SWM staff is provided.		
			4	Sufficient OA equipmet (computers, printers etc.) for SWM staff is provided.		
3-4 Communication equipment	1	2	1	No communication equipmet (telephones, faxes etc.) for SWM staff is provided.		
			2	Communication equipmet (telephones, faxes etc.) for SWM staff is provided but not sufficient.		
			3	Some communication equipmet (telephones, faxes etc.) for SWM staff is provided.		
			4	Communication equipmet (telephones, faxes etc.) for SWM staff is provided sufficiently.		
3-5 Vehicles	2	2	1	No vehicles for SWM staff are provided.		
			2	Vehicles for SWM staff are provided but not sufficient.		
			3	Some vehicles for SWM staff are provided.		
			4	Vehicles for SWM staff are provided sufficiently.		
			Total score (A) 6 13			
			Target (B) 15			
			Achievement (A/B)			
Finance	4-1 Budget for operation & management	2	3	1	No necessary budget for collection work, disposal site management, communication with citizens	
				2	There is budget for collection work, disposal site, and communications but not enough to implement work	
				3	There is budget for collection work and disposal site management but not enough for renewal of vehicles	
				4	There is enough budget for collection work and disposal site management	
4-2 budget for human resources	2	2	1	No necessary budget for human resources		
			2	There is budget for human resources but not enough		
			3	Some staff are employed with external fund		
			4	There is budget for human resources		
			Total score (A) 4 5			
			Target (B) 6			
			Achievement (A/B)			
Information management	document management	2	2	1	No documents on SWM are not stored	
				2	Documents on SWM are stored but no clear rules	
				3	There are rules of documents management to some extent and some documents are stored	
				4	There are rules of documents management and documents are stored	
	Accumulation of past data on SWM	1	3	1	No past data on SWM accumulated.	
				2	Past data on SWM accumulated but not sufficient.	
				3	Past data on SWM accumulated to some extent.	
				4	Past data on SWM accumulated sufficiently.	
	Accumulation of past data on facilities of SWM	1	2	1	No past data of facilities (final disposal sites, collection vehicles etc.) of SWM is accumulated.	
				2	Past data of facilities is accumulated but not sufficient.	
			3	Past data of facilities is accumulated to some extent.		
			4	Past data of facilities is accumulated sufficiently.		
Present data of final disposal site	2	3	1	No present data of final disposal site is collected.		
			2	Present data of final disposal site is collected but not sufficient.		
			3	Present data of final disposal site is collected to some extent.		
			4	Present data of final disposal site is collected sufficiently.		
Literatures/reference s of SWM	2	2	1	No literatures/references on SWM is collected.		
			2	Literatures/references on SWM is collected but not sufficient.		
			3	Literatures/references on SWM is collected to some extent.		
			4	Literatures/references on SWM is collected sufficiently.		
			Total score (A) 8 12			
			Target (B) 15			
			Achievement (A/B)			
Communications	Coordination of related agencies	2	2	1	No leadership to coordinate related agencies is shown.	
				2	Leadership to coordinate related agencies is shown but not sufficient.	
				3	Leadership to coordinate related agencies is shown to some extent.	
				4	Leadership to coordinate related agencies is shown sufficiently.	
Communications with to business and citizen	1	2	1	No communication routs with businesses and citizen		
			2	There are communication tools with businesses and citizen, but not sufficient.		
			3	Communication to guide businesses and citizen is shown to some extent.		
			4	Communication to guide businesses and citizen is shown sufficiently.		
			Total score (A) 3 4			
			Target (B) 9 9			
			Achievement (A/B)			

4.3 トンガ国

Capacity Assessment in cooperation with C/P organizations

1. Implementation procedure

The capacity assessment were conducted in cooperation with C/P organizations. The outline of implementation procedure is shown in the following table.

Target of assessment	<p>① Self-assessment of individual/organizational capacity: MLECCNR Vava'u district C/P (Ms. Winnie, Ms. Mele), MoH Vava'u District Health Inspector (Mr. Manase)</p> <p>② Social capacity assessment: residents of four (4) pilot communities of community-based garbage collection (30 % of total number of households in each community)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Name of community</th> <th style="text-align: center;">Total number of households</th> <th style="text-align: center;">Target number of households</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Kameli</td> <td style="text-align: center;">213</td> <td style="text-align: center;">70</td> </tr> <tr> <td style="text-align: center;">Leimatu'a</td> <td style="text-align: center;">213</td> <td style="text-align: center;">70</td> </tr> <tr> <td style="text-align: center;">Tu'ane kivale</td> <td style="text-align: center;">85</td> <td style="text-align: center;">30</td> </tr> <tr> <td style="text-align: center;">Longomapu</td> <td style="text-align: center;">112</td> <td style="text-align: center;">40</td> </tr> </tbody> </table>	Name of community	Total number of households	Target number of households	Kameli	213	70	Leimatu'a	213	70	Tu'ane kivale	85	30	Longomapu	112	40
Name of community	Total number of households	Target number of households														
Kameli	213	70														
Leimatu'a	213	70														
Tu'ane kivale	85	30														
Longomapu	112	40														
Implementation schedule / Methods	<ul style="list-style-type: none"> - Self-assessment of individual/organizational capacityC/P filled in the Capacity Inventory (CI), which was used in both 1st and 2nd Assessments (30 Jul. 2015 – 4 Aug. 2015) - Based on the results of self-assessment done by C/P, JICA Expert had a interview with each C/P and made comments from an objective viewpoint (5-6 Aug. 2015) ① Social capacity assessment - The contents of questionnaire, which was used for the 1st Social CA survey conducted in Sep. 2014, was reviewed by MEIDECC C/P (16 Jul. 2015) - The Project requested Waste (VEVE) Committee to select two or three people to conduct a questionnaire survey. - MEIDECC C/P conducted a training for all surveyors, explaining of implementation procedure and reporting and confirming of each question. (17 Jul. 2015) - Implementation schedule was as shown below: <ol style="list-style-type: none"> 1) Implementation: 18 - 22 Jul. 2015 2) Making a report by the Committee: 23 Jul. 2015 3) Submission of the report, payment of wages: 24 Jul. 2015 4) Analysis and making report by J-PRISM Expert <div style="text-align: right; margin-top: 10px;">  <p style="text-align: right;">Training for surveyors (17 Jul. 2015)</p> </div>															

2. Results

The results of the 2nd assessment are shown below.

1) Self-assessment of individual/organizational capacity

Assessment items composed of the following categories. Check points of capacity are defined according to the planned project activities.

1. Waste Management	1-1. Basic information on SWM
	1-2. National policies and legislations
	1-3. Waste Management Plan
2. Organizations	2-1. Political will
	2-2. Awareness level of top management
	2-3. Organizational structure
	2-4. Decision-making mechanism
	2-5. Allocation of duties
	2-6. Number of staff
	2-7. Training
	2-8. Communication between top management and other departments
3. Outsourcing services to the private contractor	3-1. Contracts
	3-2. Services under contract
	3-3. Monitoring status
	3-4. Supervision
	3-5. Cost calculation
4. Collection and transportation	4-1. Basic information
	4-2. Current status
	4-3. Areas and populations
	4-4. Pilot project
	4-5. Garbage collection plan
	4-6. Collection work
	4-7. Plan and method for vehicle operation management
	4-8. Supervision
	4-9. Awareness for garbage collection
	4-10. Collection equipment
5A. Final disposal (rehabilitation)	5-1. Daily inspection
	5-2. Rehabilitation plan
	5-3. EIA procedure
	5-4. Land matters
5B (1) Operation and maintenance of final disposal site	5-5. Embankment
	5-6. Access road
	5-7. Soil covering
	5-8. Drainage of surface water
	5-9. Control of incoming waste
	5-10. Leachate treatment
	5-11. Waste disposal amount
	5-12. Landfill development plans
	5-13. Landfill equipment
	5-14. Waste pickers
	5-15. Water monitoring
	5-16. Manual
	5-17. Monitoring system

6. Soft components (Education/Awareness)	6-1. Customs and Classes
	6-2. Social organizations
	6-3. Environmental education
	6-4. Involvement of mass media
	6-5. Partnership among stakeholders
	6-6. Reflection of community inputs in policies and services

The result of each counterpart is shown in the following table.

Name of C/P: Mrs. Feauini Veikoso Laumanu (OIC, Vava'u District, Ministry of Environment and Communication (MEIDECC))				
	Before Project	1st CA (Feb 2013)	2nd CA (Sep 2014)	3rd CA (Jul. 2015)
SWM in general	1.9	3.7	3.9	4.3
Organizations	1.8	3.6	4.0	4.4
Working with private sectors	2.2	3.6	4.0	4.2
Waste collection	2.5	3.7	4.0	5.0
Final disposal (rehabilitation)	2.6	3.8	4.0	4.0
Final disposal (operation/maintenance)	2.7	3.7	4.0	4.0
Education/awareness	3.0	3.7	4.0	5.0

SWM in general

Education/awareness

Organizations

Working with private sectors

Final disposal (operation/maintenance)

Final disposal (rehabilitation)

Waste collection

— Before Project — 1st CA (Feb. 2013)

— 2nd CA (Sep. 2014) — 3rd CA (Jul. 2015)

[Comments on self-assessment (by C/P)]

I find the J-PRISM project taught me so many capacities as I highlighted above. My wish is that the Ministry and community make us of all the experiences that I have been develop from the first day of this project and more for the future to assist the problem of Vava'u with SWM.I really gain more experience and capacity and look forward to serve the people of Vava'u with the SWM to the best of my ability.

[Recommendations for J-PRISM Expert and the Project (by C/P)]

Really awesome J-PRISM expert Yurie-san is very talented with so many experience and methods to almost everything of SWM. I look forward for close update of the future work to and from the expert to assist us getting more and more good practices of SWM in Vava'u and the Kingdom of Tonga.

[Comments from J-PRISM Expert]

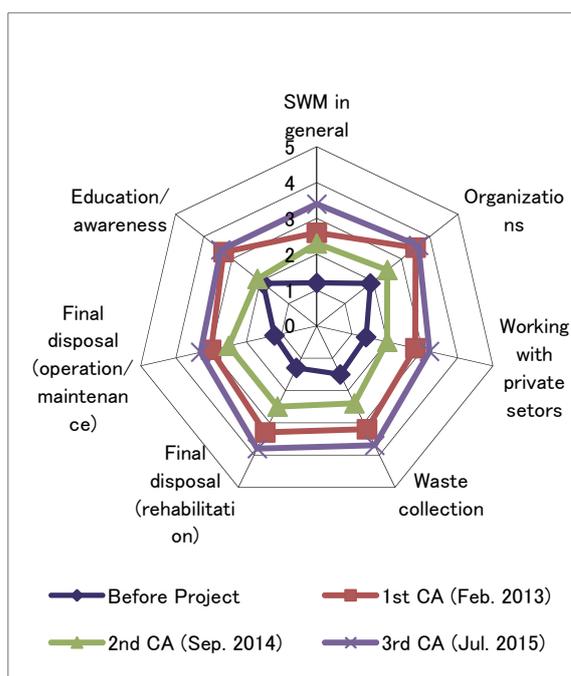
It is also noted that the organizational capacity was recognized as the lowest score before the project, however, it has been obviously increased. In Sep. 2014, MEIDECC allocated one more environment officer who has some work experience in the environmental field. Also, one secretary has been assigned for administration work since May 2015. These additional staffs made Winnie's workloads less by sharing works. Another contribution factor for the increase of organizational capacity is that MEIDECC could manage to secure TOP\$15,000 for implementation of project activities for FY2015/2016. This great news really motivates all MEIDECC staff. The support of MEIDECC main office is quite necessary for implementation of SWM in Vava'u.

She has strong confident on her ability in two components, namely waste collection and education/awareness. She gained sufficient knowledge and experience in these fields through the on-the-job training during implementation of project activities in Vava'u and two regional trainings which were held in Fiji in Nov. 2014 and Okinawa in Jun. 2015. She has been nominated as a local expert in both two fields. As she mentioned, she is expected to share her knowledge and experience not only with regional counterparts but also with in-country ones as there is a big demand for Vava'u model in Tonga and other

pacific countries.

Name of C/P: **Mr. Manase Malua**
(Public Health Inspector gr-1, Prince Wellington Ngu Hospital, Ministry of Health)

	Before Project	1st CA (Feb 2013)	2nd CA (Sep. 2014)	3rd CA (Jul. 2015)
SWM in general	1.2	2.6	2.3	3.4
Organizations	1.9	3.5	2.5	3.6
Working with private sectors	1.4	2.8	2.0	3.2
Waste collection	1.5	3.2	2.4	3.7
Final disposal (rehabilitation)	1.3	3.3	2.5	3.8
Final disposal (operation/maintenance)	1.2	3	2.5	3.3
Education/awareness	1.9	3.3	2.1	3.4



[Comments on self-assessment (by C/P)]

I wish do explain the reason why the graph increase at first and decreased after training in Japan. Definitely, I marked up the scores according to my own knowledge, experienced and clear understanding about waste management, on that time, say best of my understanding. After training in Japan I found out my local understanding worth almost nothing. THATS WHY I DROPE THE SCORED DOWN at the second graph showed the real situation of my understanding for more ideas and acknowledge gain from training, starting point of developing and improvement. I can tell the different between before and after training in Japan.

Kalaka landfill has been improving to a sustainable operation and maintenance. Since 2011, more than 50% of the operation is undertaken by the Ministry of Health. Honorable Minister and Director of Health, Governor of Vava'u are really involved in Kalaka improvement whilst the Ministry of Health increases the annual budget from \$5,000 to \$8,000 this year (FY2015/2016). Also, one more staff to be allocated for Kalaka landfill.

[Recommendations for J-PRISM Expert and the Project (by C/P)]

Yurie-san is doing really good indeed and the Project is well known by the people of Vava'u even school children. Still need her for onward going of the project

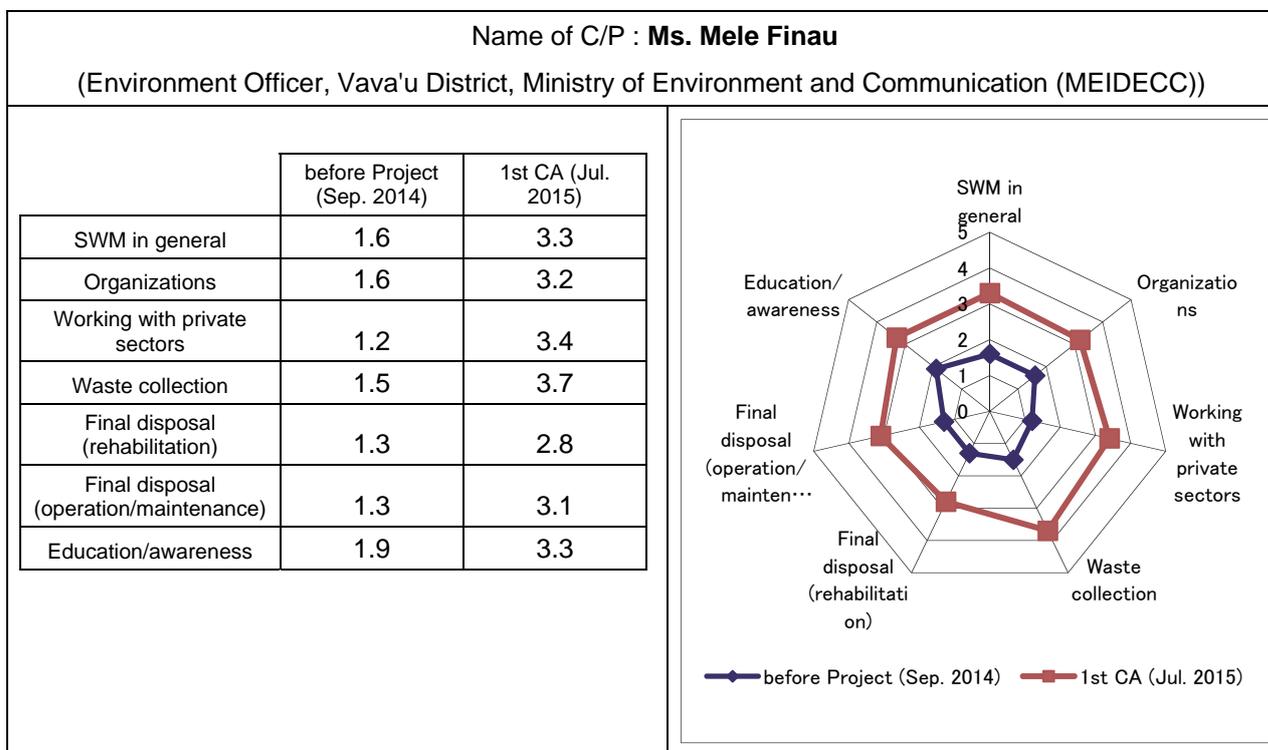
[Comments from J-PRISM Expert]

While Mr. Manase's overall score decreased for self-assessment from 1st to 2nd CA, several areas showed a decrease in average. According to the discussion between J-PRISM expert and Mr. Manase, the main reason for this drop can be attributed to that 1st CA was conducted just after 2.5-months SWM training in Japan and the completion of rehabilitation work at Kalala landfill. He was quite confident in all SWM components during 1st CA, however, he found that some of knowledge and technics he gained through Japan training were not applicable to the situation of Vava'u, and he felt the need of further improvement of all components, even though he contributed a lots to better management of final disposal.

He seems still humbly regard himself as having room to improve in all, but finally ranked himself the best score in each component in the final 3rd CA, that is generally considered to be quite accurate.

I still remember him when the project started. Mr. Manase was just sitting and listening voices of other audience during any meetings and workshops. However, we now witness that he is sometimes leading conversations by showing his commitment, that's a great change.

Kalaka landfill management totally depends on Mr. Manase's commitment and the support of MoH main office. The increase of Kalaka budget to TOP\$8,000 is really encouraging news for us although that was only TOP\$1,000 when the project started. We hope the commitment of MoH main office will last even the project ends this year.



[Comments on self-assessment (by C/P)]

Based on this capacity assessment, I still need more skills for some parts such as mechanisms and resources or technique that suitable to different parts of the project. Coordination with other stakeholders is indeed important and this is the missing part that I don't have much experience on that. Some of the issues regarding for the disposal sites is still weak and I need to improve my skills to learn more about Kalaka operation and management.

[Recommendations for J-PRISM Expert and the Project (by C/P)]

Before I joined to this project, I witnessed many different kinds of waste been lying around roadside, communities always burn their wastes. I resumed last year and leaned many challenges of doing this project but after all, there is a change in people's mindset, the environment is more clean, schools is also joined in.

Overall this project has taught the community to know the waste management system as in progress in Vava'u. The awareness programs approach to communities that help people to segregate and try to minimize of waste. This appropriate system and project is very simple, easy and costless and it will be a good sample for some islands in Tonga as well as the Pacific to implement.

[Comments from J-PRISM Expert]

Ms. Mele joined in MEIDECC in Sep. 2014, and her passion and commitment to the project gave us positive impacts. Her background and work experience gained by VEPA is also advantage for her. Her knowledge and experience in SWM is still in the learning process but she has already gained a lot through the project, particularly in two fields, namely community-based garbage collection and clean school program. She is already an indispensable person to us and the project as a member of Vava'u VEVE team! I as J-PRISM Expert, look forward to even further growth from you from now on.

REPORTS ON SOCIAL CAPACITY QUESTIONNAIRE SURVEY										J-PRISM Tonga							
1. IMPLEMENTATION PROCEDURE																	
1.1 Procedure																	
1) Questionnaire was examined according to the following survey results																	
- Public Opinion Survey, which was conducted in 2011 as a part of baseline survey.																	
- Questionnaire survey for residents living in four (4) pilot communities with community-based garbage collection.																	
2) The draft questionnaire was finalized by reflecting the views of C/P and representatives of Waste (VEVE) Committee members.																	
3) The Project requested Waste (VEVE) Committee to select two or three people to conduct a questionnaire survey.																	
4) The Project conducted training for all surveyors, explaining of implementation procedure and reporting and confirming of each question.																	
1.2 Schedule																	
- 1st Capacity Assessment (1st CA : 17 September 2014 – 25 September 2014																	
- 2nd Capacity Assessment (2nd CA : 17 July 2015 – 24 July 2015																	
1.3 Targets																	
- Residents of four (4) pilot communities of community-based garbage collection (30 % of total number of households in each community)																	
NAME of COMMUNITY		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Total No. of H.H	Target No. of H.H	Total No. of H.H	Target No. of H.H	Total No. of H.H	Target No. of H.H	Total No. of H.H	Target No. of H.H								
		213	70	218	70	88	30	121	40								
2. RESULTS																	
QUESTIONS																	
Q.1 Do you think that waste is a problem in Vava'u?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
lo		67	96%	64	91%	69	99%	69	99%	24	80%	30	100%	40	100%	40	100%
Ikai		1	1%	0	0%	1	1%	1	1%	1	3%	0	0%	0	0%	0	0%
Not sure		2	3%	6	9%	0	0%	0	0%	5	17%	0	0%	0	0%	0	0%
Total		70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Community-based garbage collection (Hiko VEVE)																	
Q.2 Do you know your community has established a VEVE Committee?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
lo		69	99%	70	100%	66	94%	69	99%	30	100%	29	97%	40	100%	40	100%
Ikai		1	1%	0	0%	4	6%	1	1%	0	0%	1	3%	0	0%	0	0%
Not sure		0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total		70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.3 Do you know your VEVE Committee conducts a Hiko VEVE in your community?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
lo		69	99%	65	93%	69	99%	69	99%	30	100%	28	87%	40	100%	40	100%
Ikai		1	1%	3	4%	1	1%	1	1%	0	0%	4	13%	0	0%	0	0%
Not sure		0	0%	2	3%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total		70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.4. Do you know the frequency of Hiko VEVE ?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
lo		55	79%	65	93%	59	84%	61	87%	27	90%	21	70%	40	100%	40	100%
Ikai		14	20%	3	4%	3	4%	9	13%	2	7%	9	30%	0	0%	0	0%
Not sure		1	1%	2	3%	8	11%	0	0%	1	3%	0	0%	0	0%	0	0%
Total		70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.5. Do you know the collection day?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
lo		54	77%	65	93%	43	61%	61	87%	27	90%	21	70%	40	100%	40	100%
Ikai		14	20%	3	4%	21	30%	19	27%	2	7%	9	30%	0	0%	0	0%
Not sure		2	3%	2	3%	6	9%	0	0%	1	3%	1	3%	0	0%	0	0%
Total		70	100%	70	100%	70	100%	70	100%	30	100%	31	103%	40	100%	40	100%
Q.6. Do you know the collection time ?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
lo		50	71%	64	91%	37	53%	56	80%	26	87%	13	43%	40	100%	40	100%
Ikai		18	26%	4	6%	21	30%	14	20%	3	10%	17	57%	0	0%	0	0%
Not sure		2	3%	2	3%	11	16%	0	0%	1	3%	0	0%	0	0%	0	0%
Total		70	100%	70	100%	69	99%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.7. Have you ever discharged VEVE to Hiko VEVE conducted by VEVE Committee ?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
lo		56	80%	58	83%	59	84%	59	84%	29	97%	24	80%	34	85%	40	100%
Ikai		13	19%	11	16%	11	16%	11	16%	1	3%	6	20%	6	15%	0	0%
Not sure		1	1%	1	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total		70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.8. If YES to Q7, how often?																	
		Kameli		Leimatu'a		Tu'anekeviale		Longomapu									
		Sep. 2014	Jul. 2015														
1) Every collection day		32	57%	48	83%	36	61%	40	68%	18	62%	10	42%	19	56%	25	63%
2) Sometimes (2)Irregularly, 3)once a few times)		8	14%	10	17%	12	20%	19	32%	11	38%	10	42%	14	41%	14	35%
3) Others		16	29%	0	0%	11	19%	0	0%	0	0%	4	17%	1	3%	1	3%
Total		56	100%	58	100%	59	100%	59	100%	29	100%	24	100%	34	100%	40	100%

Q.9. If NO to Q7, why?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) No waste (burying or feeding pigs and dogs)	1	6%	7	64%	1	4%	7	64%	0	0%	4	27%	2	33%	1	100%
2) I am taking my waste to Kalaka dumpsite	7	41%	3	27%	1	4%	2	18%	0	0%	2	13%	0	0%	0	0%
3) I don't want to pay money	1	6%	0	0%	11	44%	0	0%	0	0%	0	0%	0	0%	0	0%
4) I don't have a platform for my house	0	0%	0	0%	6	24%	2	18%	0	0%	3	20%	0	0%	0	0%
5) I am busy so I can't adjust my schedule to current Hiko VEVE system	4	24%	0	0%	3	12%	0	0%	0	0%	3	20%	4	67%	0	0%
6) I don't know about Hiko VEVE system in my community	4	24%	1	9%	2	8%	0	0%	1	100%	3	20%	0	0%	0	0%
7) Others	0	0%	0	0%	1	4%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	17	100%	11	100%	25	100%	11	100%	1	100%	15	100%	6	100%	1	100%
Q.10. How did you get information related to Hiko VEVE?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) Community meetings	27	39%	10	14%	1	1%	1	1%	12	40%	12	40%	34	50%	0	0%
2) House-to-house visits conducted by VEVE Committee	13	19%	0	0%	1	1%	6	9%	3	10%	3	10%	0	0%	3	8%
3) Announcement done by VEVE Committee on collection days	11	16%	54	77%	62	87%	61	87%	10	33%	10	33%	34	50%	37	93%
4) From neighbours	16	23%	1	1%	2	3%	2	3%	4	13%	4	13%	0	0%	0	0%
5) Others (3	4%	5	7%	5	7%	0	0%	1	3%	1	3%	0	0%	0	0%
Total	70	100%	70	100%	71	100%	70	100%	30	100%	30	100%	68	100%	40	100%
Metals (KAPA) recycling																
Q.11. Do you separately discharge VEVE and KAPA?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
lo	52	74%	56	80%	63	90%	63	90%	26	87%	22	73%	25	63%	37	93%
Ikai	18	26%	13	19%	0	0%	7	10%	4	13%	8	27%	15	38%	3	8%
Not sure	0	0%	1	1%	7	10%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.12. If YES to Q11, how often do you discharge KAPA?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) Every collection day	21	40%	44	79%	29	46%	43	68%	18	69%	9	41%	15	60%	25	68%
2) Sometimes (2)Irregular, 3)once a few times)	25	48%	12	21%	25	40%	20	32%	8	31%	9	41%	10	40%	12	32%
3) Others (6	12%	0	0%	9	14%	0	0%	0	0%	4	18%	0	0%	0	0%
Total	52	100%	56	100%	63	100%	63	100%	26	100%	22	100%	25	100%	37	100%
Q.13. If NO to Q11, why?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) Not much KAPA	5	14%	5	14%	4	50%	1	14%	2	50%	2	17%	4	27%	2	67%
2) I am taking KAPA to Gio by myself	6	17%	6	17%	1	13%	2	29%	0	0%	0	0%	0	0%	0	0%
3) I feel hassle to separate VEVE and KAPA	18	51%	18	51%	0	0%	0	0%	2	50%	6	50%	5	33%	1	33%
4) I don't know about Hiko KAPA system in my community	6	17%	6	17%	3	38%	4	57%	0	0%	4	33%	6	40%	0	0%
5)Others(0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	35	100%	35	100%	8	100%	7	100%	4	100%	12	100%	15	100%	3	100%
Finance																
Q.14. Do you understand Hiko VEVE require a cost?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
lo	65	93%	67	96%	N/A	N/A	28	93%	25	83%	40	100%	40	100%		
Ikai	5	7%	1	1%			2	7%	5	17%	0	0%	0	0%		
Not sure	0	0%	2	3%			0	0%	0	0%	0	0%	0	0%		
Total	70	100%	70	100%			30	100%	30	100%	40	100%	40	100%		
Q.15. Have you ever paid a fee to VEVE Committee for Hiko VEVE?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
lo	65	93%	58	83%	N/A	N/A	24	80%	25	83%	39	98%	39	98%		
Ikai	5	7%	12	17%			6	20%	5	17%	1	3%	1	3%		
Not sure	0	0%	0	0%			0	0%	0	0%	0	0%	0	0%		
Total	70	100%	70	100%			30	100%	30	100%	40	100%	40	100%		
Q.16. If YES to Q15, how often?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) Every collection day	19	29%	20	34%	N/A	N/A	10	42%	4	18%	0	0%	0	0%		
2) Every month	15	23%	29	50%			4	17%	6	27%	39	100%	39	100%		
3) Sometimes (2)Irregular, 3)once a few times)	15	23%	9	16%			10	42%	11	50%	0	0%	0	0%		
4) Others	16	25%	0	0%			0	0%	1	5%	0	0%	0	0%		
Total	65	100%	58	100%			24	100%	22	100%	39	100%	39	100%		
Q.17. If YES to Q15, how much?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) TOP\$5.00 or more	46	71%	12	21%	N/A	N/A	19	79%	19	86%	0	0%	0	0%		
2) More than TOP\$1.00 but less than TOP\$5.00	6	9%	46	79%			5	21%	3	14%	39	100%	39	100%		
3) Less than TOP\$1.00	13	20%	0	0%			0	0%	0	0%	0	0%	0	0%		
Total	65	100%	58	100%			24	100%	22	100%	39	100%	39	100%		
Q.18. If NO to Q15, why?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) I can't afford to pay	8	47%	1	8%	N/A	N/A	1	17%	1	13%	1	100%	1	0%		
2) I don't want to pay	8	47%	8	67%			4	67%	4	50%	0	0%	0	0%		
3) I don't trust VEVE Committee	1	6%	0	0%			1	17%	1	13%	0	0%	0	0%		
4) Others (	0	0%	3	25%			0	0%	2	25%	0	0%	0	0%	
Total	17	100%	12	100%			6	100%	8	100%	1	100%	1	100%		

Impacts caused by Hiko VEVE																
Q.19. Are there any differences at your home or in your community after Hiko VEVE service started?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015				
Io	61	87%	59	84%	68	97%	68	97%	28	93%	27	90%	40	100%	40	100%
Ikai	9	13%	0	0%	2	3%	2	3%	2	7%	3	10%	0	0%	0	0%
Not sure		0%	11	16%		0%		0%	0	0%	0	0%	0	0%	0	0%
Total	70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.20. If YES to Q19, what kinds of changes occurred?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015				
1) My home got cleaned and looks better	44	63%	35	88%	26	37%	42	62%	9	32%	9	30%	2	5%	22	55%
2) Environment of my community become cleaner (less scattered waste)	14	20%	17	43%	33	47%	24	35%	11	39%	19	63%	38	95%	14	35%
3) Good education and awareness for all the family members and community	2	3%	3	8%	10	14%	1	1%	0	0%	0	0%	0	0%	1	3%
4) Community become more unite	4	6%	4	10%	1	1%	1	1%	0	0%	2	7%	0	0%	2	5%
5) Others (6	9%	0	0%		0%		0%	8	29%	0	0%	0	0%	1	3%
Total	70	100%	40	100%	70	100%	68	100%	28	100%	30	100%	40	100%	40	100%
Q.21. Any requests, comments and suggestions for your HIKO VEVE system																
Kameli:																
<Sep. 2014>						<Jul. 2015>										
- Education the people						- Give awareness to community how to segregate wastes.										
- Inhouse training is needed						- We hope that there is a collection truck										
- Need own truck for hikoveve						- Need more funds and aids for Veve Program										
- Need more awareness for hiko veve system						- Need more cages for kapa collection										
- Do not reduce the collection fee						- Encourage people to participate in the Hiko veve program										
- Need to announce before collection day						- Awareness raising to community by encourage them to avoid bringing of plastic bags from shops and market.										
Leimatu'a																
<Sep. 2014>						<Jul. 2015>										
- Hiko veve should be done twice a month						- We need the commitment of the community to raise some funds.										
- Need plastic bags for separation of waste						- Veve committees should provide nylon sacks for veve collection										
- Need bins for public area						- This hiko veve program need to continue on to the future										
- Keep on doing the hiko veve						- Stop this Hiko Veve Program										
						- Make a policy that will avoid people from littering										
Tu'anekeviale																
<Sep. 2014>						<Jul. 2015>										
- I have a great support for the Hikoveve program. I wish the committee will have a long run in this project.						- Veve Committee not rully responsible for the hiko veve program										
- Every household are still need to pay their \$2.00 per month in order for the committee to manage every cost in taking of rubbish to Kalaka.						- Calendar will notify us the day of collection and time that collecting truck don't often remember our homes during collection.										
- Suggest our community should be funded with Rubbish bins,						- Need some proper collection materials for collecting our wastes										
- We need more plastic bags fro our hikoveve so that we can be able to separate the kapa /plastic from veve,						- Veve committee must aware of the time of collection.										
- Tu'anekeviale veve committee to always keep our community clean and become unite in the future,																
- Request to our hikoveve committee to make sure that they do their hikoveve according the time table has shown in the veve committee's calender.																
- If there will be some rubbish bin around the main road,																
Longomapu																
<Sep. 2014>						<Jul. 2015>										
- Hiko veve is very helpful for the community to become mor clean						- We trully support the program and we need this program on going for the										
- Keep it up of doing hiko veve						- Very far to collect veve from the main road on the collection day										
- Thanks for those who are willing to do hiko veve																
- Need more dust bin and wheel barrow																

KALAKA final disposal																
Q.22. Do you know Kalaka final disposal site ?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
lo	62	89%	66	94%	54	77%	61	87%	27	90%	30	100%	40	100%	39	98%
lkai	8	11%	4	6%	8	11%	9	13%	3	10%	0	0%	0	0%	1	3%
Not sure		0%		0%	8	11%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.23. If YES to Q22, have you ever been to Kalaka ?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
lo	56	80%	63	90%	48	69%	61	87%	21	70%	21	70%	23	58%	18	45%
lkai	14	20%	3	4%	20	29%	0	0%	6	20%	9	30%	17	43%	17	43%
Not sure	0	0%	0	0%	2	3%	0	0%	3	10%	0	0%	0	0%	4	10%
Total	70	100%	66	94%	70	100%	61	87%	30	100%	30	100%	40	100%	39	98%
Q.24. If YES to Q22, what was your impression ?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) Same as before (no change)	1	2%	8	13%	48	69%	8	13%	1	5%	1	5%	0	0%	19	50%
2) Improved	32	62%	12	19%	20	29%	41	67%	12	57%	12	57%	23	100%	9	24%
3) Need more improvements	19	37%	43	68%	2	3%	11	18%	6	29%	6	29%	0	0%	10	26%
4) Others (0	0%	0	0%	0	0%	1	2%	2	10%	2	10%	0	0%	0	0%
Total	52	100%	63	100%	70	100%	61	100%	21	100%	21	100%	23	100%	38	100%
Q.25. What is your concerns for Kalaka?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
1) Negative impacts for the surrounding areas (smoke, water, etc)	20	29%	6	9%	11	16%	12	17%	8	38%	20	67%	17	43%	4	10%
2) Should close ASAP and relocate it to other places	13	19%	2	3%	25	36%	16	23%	2	10%	6	20%	22	55%	0	0%
3) Will become full soon	22	31%	51	73%	30	43%	31	44%	11	52%	4	13%	0	0%	20	50%
4)Others (15	21%	11	16%	4	6%	9	13%	0	0%	0	0%	0	0%	16	40%
Total	70	100%	70	100%	70	100%	70	100%	21	100%	30	100%	40	100%	40	100%
Q.26. Do you know operation days and hours of Kalaka disposal site ?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
lo	46	66%	67	96%	18	26%	13	19%	11	37%	11	37%	1	3%	17	43%
lkai	22	31%	2	3%	44	63%	48	69%	16	53%	16	53%	39	98%	22	55%
Not sure	2	3%	1	1%	8	11%	9	13%	3	10%	3	10%	0	0%	1	3%
Total	70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.27. Do you understand that Kalaka landfill operation and maintenance require a cost ?																
	Kameli				Leimatu'a				Tu'anekeviale				Longomapu			
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015										
lo	49	70%	61	87%	36	51%	41	59%	11	37%	13	43%	19	48%	10	25%
lkai	20	29%	0	0%	25	36%	20	29%	15	50%	10	33%	13	33%	29	73%
Not sure	1	1%	9	13%	9	13%	9	13%	4	13%	7	23%	8	20%	1	3%
Total	70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.28. Any requests, comments and suggestions for Kalaka																
Kameli:																
<Sep. 2014>																
- Need more workers																
- Upgrade the budget																
- Needs excavator / Loader																
- No more kapa (metals) for kalaka																
<Jul. 2015>																
- Expand more space in Kalaka for disposing wastes																
- Do not burn at Kalaka																
- A good machines such as Bulldozer/escavator needed for maintence of Kalaka																
- Government should include more budget for the maintence and operation of Kalaka																
- Make a policy that will help people to minimize taking of metals and cans to																
- Give awareness to people about what types of wastes need to dispose in Kalaka.																
- Look for another land for the dumpsite.																
Leimatu'a																
<Sep. 2014>																
- Build a fence around to keep plastic bags inside Kalaka																
- Need a recycle machine for plastic bags and other waste																
- Recruit more workers																
- Need a machinary for kalaka eg. Loader																
<Jul. 2015>																
- Make the fence for Kalaka																
- More labors to work for Kalaka																
- Need good machines such as Bulldozer for operation of Kalaka																
- A proper Recycling Machine for Kapa and many heavy metals to Kalaka.																
Tu'anekeviale																
<Sep. 2014>																
- Need to expand or extend the area to cater for the whole vava'u community																
- Don't burn plastic bag and plastic container, Issue secure uniform for the labourer work at Kalaka.																
- Kalaka dumside take the lead in burning of their rubbish, we don't know what is the different of burning our rubbish in our own village rather than waste our money in take our rubbish to Kalaka but still burning. If we let the people to be aware of the dangerous of burning plastic bags and toxic waste than we act as a role model in not burning rubbish. Thanks for allowing a place to gather and manage our veve																
<Jul. 2015>																
- Do not burn Kalaka																
- People should wisely take only the type of veve need to discharge in Kalaka																
- Government need to promote more financial and budget for operation of																
- Community need to help Kalaka to minimize wastes																
Longomapu																
<Sep. 2014>																
<Jul. 2015>																
- We need to build a fence																
- Do not burn at Kalaka																
- Expand the land space of Kalaka for more disposal areas																
- Keep Kalaka Clean and avoid taking recycable wastes to Kalaka																

Others																
Q.29. Who should be responsible for VEVE in Vava'u ?																
	Kameli		Leimatu'a		Tu'anekevile		Longomapu									
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015						
1) myself	17	34%	0	0%	4	6%	8	11%	15	50%	15	50%	29	73%	18	45%
2) VEVE Committee	13	26%	0	0%	13	19%	10	14%	5	17%	5	17%	1	3%	0	0%
3) MLECCNR	1	2%	31	44%	36	51%	44	63%	1	3%	1	3%	9	23%	17	43%
4) MoH	19	38%	37	53%	17	24%	8	11%	1	3%	1	3%	1	3%	5	13%
5) Others (	0	0%	2	3%	0	0%	0	0%	8	27%	8	27%	0	0%	0	0%
Total	50	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
Q.30. Do you know JICA Waste Management Project (J-PRISM) ?																
	Kameli		Leimatu'a		Tu'anekevile		Longomapu									
	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015	Sep. 2014	Jul. 2015						
lo	53	76%	55	79%	26	37%	31	44%	12	40%	6	20%	1	3%	34	85%
Ikai	17	24%	11	16%	44	63%	39	56%	15	50%	23	77%	39	98%	6	15%
Not sure	0	0%	4	6%	0	0%	0	0%	3	10%	1	3%	0	0%	0	0%
Total	70	100%	70	100%	70	100%	70	100%	30	100%	30	100%	40	100%	40	100%
3. CONCLUSION																
<p>These four communities have started a community-based garbage collection since Sep. 2013 on a pilot scale, and 1st CA was conducted after 1 year since they started implementation, and 2nd CA was done after almost 2 years. The rehabilitation of Kalaka final disposal site was completed in Feb. 2013, and MoH has been operating the rehabilitated landfill since then. The social capacity assessment provided a good opportunity for the Project to know how people become aware of project activities, and feel its benefits.</p> <p>From the comparison between the results of 1st CA and those of 2nd CA, it is noted the following findings;</p> <p><Waste issues in general></p> <ul style="list-style-type: none"> - Most of people feel that waste is a problem in Vava'u (over 90% of respondents) (Q.1) <p><Community-based garbage collection></p> <ul style="list-style-type: none"> - People's awareness level on community-based garbage collection and recycling system is increased in Kameli, Leimatu'a and Longomapu while that is decreased in Tu'anekevile. (Q.2 - Q.8, Q.11 - Q.12) - Some people are still burning their waste instead of discharging waste to garbage collection provided by their own community. (Q.9) - Most of people gain necessary information regarding garbage collection from their Waste (VEVE) Committee through announcement on collection days and house-to house visit. (Q.10) - Some of people are not aware of metals recycling system in their community (Q.13) - More than 80% people understand that garbage collection requires a cost. (Q.14) - In Kameli and Longomapu, most of people pay more than TOP\$1.0 but less than TOP\$5.0 as a garbage collection fee every collection day. A few people still do not want to pay a fee (Q.15 - Q.18) - More than 90 % of people is aware of better and positive changes at their home and communities after community-based garbage collection started. (Q.19 - Q.20) - People feel the need of more awareness, some materials (nylon sacks, cages, wheel bins, collection truck, etc) and funds for implementation of garbage collection. Also, more communication between residents and their VEVE Committee is requested to provide necessary information on garbage collection. People is basically supporting and appreciating ongoing garbage collection system. (Q.21) <p><Kalaka final disposal site></p> <ul style="list-style-type: none"> - People's awareness level on Kalaka final disposal site is increased in Kameli, Leimatu'a and Tu'anekevile, and more than 70 % of these three areas have been to Kalaka. Some of them notices the improvement, but still feel further improvements. (Q.22 - Q.24) - People's concern has been shifting from negative impacts caused by Kalaka and closure/relocation to the space limitation of Kalaka landfill. (Q.25) - Some people still do not know operation days, hours and operation cost needed for Kalaka (Q.26 - Q.27) - People requested not burning at Kalaka. People feel the need of more labors, funds, fence and heavy machinery to ensure proper landfill management and more awareness on 3R to reduce waste which is disposed at Kalaka. People also feel the need more space as Kalaka is getting full. (Q.28) <p><Others></p> <ul style="list-style-type: none"> - People is expecting that MLECCNR should be more responsible for waste issue in Vava'u, followed by MoH. (Q.29) - People's awareness level on J-PRISM is increased in Kameli, Leimatu'a and Longomapu but some does not know. (Q.30) 																
4. RECOMMENDATIONS																
<p>Overall, according to the results of the entire questionnaire, it is noted that there is a positive change in the perception of people's awareness on community-based garbage collection system as well as impression of Kalaka final disposal site. The most encouraging fact for the project is that people has recognized their home and community environment has become cleaner compared to the past. The results of the survey are an endorsement of the fact that a positive and fresh start has been made in the other expansion communities for their implementation of community-based garbage collection. On the other hand, it is found some concerns and improvement are needed. More awareness on each system, namely Hiko VEVE, 3R (segregation, recycling) and Kalaka operation system is also necessary. It is noted that VEVE Committee is taking a very important role for delivery of necessary information on their garbage collection. The trust relationship between VEVE Committee and residents should be well-established. The results of the questionnaire survey should be shared with all project members including VEVE Committee members who conducted a questionnaire survey, and work together to establish a better waste management system in Vava'u.</p>																

5 広報実績

	広報活動	現地 国内 向け	日本 向け	成果
1	プレスリリース 発信	○	×	1. フィジー：シンガトカ町最終処分場竣工式（2014年10月） 2. フィジー：家庭用堆肥化容器補助金制度および学校ごみ教育（Clean School Program: CSP）財政措置の開始式（Launching）（2015年4月） 3. トンガ：第1回JCC概要（2011年10月）* 4. トンガ：アジア・太平洋3Rフォーラム概要（2013年4月） 5. トンガ：カラカ最終処分場竣工式（2013年2月） 6. トンガ：第4回JCC概要（2015年2月） 7. フィジー：シンガトカ町市場ごみ分別向上に向けたワークショップ（2015年8月）
2	記者勉強会	○	×	現地新聞紙記者へのプロジェクト概要説明（2013年11月）
3	プロジェクトの ウェブサイト作成	×	×	
4	ソーシャルメディアによる発信	○	○	CPおよび専門家のFacebookを通じた情報発信、ネットワーク構築
5	パンフレット、 ニュースレター 制作	×	×	
6	広報を目的としたイベント	○	×	トンガ：JCC（2015年2月）に現地メディア（ラジオ）を招致。関係者のスピーチおよびコメントがラジオで放送される。
7	その他	×	○	1. トンガ：ODA白書コラムへの取材協力・記事掲載（2013年版） http://www.mofa.go.jp/mofaj/gaiko/oda/shiryo/hakusyo/13_hakusho_pdf/pdfs/13_c18.pdf 2. トンガ：内閣府広報スキームの政府広報オンライン「お役立ち情報」への写真提供（2014年10月） http://www.gov-online.go.jp/useful/article/201409/4.html * 3. トンガ：JICAトンガ支所Websiteへの記事提供（2015年4月） http://www.jica.go.jp/tonga/office/activities/project/01.html 4. 大洋州全般：公益社団法人日本コンサルティング・エンジニア協会(AJCE)海外だよりへの寄稿（2015年7月） 5. トンガ：第26回廃棄物資源循環学会研究発表会論文執筆・学会発表（2015年9月） 6. トンガ：台湾のTV会社が取材（コミュニティによるごみ収集）（2015年9月） 7. 第5回 OECC/廃コン協 合同セミナー「島嶼国の廃棄物管理における日本の役割と貢献～大洋州地域を事例に～」でのセミナー発表（2016年1月） * 8. トンガ：JICAトンガ支所Websiteへの記事提供（2016年2月） http://www.jica.go.jp/tonga/office/activities/project/01.html

*：業務指示書等、JICAの指示に基づく業務

6 供与資材引渡し状

検査調書

平成 26 年 9 月 23 日

【件名】 大洋州地域廃棄物管理改善支援プロジェクト（廃棄物管理 B、F）
【購入金額】 AUD 1,500.00
【購入相手】 Pin Tech

【納入・引渡し年月日】 平成 26 年 9 月 23 日
【納入場所】 ベシオ町役場オフィス、ベシオ、キリバス国
【検査年月日】 平成 26 年 9 月 23 日
【検査内容（検査品目、個数）】

No	品目	個数
1	コンピューター式（DELL Inspiration AIO 2020、Windows8 Professional）	1
2		
3		

【検査所見】
特になし

【検査結果】
合格

購入相手責任者：Pinto Katia
Pin Tech

確認致しました、

検査者：可児 

CERTIFICATE OF HANDOVER

ATTENTION : Resident Representative
JICA Fiji Office

PROJECT TITLE : "Japanese Technical Cooperation Project for Promotion of
Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM)"

This is to certify that the equipments in the attached list for Japanese expert Ms. Keiko KANI has been handed over properly as of 23 September 2014 to Betio Town Council. The equipment which is listed in Annex will be utilized effectively for the implementation of the Project by Betio Town Council together with the support from Ministry of Environment, Lands and Agriculture Development and Ministry of Internal Affairs, based on the Record of Discussion signed on 16th December, 2010.

23 September 2014

 (SIGNED)

✓ Ms. Rine Ueara
Chief Executive Officer, Teinainano
Town Council

EQUIPMENT LIST

NO.	ITEM	DESCRIPTIONS	QUANTITY
1	Computer	DELL Inspiron AIO 2020 Windows8 Professional	1



(SIGNED)

7 プロジェクト成果一覧および関連資料リスト

7.1 フィジー国

	タイトル	掲載報告書
7.1.1	家庭用堆肥化容器の補助金制度」および「学校3R教育（CSP）の財政措置」	
	Program Proposal for the Clean School Program & Home Composting Subsidy Program	完了報告書 添付資料7.1.1.a
	Result of Subsidy Program (presentation by DOE at 5 th JCC meeting)	完了報告書 添付資料7.1.1.b.
	CSP guidebook (national version)	完了報告書 添付資料7.1.1.c.
	Manuals of Home Composting	完了報告書 添付資料7.1.1.d.
	Poster for Home Composting Subsidy Program	完了報告書 添付資料7.1.1.e
7.1.2	Minutes of Meeting for the Bi-monthly Meetings	
	10 th meeting	完了報告書 添付資料7.1.2.a.
	11 th meeting	完了報告書 添付資料7.1.2.b.
	12 th meeting	Progress Report2（添付資料2）
	13 th meeting	Progress Report 3（添付資料1）
	14 th meeting	
7.1.3	Annual Progress Report（DOE及び各自治体作成）	
	Annual Progress Report in 2014	Progress Report2（添付資料3）
	Annual Progress Report in 2015	完了報告書7.1.3.b
7.1.4	Poster for Suva Market Compost Project	Progress Report1（本文中）
7.1.5	Signboard for Rehabilitated Sigatoka Landfill	Progress Report1（本文中）
7.1.6	Signboard for Communal Recycling Center	Progress Report2（本文中）
7.1.7	Operation and Maintenance Manual for Landfill at Sigatoka Town in Fiji	完了報告書7.1.7
7.1.8	Training Text, How to make a plan of market compost project	完了報告書7.1.8

キリバス国

	Title	掲載報告書
7.2.1	Clean School Program Report	
	Clean School Program Report in 2014	完了報告書7.2.1.a

	Clean School Program Report in 2015	完了報告書7.2.1.b
7.2.2	Awareness Materials: Firewood & Chainsaw Rental Promotion	完了報告書7.2.2
7.2.3	Awareness Materials: School Compost Promotion	Progress Report1（本文中）
7.2.4	Report of Third Public Opinion Survey	完了報告書7.2.4
7.2.5	Report of Delivery Lecture on Waste Education and Site Visits	完了報告書7.2.5

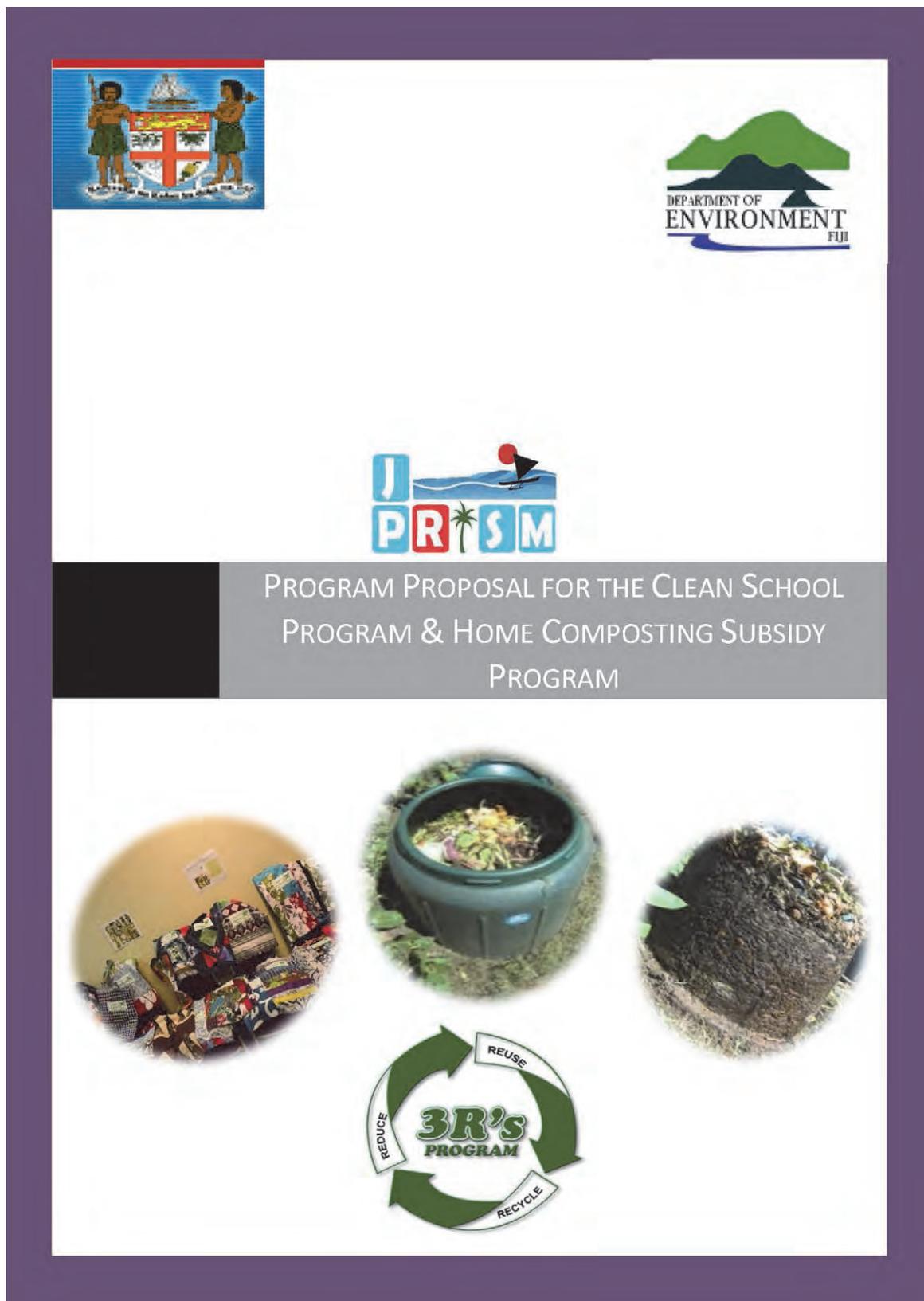
7.3 トンガ国

	Title	掲載報告書
7.3.1	Operation Manual for Vava'u Rehabilitated Disposal Site (revised)	完了報告書7.3.1
7.3.2	"Garbage collection Plan in Vava'u including Pilot Project Plan (Final draft)"	完了報告書7.3.2
7.3.3	Solid Waste Management Plan for Vava'u (Final draft) (Dec. 2012)	完了報告書7.3.3

7.1 フィジー国

7.1.1 家庭用堆肥化容器の補助金制度及び学校3R教育の財政措置

a. 家庭用堆肥化容器の補助金制度及び学校3R教育(CSP)の財政措置提案書



Background Information

J-PRISM in Fiji started on full scale from March 2012 as a continuation on from JICA's other project "Waste Minimization and Recycling Promotion Project in Fiji" which was piloted in Lautoka and Nadi from Oct 2008 until March 2012.

The different activities include:

1. Clean Schools Program under the Environmental Awareness component
2. Market & Green Waste Compost
3. Home Compost [LCC, NTC, SCC]
4. Recyclable Collection [LCC, NTC]
5. Rehabilitation of dumpsites & landfill [LCC, STC]

These activities have been executed, to varying degrees, in all six Western Division councils namely Ba Town Council, Sigatoka Town Council, Rakiraki and Tavua Town Council followed by Suva City Council of the Central Division.

Thus far, progress of the project in Fiji, especially in Ba, Rakiraki and Tavua is moderate.

Background & Necessity of the Project

Shibushi City, one of the Japanese municipal council, used to discard all of the combustible and incombustible wastes to landfill sites due to the inexistence of a waste incinerator plant. As a consequence, the landfill was getting tight and it was necessary to decide either constructing a new landfill site or decreasing the amount of waste. Due to the large construction cost of the landfill site, the city decided to reduce waste generation by introducing separation of recyclables from non-recyclables. With enormous efforts by both citizens and city administrators to reduce waste generation, the amount of waste disposal at the landfill site was successfully reduced by 80% and the landfill site lasts for a much longer period.

Base line surveys conducted in Lautoka City Council under the "3Rs Project" in 2008 revealed that 1.1kg of waste was generated/person/day which amounted to municipal waste generation rate of 48.1 tons of waste/day. The waste management costs accounted for 20% of the total council budget and it was also revealed that 60% of the waste generated was organic in nature. In addition, the open burning of waste and littering was concern for the council and the citizens as it posed serious public health nuisance, caused environmental pollution and fire risk to properties. Home Compost subsidy programme was therefore adopted by the council to encourage the citizens to recycle organic waste by practicing home composting. However, in this proposal it is strongly recommended that Government take the bold step of adopting and continuing the subsidy program from our council counterparts. This would also ensure sustainability of the program come 2016 which marks the end of the life of the project.

Objectives

The major objective of this proposal is to enable and provide Government all the necessary information to make a sound decision to actively take on the subsidy program from the shoulders of our council counterparts.

Time-frame

Program is intended to be a pilot project commencing January 2015.

Target Groups

The students, parents, teacher's, general public, Department of Environment staff and any interested member of the community are the prime targets of the program.

Promotion of Home Composting in all municipal towns of Fiji

1. Home Composting subsidy to be borne by Government

Since organic waste is a major component of MSW in Fiji it is critical for us to reduce the amount of kitchen and green waste. Home composting is an effective way of reducing the amount of kitchen and green waste at source. In addition, you can use compost, which is a product of composting process, for gardening.

The subsidy program will be tackled in phases and when the demand arises, the Department will re-assess requests put forward by the different councils. Firstly, it is proposed the 2015 program shall run on a pilot basis aiming at subsidizing 30 plastic bins for bigger councils, with established 3R programs, who have actively taken on the composting program namely LCC, NTC and SCC.

The remaining councils who are planning and are slowly implementing the program will be awarded 10 bins to kick start efforts for 2015. This proposal is also aiming to target DOE staff with a provision of 12 bins for all officers of DOE looking after waste management that would contribute to make DOE staff accumulate more experience of the practice of home composting. For the Clean Schools Program it is recommended that Government continue financial assistance rendered to the existing councils likewise new councils who may wish to extend its services in undertaking the two programs. Breakdown of financial assistance is tabulated below.

(a.)Home Composting Subsidy Program and; how it will work?

•Compost bins are provided for rate payers at a subsidized price of \$30 (Ministry provides a subsidy of \$52.00 per bin while \$82.00 at an agreed price by the compost bin making company whilst at \$115.00 normal retail price.

(Council counterpart to sell and promote bin with money collected from rate payers to be deposited into the Ministry's account);

•A copy of the home composting manual is provided with each compost bin;

•Council counterparts to provide for technical support by way of assisting rate payers who purchase the bins and guiding them in terms of installation, technical advice and lastly monitoring of the bins;

•Those who do not pay tax to the councils can buy a compost bin at a full price (\$82) from councils or the office of the Department of Environment.

(b.) Clean Schools Program – Financial Assistance; how it will work?

As of 2012, the Ministry had been rendering financial assistance to the six Western Division councils for the annual prize giving ceremonies conducted at the end of the competition. After, collation of data from all involved councils it has been noted that budgets of the different councils spent on this annual event is vastly different. Hence, amount to be given to councils has been greatly reconsidered and categorized according to size of council. In addition, taking into consideration the number of schools taking part in the competition along with the boundary covered by the council to enable rural schools to also take part in the competition. Detailed budget break down is tabulated in the program below.

Proposed 2016 Activities for JPRISM Target Councils on the Subsidy Program

1. Home composting Program

Activity	Cost subsidized	Total no. of bins	Councils/ Dept Identified
1. 30 bins each for established councils	\$7560.00	90 bins	3 – Lautoka City Council Nadi Town Council Suva City Council
2. 10 bins each for developing councils in the Western division	\$3280.00	40 bins	4 – Sigatoka Town Council Ba Town Council Tavua Town Council Rakiraki Town Council
3. 10 bins each for non-target councils in other divisions	\$4920.00	60 bins	6 - Lami Town Council Nasinu Town Council Nausori Town Council Levuka Town Council Labasa Town Council Savusavu Town Council
4. 12 bins for DOE Office	\$984.00	12 bins	3 - DOE Offices Central West North
Total	\$16, 564.00 for Proposed 202 bins – Pilot Year : 2015		

2. Awareness Materials

- Reprints of Compost Manuals/Guidebook
- Awareness leaflets/pamphlets on compost bins and its benefits
- Newspaper advertisement articles promoting the subsidy program & official launching

3. Training & Practical Sessions [Technical Training Workshop]

- Internal training sessions by council counterparts to other council counterparts inclusive of DOE officers
- Technical Training workshop is targeted to be conducted by the end of February 2015 once approval in principle of the Subsidy Program is obtained.
- It will be a 1 1/2 day workshop inviting participant's from the 13 councils to conduct both technical advice on home compost and field visits

Proposed 2015 Activities for JPRISM Target Councils on the Subsidy Program

2. Clean Schools Program

Activity	Financial Assistance	Councils/ Dept Identified
5. Sponsorship to Annual CSP Awarding Ceremony – Established councils	\$350.00	3 – Lautoka City Council Nadi Town Council Suva City Council
6. Sponsorship to Annual CSP Awarding Ceremony – Developing councils in the Western division	\$250.00	4 – Sigatoka Town Council Ba Town Council Tavua Town Council Rakiraki Town Council
7. Sponsorship to Annual CSP Awarding Ceremony – Non Target councils in other divisions	\$150.00	6 - Lami Town Council Nasinu Town Council Nausori Town Council Levuka Town Council Labasa Town Council Savusavu Town Council
Total	\$2950.00 for all municipal councils in Fiji – Pilot year : 2015	

3. Awareness Materials

- Reprints of 3R Guidebook
- Awareness leaflets/pamphlets on CSP

4. Training & Practical Sessions [Technical Training Workshop]

- Internal training sessions by council counterparts to other council counterparts inclusive of DOE officers
- Technical Training workshop is targeted to be conducted by the end of February 2015 once approval in principle of the Subsidy Program is obtained
- It will be a 1 1/2 day workshop inviting participant's from the 13 councils to conduct both technical advice on home compost and field visits

Budget

Activity	Council Identified	Proposed Budget
1. Home composting Subsidy Program	All councils – 13 councils	\$16,564.00
2. Clean Schools Program	All councils	\$2950.00
3. Awareness Materials	Use by all councils	\$3000.00
4. 1 ½ day Technical Training Workshop	All councils	\$20,000.00
Total		\$42, 514.00

Benefits of the Program

Individual benefits

- < . Bins have potential to reduce 20% of waste generated from homes
- < . No need to worry about scattering by dogs
- < . Easy and fun way to get the whole family to take part in an environmentally friendly solution
- < . Produces free compost for your gardens
 - . Teachers' students at the grass roots level the benefits of 3R and how to be responsible with the waste they generate

Council's benefits

- < . Cuts frequency of garbage collection hence a huge cost cutting benefit to all municipal councils
- < . Reduces leachate generated from landfill
- < . Extends life of our landfills
- < . Reduces greenhouse gases

Environmental benefits

- < . Recycles a valuable natural resource rather than burning or burying it in a landfill
- < . Helps gardens and lawns become less dependent on chemicals
- < . Adds essential nutrients to the soil
- < . Helps soil hold water better
- < . Discourages weeds

Lastly, waste minimization efforts together with local and national targets that municipal councils and the Department is trying to achieve in the many years of existence will be achieved if this proposal is given high priority and is well received.

b. 「2015年度家庭用堆肥化容器の補助金制度」および「学校3R教育（CSP）の財政措置」実施結果

第5回合同調整委員会会議でのDOE発表プレゼンテーション資料

1. Progress of Home Composting Subsidy Program (1)

	Plan for FY2015 No. of bins provided by DOE	Progress in early Jul. 2015		Progress at end Nov. 2015		Plan for FY2016 No. of bins to be promoted
		No. of bins sold (%)	No. of bins monitored (%)	No. of bins sold (%)	No. of bins monitored (%)	
Lautoka	30 (12 own bins)	0 (0%)	5 (16.7%)	7 (23.3%)	5 (16.7%)	30 (36 bins to be promoted)
Nadi	30 (20%)	6 (20%)	14 (incl. own)	30 (100%)	16 (53.3%)	30 household: 25 school: 5
Sigatoka	10	6 (60%)	2 (20%)	11 (110%)	6 (60%)	6 (60%)
Ba	10 (20%)	2 (20%)	2 (20%)	10 (100%)	3 (30%)	3 (30%)
Tavua	10 (100%)	10 (100%)	2 (20%)	10 (100%)	2 (20%)	5 household: 3 business: 1 school: 1
Rakiraki	10	10 (100%)	0 (0%)	10 (100%)	2 (20%)	10 household: 30 (from UNDP)
Suva	30 (76.7%)	23 (76.7%)	36 (incl. UNDP bins)	30 (100%)	20 (66.7%)	50 Household: 50 School: 27

Good Practices & Difficulties

Good Practices	Difficulties
<ul style="list-style-type: none"> Promotion of the Home Compost Subsidy Program through TV Advertisement Council also maintains a log book whereby compost bin sales are recorded Installation of Bins by the Council Staff and ongoing Monitoring on the use of the bins 	<ul style="list-style-type: none"> High Demand from Rural Boundary for the purchase of bins Councils facing difficulty in the promotion of the bins in the rural boundary Due to limited resources, sometimes monitoring is difficult Standard format for Home Compost Log book. Free distribution of subsidized compost bins Two bins sold to one household



1. Progress of Home Composting Subsidy Program (2)

	Plan for FY2015 No. of bins provided by DoE	Progress in early Jul. 2015		Progress at end Nov. 2015		Proposed Plan for FY2016 No. of bins to be promoted
		No. of bins sold (%)	No. of bins monitored (%)	No. of bins sold (%)	No. of bins monitored (%)	
Nasinu	10 (30%)	3 (0%)	0 (0%)	8 (80%)	?	15 Residents: 40 Businesses: 10 Schools: 9 Free distribution: 5
Nausori	10 (100%)	10 (100%)	10 (100%)	0 (0%)	9 (90%)	9 household: 30 school: 8
Lami	10 (40%)	4 (40%)	0 (0%)	10 (100%)	10 (100%)	38 household: 30 school: 8
Levuka	10 (100%)	10 (100%)	4 (40%)	10 (100%)	9 (90%)	30
Labasa	10 (70%)	7 (70%)	0 (0%)	10 (100%)	7 (70%)	30
Savusavu	10 (0%)	0 (0%)	0 (0%)	10 (100%)	5 (50%)	100 household: 70 business: 10 free distribution: 20

Conclusion

(Home Composting Subsidy Program)



- Almost all the Councils could manage to sell all the compost bins provided by DoE.
- However, some Councils sold bins to more than two bins per household/business.
- Some bins sold to rural boundaries due to the high demand.
- However, Councils could not conduct monitoring as target places located outside the boundary.
- Many of compost bins monitored tend to be too wet or too dry.
- Training or instructions is needed by some councils for the proper use of home compost bins

Way forward for the next year

(Home Composting Subsidy Program)



- To make the program more effective, the following matters will be re-examined before starting the next year:
- Signing of Agreement between the DOE and the Home Compost Bin supplier;
- Signing of Agreement between the DOE and the 13 Councils before the distribution of Compost bins;
- Consultation with CBH for the possibility of RLAs assistance;
- Training .

Way forward for the next year

(Home Composting Subsidy Program)

➤ **Targets:**

- Considering the financial source of the subsidy, all the households including rural area, should have the right to buy a compost bin each at a subsidized price. Compost bins are required more for residents who live in rural area due to lack of regular collection services.

[Resolution] Should rural area be targeted or not?

- It seems difficult for councils to carry our monitoring in rural area, so RLAs/MoH will be approached for the Home Compost Subsidy Program.

[Resolution]

- Should councils sell bins only to rate payer or also to non-tax payer?
- Is it possible for RLAs/MoH to conduct monitoring issues? Unless DOE and MOH agree with monitoring issues, councils should focus on rate payers only.

7

Way forward for the next year

(Home Composting Subsidy Program)

➤ **Making sure of fairness:**

- Councils need to explain about the outline of the subsidy program and TOR for owners to those people who showed interests in purchase of the bins.
- Each household/business can buy only one bin. If they want to buy more, they can buy them at the market price (¥115.50).

- **Agreement between councils and residents who buy compost bins.**
 - Councils and residents who buy bins should make a simple agreement in order to make sure of proper use
 - To use bins properly
 - Never sell bins to the third person
 - To accept council's monitoring work twice at least

8

Way forward for the next year

(Home Composting Subsidy Program)

- Awareness activities and its schedule
 - To start selling bins after the start of TV and Press Ad
 - To prepare for places to demonstrate the compost bins and promote the subsidy program at the council office or any place where the public can see them (e.g. markets)





9

RESULTS OF 2015 CLEAN SCHOOL PROGRAM








10

1. Progress of Clean School Program (CSP) (1)

	Plan for FY2015		Progress in early Jul. 2015			Progress at end Nov. 2015			Plan for FY2016	
	No. of target Schools planned for FY 2015	No. of Schools participated (%)	No. of Schools monitored (%)	No. of Schools participated (%)	No. of Schools monitored (%)	No. of schools final judge & Award ceremony	No. of Schools targeted for FY2016	No. of Schools monitored (%)	No. of Schools final judge & Award ceremony	No. of Schools targeted for FY2016
Lautoka	51 (Urban:26, Rural:25)	32 (67%) (U:21,R:11)	32 (67%)	32 (67%)	32 (67%)	32 (67%) done	23 Urban: 13 Rural: 10			
Nadi	23 (Urban:12, Peri-urban:6, Rural:5)	27 (117%)	27 (117%)	27 (117%)	27 (117%)	27 (117%) done	25 Urban:11 Peri-urban:11 Rural:3			
Sigatoka	10 (Urban:3, Peri-urban:1, Rural:6)	3 (30%) -AP submitted	0 (0%)	0 (0%)	0 (0%)	0	10			
Ba	16 (Urban:11, Peri-urban + Rural:5)	15 (93.8%)	15 (93.8%)	12 (75%)	12 (75%)	12 (75%) Done	12 Urban: 9 Rural: 3			
Tavua	4 (Urban:4)	4 (100%)	4 (100%)	4 (100%)	4 (100%)	4 (100%) Done	3 (all urban) primary:2, secondary:1			
Rakiraki	7 (Urban:4, Peri-urban:3)	6 (50%)	3 (25%)	6 (85.7%)	6 (85.7%)	6 (85.7%) next year	7			
Suva	22 (Urban:22)	7 (33.3%)	0 (0%)	27 (122.7%)	27 (122.7%)	27 (122.7%) Done	50 (urban) 11			

1. Progress of Clean School Program (CSP) (1)

	Plan for FY2015		Progress in early Jul. 2015			Progress at end Nov. 2015			Plan for FY2016	
	No. of target Schools planned for FY 2015	No. of Schools participated (%)	No. of Schools monitored (%)	No. of Schools participated (%)	No. of Schools monitored (%)	No. of schools final judge & Award ceremony	No. of Schools targeted for FY2016	No. of Schools monitored (%)	No. of Schools final judge & Award ceremony	No. of Schools targeted for FY2016
Nasinu	8 (Urban:8)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0	2 Primary:2 Secondary:2			
Nausori	6 (Urban:6)	8 (133%)	8 (133%)	8 (133%) (planning)	8 (133%)	8	5 Primary:5 Secondary:5			
Lami	7 (Urban:7)	0 (0%)	0 (0%)	5 (71.4%)	5 (71.4%)	5	7 (all urban) (primary:4, secondary:3)			
Levuka	7 (Urban:7)	3 (42.9%)	0 (0%)	4 (57.1%)	4 (57.1%)	4	2* Urban: Primary 4 Secondary: 2 Rural: Primary:5 Secondary:1			
Labasa	6 (Urban:6)	6 (100%)	0 (0%)	5 (83.3%)	5 (83.3%)	5	6 Primary:6 Secondary:5			
Savusavu	6 (Urban:3, Peri-urban:3)	0 (0%)	0 (0%)	6 (100%)	6 (100%)	6 (100%)	9 Urban:3 Rural:3 (primary:6 secondary: 3)			

Conclusions

(Financial Assistance for Clean School Program)

- Most of J-PRISM targeted councils managed to complete the annual program until awarding.
- Some councils couldn't due to insufficient human resources.
- For newly participating councils succeeded in implementing CSP, but may need to improve the quality of activities at schools.
- It is difficult for some councils to implement CSP at schools in rural areas..




Any Comments or Questions






Good Practices & Difficulties

<ul style="list-style-type: none"> • Set-up of Environment Committee which comprise of Teachers and Students • The school does not sell juice in school and therefore does not have the PET bottle problem. • The school has also engaged South Pacific Waste recyclers in the collection of waste paper in the school. • The schools does not incinerate its rubbish • 3 bins placed inside the classrooms for separation purposes • Creativity by the teachers and students • Collaborative effort between the Councils and RLAs 	<ul style="list-style-type: none"> • The school is having difficulty in managing the waste accumulated from the free milk initiative. • Students still mix rubbish in both the bins as well as the in the sack for paper collection. • Papers & PET bottles not being collected by recycling company • Lack of involvement of teachers and students in the programs. • 3R Officers is having difficulty in carrying out training for teachers • Limited resources within the Council to carry out CSP • Late submission of Action Plan • Difficulty in filling the Action Plan
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Way forward for the next year

(Financial Assistance for Clean School Program)

- To make fully use of the system, particularly at smaller councils, it is good to start with small number of schools, and accumulate knowledge through actual experience.
- It is necessary for newly participating schools to get skills and knowhow more. DOE need to take a measure to close the gap between experienced councils and newly participating councils, as well as between winning schools and inactive schools, in cooperation with experienced councils.
- It is necessary to strengthen the cooperative relations with MOH and LRLA in order to promote CSP in rural areas.
- It is necessary for DOE to simplify the process of claiming the financial assistance.




c. 全国版CSPガイドブック

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Background information

As the development proceeds and our life style becomes modern and convenient, natural environment has been threatened with air pollution, water pollution, dead corals, deforestation and clearing of mangroves, which are the issues of whole country and the world. Nadi, developed as a tourism town, also has big impacts of the issues since tourism is based on natural and clean environment as an important resource to attract tourists.

Among various environmental issues the main problem our town is now facing is the big amount of waste discharged from business and households every day. It is said that the amount of waste will soon exceed the limit of our dumpsite. The cost for waste management also bears severely on the council budget, which accounts for 30% of all budget including all cleansing services.

Under this situation, Nadi Town Council started Waste Minimization and Recycling Promotion Project in October 2008 in partnership with JICA, Lautoka City Council and Department of Environment. According to the survey conducted in the project, each person in Nadi generates 1.9kg of waste every day, and the amount is expected to increase in future. The dump site that takes the waste as a final disposal site will overflow if we continue to discharge the same amount, but it is difficult to find suitable place for a dump and it costs a lot to construct a new disposal site with necessary facilities and management system. It is very important especially for Nadi which does not have its own dump site and depend on Yunato Dump in Lautoka, to decrease the volume of waste to tackle the issue. The pilot project for separate collection of recyclables, home composting and green waste collection was conducted in Matavolivolivol of Namaka Ward from September 2008, and the project has been expanded to whole area of Nadi Town Boundary.

With establishment of effective system for waste minimization, we need to promote education and awareness raising for the people at the same time. Schools will take a core role on this point since the children, who develop our future based on their learning at school, can also pass on these ideas from schools to home and communities.

The guide of the first edition was developed for Clean School Program 2010-2011 to help schools start the first step for 3R practices, and revised this time with good experiences and lessons learnt from 2010 program within Nadi town and Lautoka city schools as the key points shown in the guide. The guide is expected to be a reference book for the schools in Nadi/Lautoka for better practices and improvement, and also for other schools interested in implementing this program using the experience of Nadi and Lautoka.

Aim

Clean School Program was organized to introduce 3R centric system to schools with the following objectives.

- 1) To give the opportunity for schools to start proper waste management
- 2) To target children in creating awareness on the concept of waste minimization at schools, home and communities

What is 3R?
 3R - standing for Reduce, Reuse and Recycle, is the concept for the actions to minimize waste.

Reduce
 To prevent or reduce waste generation at source by buying fewer items or longer lasting products etc.

Reuse
 To extend the life cycle of an item by using it again or in another way

Recycle
 To reprocess used materials in order to produce new products

Priority of 3R

REDUCE, REUSE, and lastly RECYCLE

Among 3R, it is most important to "Reduce" the items we consume, not to generate waste. Then we can think of "Reuse" before throwing waste. Last means will be "Recycle" to reduce the waste going to landfill. We should remember that the process of recycling still needs energy and cost.

Concept of 3R centric system at school

There should be a well constructed system and mind to practice 3R at school as shown below.

- There are rules and opportunities to minimize waste discharged from school
- Proper way of waste disposal is known and practiced
- Teachers, students, board members and ideally parents and communities are working together
- Both theoretical and practical education is carried out

Management methods:
PDCA cycle

Why do we need to plan and monitor the activities?

In order to get from "problem-faced" to "problem-solved", it is very important for you to manage the activity towards the problem and keep improving it. PDCA Cycle is a useful check list of the four stages you can go through.

Plan: Find out the problems faced and make a plan for solving these problems.
Do: Carry out the activities based on the plan.
Check: Evaluate the result of the activities for solving the problems.
Act: Improve the points which are not successful for achieving the goals.

Importance of regular monitoring and supervision

It takes time to grasp and implement new practices. Teachers and 3R committee members need to give proper and clear instructions especially at early stage and monitor regularly. As one tries, the practices improve and become better.

If the change did not work, go through the cycle again with a different plan. If you were successful, incorporate what you learned from the test into wider changes. You can use what you learned to plan new improvements, beginning the cycle again.

Management methods:
"3R Committee"

For smooth waste management at school, the very first step could be to establish a "3R Committee" (The name of the committee may vary in each school). This will encourage schools to participate and claim ownership of waste problems. Schools are advised to elect the committee if one does not already exist.

To keep broad debate and democratic decision-making, the committee should include equality in numbers in the following areas:

- Teachers and students
- Women, men, boys and girls
- Representation of all ethnic groups

In order to make the committee work effectively, it will be important to:

- Have regular meetings
- Develop and share overall goals to be achieved.
- Have good communication between the committee and the rest of the school
- Involve parents and communities in the activities
- Ensure all committee members take specific tasks

Then schools will need to select officers / form action teams to carry out the activities at classroom level. The officers / action teams might be developed in all classes to make the rules and activities known to everybody in the school. They can be also combined with existing student groups.

3R Committee

Reference: Live & Learn "GREEN SCHOOLS Guide"

Role of Committee (School Level):

- Decision making
- Communication to the rest of the school
- Communication to outside of the school (parents, communities, recyclers etc.)

Role of Officers / Action teams (Classroom Level):

- Communication to all the students and the teachers
- Carrying out the activities

Key points

Some ways to let students feel proud of being committee members.

- Badges / ID cards
- Induction ceremony

Practices

[Component 1] Environmental Awareness Raising

Introduction

Schools have an important role of educating children with right concept of achieving healthy and sustainable environment. Component 1 shows the examples of what schools can plan and carry out for educational activities, which will contribute to raising awareness.

Practice examples

"Reduce" in 3R

- Promotion of cloth bags instead of plastic bags
- Practice of both side printing and writing
- Discussion on what we can do in shops to reduce waste (buying only necessary items, choosing less wrapped products, getting long lasting items etc.)

"Reuse" in 3R

- Reuse of pet bottles, cans, containers and cardboard boxes for another purpose
- Introduce reusable cups and plates at canteen
- Letting students and parents bring their own cups and plates in school functions to avoid the use of disposable paper plates and plastic cups
- Reuse of envelopes
- Rubbish art and craft

Compound beautification

- Clean-up activities
- Nurseries and gardening



FUROSHIKI - Cloth bag



Rubbish art & craft



Reused PET bottle for pot plant

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Management method

Action plan

As a start of the program schools can develop "Action plan" of the year since written and clear plan will help schools to proceed the activities smoothly. You can make the action plan with the following steps.

1. Brainstorm the problems about waste issues the school is now facing.
(Check sheet in Annex of this guide can be used to help the school grasp the present situation)
2. Discuss and identify the main problems of the school.
3. Set the goals to achieve, which will be the situation to realize the solution of the main problems.
4. Plan the activities to achieve the goals. The plan should include the content (What), the process (How), the person or group in charge (Who), the time frame (When) and the cost (How much).
5. Fill in "Action plan" sheet (Annex of this guide).

Action plan should be renewed regularly according to the results and lessons of the practices carried out, which is a part of "PDCA cycle".

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[Component 2]
School Composting



Introduction

What is composting?

Composting is a natural process through which organic materials are converted into a soil like product called humus.

Benefits of composting at school

Composting at schools

- Is a fun way to learn about nature while also reducing the amount of organic waste. An added bonus is that students can actually get to see the end result of their finished compost being used to beautify their school's compound
- Supplies needed nutrients and improves the soil structure of your school gardening etc. which is better than using chemical fertilizers and pesticides.
- Reduces the need for landfill disposal and cut down on garbage collection, decreasing municipality's waste management cost
- Eliminates the need for burning in incinerators.

Steps to follow

STEP1: Decide which (if any) compost containers to use

There are some ways you can go.

1) Wooden timbers

By using wooden timbers, make a square frame for compost.
 (Try to get waste timbers if possible)

GOOD

BAD

- Keeps compost moist (retains moisture)
- Easy to compact the compost to make it hard for fermentation
- Looks presentable as a compost
- May rot / decay overtime
- Turning can be difficult if height is high



Environmental Education / Training

Classroom programs

- Learning about danger of waste
- Drawing pictures about environment
- Playing dramas / songs related to environment

Outside programs

- Site visit of dump site
- Survey of littering in town
- Participation in other organization's programs
- Social activities

Whole school programs

- Poster competition
- Speech competition
- Environmental practices competition among classes

Key points

- Activities to give "experience"

For environmental education, it is important for students to actually see, do and experience something rather than just to listen for deep understanding. Choose the activities that involve some practical actions, which can build their interest and is fun as well.

- Showing outcome of activities

Students will be happy and motivated if their results of activities are shown to others. There are many ways such as displaying rubbish crafts on corridor or presenting in school assemblies.

- Background knowledge

When you carry out activities, it is advisable to introduce relevant waste issues together for better understanding and further interest of students.

For more information about environmental education program:
 - Live & Learn "HOPE Toolkit"



PET bottles Christmas tree
 (Photo: Atsuki Takeeda & Yessako Onoue in Samoa)



Dump visit by school



PET bottle chains for learning in compound



Rubbish art displayed for visitors

Top Tip

- Organic materials (tree / flower pruning, vegetables and fruits) to be cut into smaller pieces for faster and better results
- No leftover food (cooked food) to be put in compost.

STEP 4 : Keep adding materials

STEP 5 : Maintain your pile

- For your compost pile to work efficiently, it must be damp and aerated (for micro-organisms to do their work of decomposition)
- Your pile should be damp, about as wet as a wrung-out sponge.
- If it's too dry add water to it.
- You can cover compost with plastic sheet to keep moisture (if it is open compost).
- Compaction by students pressing with the foot will help for quick fermentation.
- If it's too wet or it smells, add browns (browns will soak up the excess liquid).
- Mixing or turning the compost pile every 2 to 3 weeks will add air to the pile.



Do you have problems to maintain compost pile?
Check the solutions below.

Problems	Solutions
<p>What should I do if I notice foul odor/smell, maggots, or minibeasts/insects in the compost or excess rains?</p>	<ul style="list-style-type: none"> - Sprinkle a layer of soil or Bokashi if available on the surface. - Add dry grass or fallen leaves or wood chips. - Stir the pile to introduce air into the compost pile.
<p>What should I do when it rains?</p>	<ul style="list-style-type: none"> - Ensure that the location has good drainage to prevent water getting into the compost. - Cover with plastic sheet / the lid at all times. - Add dry grass and soil to control moisture and maggots.
<p>How can I judge composting is finished?</p>	<ul style="list-style-type: none"> - Pile has developed a dark brown color. - Earthy smell - Very little evidence of original yard trimmings or organic waste that was added to the pile. - Moist pile remains cool and does not become warmer after turning.

2) Open Ground

Dig a hole for a few inches and pile organics to make compost. (Do not dig deep since it might retain water)

GOOD

- Easy to pile the greens and maintain

BAD

- Tends to be too dry
- Can be easily mixed with other waste



3) Compost Bins

Use a plastic or drum composter to make...

GOOD

- Faster decomposition / fermentation
- Easy to use and maintain
- Reusable

BAD

- Costly
- Small for the greens discharged from schools (Suitable for kitchen waste composting)



STEP 2: Locate compost

Decide where to compost, ideally on soil or grass to allow worms and minibeasts to get in.

- Preferably a site which receives good share of shade and sun. Site exposed directly to the sun may result in loss of much needed moisture and decomposition might not progress well.
- Also think about the issues of access to the compost by the members of school.
- Good to have it near to the garden.

STEP 3: Build the pile

Prepare organic materials and start piling up.

Wet greens (high in nitrogen)

- Cook and veggie scraps
- Weeds (Place cuttings)
- Plants with flowers



Dry browns (high in carbon)

- Leaves, straw and woody materials / Soil



- 1) Begin with a layer of brown - a base of leaves and woody materials (help circulate air)
- 2) Then add a layer of greens.
- 3) Always finish with a layer of brown on top

[Component 3]
Rubbish Separation & Recycling

Introduction

Why do we need to separate and recycle rubbish?

All the things we produce and use are made from natural resources, which are limited on the earth. We should make full use of the resources, from sustainable point of view, by using the items again and again (Reuse) and by using them as materials for other products (Recycle). It is important to reduce the amount of waste going to the landfill as well, in order to lengthen the lifespan of the landfill and reduce the financial burden for municipalities.

Benefits of rubbish separation and recycling at school

Rubbish separation and recycling activities at school will:

- Contribute to sustainable waste management and healthy environment.
- Promote practical learning and experience for students on waste issues.
- Help disseminate the idea of 3R to homes and communities

Steps to follow

Step 1: Survey
 Identify the types of waste discharged from your school.

- Check sheet in Annex of this guide can be used to find the type of waste.

Step 2: Decide recycling items and the number of separation
 Decide the items to be recycled and find the types of waste to be separated.

Recycling items can be:

- PET bottles / Hard plastics / Food tin cans / Aluminium & steel cans, spray cans / Metals (brass, copper, iron) / Office papers / Newspapers, magazines and books / Cardboards / Cloths
- The items Waste Recycler's can collect

Using Composting

Compost ready for use

NOTE : Compost can be produced in as little as 3 months however it can take longer depending on how you maintain your heap

STEP 6 : Use compost

- Leave in exposed area for at least a week to let dry properly. Turn pile whilst drying/sifting.
- Add to your school's garden to improve soil fertility and act as soil conditioner.
- Can be used as base material before planting vegetables or flowers.
- Can be used as potting mix.
- Remember to keep a small portion and add to the new compost pile as the need arises to help eliminate foul odor, maggots, moisture.

Key points

- **Accessible location**
 Compost should be installed at the place where the students and teachers can easily go and see. If not, the compost might not be looked after well or be misused as a dump.
- **Attractive sign and look**
 It is important to make the compost look nice and neat to get students' interest and cooperation.
- **Minimum two composts**
 While one compost is on the process of fermentation to be ready for use, new organic materials should not be added. It is best to have two or more composts so the school can keep making compost for sustainable practice.

Garden with compost near classrooms

Compost with a big signboard

Compost of each class

Contact of Recyclers

Waste Recyclers Fiji Ltd. : 6663796
 Coca-Cola Amatil Fiji Ltd. (Lautoka) : 6661188
 Fiji Water : 6681354

Step 5: Proper disposal (non-recyclables)
 Have proper storage and disposal ways for all non-recyclables.

- Green waste and kitchen waste (organics) to be composted
- Other waste than recyclables to be collected by the council
- No burning of rubbish
- No burying of rubbish

Why is burning rubbish not encouraged?

If you burn rubbish in your compound, it may ...

- Release harmful toxins.
- Cause emission of black smoke spreading ash around the area.
- Destroy beautification.
- Contribute to diseases.

Let's try to achieve "zero burning"




Closed incinerator

Step 6: Monitoring
 Form monitoring teams and check the proper operation of the system.

- Monitoring sheets are available in Amex.
- Identify ways to inform the students the result of monitoring (ex. morning assembly, classroom discussion)
- Amount of recyclables to be recorded when recyclers collect and weigh the items
- Cash to be properly managed if school gets it
- Use monitoring data in the notice or classroom discussion for further improvement and awareness raising

Monitoring is the key to keep the system working well

Points for Recycling

Establish the way that is simple and effective

- Start with easy number of recyclables (ex. pet bottles and office papers)
- Consider the amount of waste (Major type of waste can be effectively recycled)

Points for Separation

The number of recyclables is not always the number of separation

- Other rubbish than recyclables can still be separated to be disposed properly (ex. metals and papers should be separated and not burned together to avoid release of harmful toxins into the air)

Step 3: Prepare separate bins and raise awareness
 Enforce separate bins in each classroom and in the compound, and announce the rules of separation to whole school so that everybody knows the discharging manner.

- Old cardboard boxes or containers can be used for bins (means REUSE in 3Rs)
- Bins can be decorated and marked with signs or pictures of items to be thrown (can be a good classroom activity)
- Chart or posters about discharging rules will be effective





Step 4: Storage and recycling (recyclables)
 Choose suitable discharging area for storing recyclables and store them in a big sack until they are collected by recyclers. Contact recyclers for the items to be collected.

- Bulk or yard for storage
- Better to be protected from rain (ex. under the big tree, roof)
- Easy access by students (for proper management by students)
- Easy access by recyclers to load recyclables to their truck
- Form the action teams in charge of carrying rubbish to storage / disposal area
- Large nylon sacks can be provided by recyclers
- Discuss with recyclers to decide the frequency and date to collect recyclables (ex. once a month)

Recyclables should be kept dry and clean

Annex

The following annex to the guide are available to help your school carry out the program. You can make use of them according to your necessity.

- Check sheet
- Action plan
- Monitoring sheet for Component 2: School Composting
- Monitoring sheet for Component 3: Rubbish Separation
- Monitoring sheet for Component 3: Recycling
- Photo showcase of good lessons and practices.

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Key points

- **Clear labels for separate bins**
 The biggest challenge for rubbish separation is to avoid mixing with other rubbish. Big clear labels that shows everybody the separation rules are helpful for implementation.
- **Centralized storage area**
 The location of storage area for recyclables decides smooth recycling activity. It should be at a centralized place where prefects can easily access to empty the bins. That also helps appealing activity to whole school.
- **Cost management**
 You may have a new cost for proper waste management such as rubbish bins or garbage bags for rubbish collection. Try to use old cardboard boxes for classroom bins, which will not cost any. Prepare some proper bins or nylon sacks for discharging rubbish rather than plastic bags, which needs only initial cost. School committee or local companies might support for those items.

Advice for
 "Recyclables Collection Day"
 with parents and communities

It will be hard to collect many items for recycling at school, since schools have few types of waste and too many separation rules will confuse students. But you can think of having "Special Collection Day" for recycling - the occasion where parents and communities can get together at school.

Ask parents to keep the recyclables such as old cloths, newspapers, books, magazines and metals at home, not discharging them on garbage collection days. Then they can bring those recyclables to school on the day of parents day or some functions, and they can be collected by recyclers. Money made from recyclables is small but "little and often fills the purse" - the gain may support to buy a ball or a book for students!



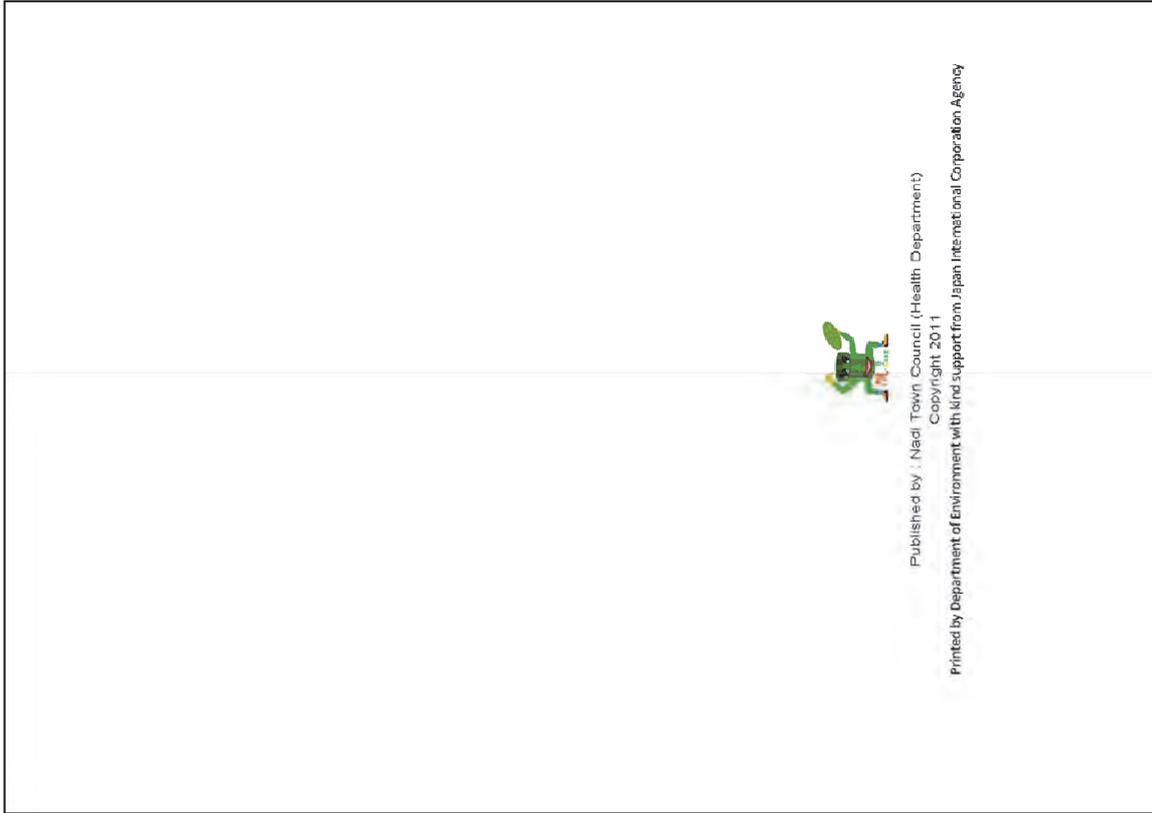
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Bins with big labels



Storage for recyclables



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Cooperating schools:
(Pioneer Schools in 2010)

- Andrews Primary School
- Imount Saint Mary's Primary School
- Nadi Airport School
- Nadi Anya Samej Primary School
- Nadi Centre for Special Education
- Nadi Christian Academy
- Nadi District School
- Nadi Muslim Primary School
- Nadi Primary School
- Nadi Sangam Primary School
- Namsaka Public School
- Nadi College
- Nadi Muslim College
- Sangam Sadhu Kuppuswamy Memorial College (SSKIMC)
- Ratu Navula College

Supporters:

- Ministry of Education
- Department of Environment
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Natiza Ali
Premila Chandra
Rajeshwar Raj

d. 家庭用堆肥化容器の補助金制度 宣伝用ポスター（A2サイズ）

Department of Environment, Ministry of Local Government, Housing and Environment

Home Composting Subsidy Program



Since organic waste is a major component of Municipal Solid Waste (MSW) in Fiji it is critical for us to reduce the amount of kitchen and green waste. Home composting is an effective way of reducing the amount of kitchen and green waste at source. In addition, you can use compost, which is a product of composting process, for gardening.

In Fiji, Lautoka City Council and Nadi Town Council started to promote home composting in order to reduce the waste amount from households for the first time in 2009, and then Suva City Council started to follow the two councils. This year, Department of Environment (DOE) decided to promote home composting nationwide with its newly created Home Composting Subsidy Program.

Home Composting Subsidy Program

- DOE will start the Subsidy Program at all the municipal councils in Fiji in April, 2015. The program will end in December, 2015.
- Rate payers can buy a compost bin at a subsidized price of \$30.00* at your municipal council office.
- A copy of the home composting manual is provided with each compost bin
- You can ask your municipal council for technical support.
- Even though you don't pay the rate, you can buy a compost bin at \$82.00, which is still cheaper than its market price of \$115.00, from councils or the office of the Department of Environment.

* DOE agreed with ROTOMOULD (FIJI) Ltd. to buy each bin at the price of \$82.00, whereas the bin is sold at \$115.00 on the market. With the subsidy of \$52.00 for each bin from DOE, you are requested to pay only \$30.00.



jica **LGHE** **DEPARTMENT OF ENVIRONMENT** **ROTOMOULD (FIJI) LIMITED**

Please contact the nearest municipal council for further information.

e. ホームコンポストマニュアル (A3用紙を二つ折りにしたもの)



裏表紙

表表紙



マニュアル本文 (二つ折り用紙内側)

7.1.2 定例会議議事録

a. 第10回定例会議

MINUTES OF THE 10TH JPRISM BIMONTHLY MEETING AT THE SCC CHAMBER ON THE 22ND AUGUST 2014

1.0 Prayer & Welcome Remarks

Opening Speech – A/DS-Josese Rakuita, MLGUDHE

Welcome – A/CEO-Suva City Council

2.0 Apologies

Present – Refer to Annex 1

Apology – Dip Chand, Ba Town Council

3.0 Review of Minutes

Review of the last Minutes

1. SA Rakiraki suggested that the Minute of the meetings should include the names of officers present and the names of apologies in the last meeting.
2. SEO - West informed the members that the Department has this aspect recognized in our final minutes of the meeting template and this will be done also for all future meeting templates.

Moved by Ashnil Sharma - STC

Second by Robert Randolph – SCC

4.0 Council Updates

Brief of Council's Presentation

Sigatoka Town Council	<ol style="list-style-type: none"> 1. Clean School Program <ol style="list-style-type: none"> a. 3rd Teachers meeting - June b. 2nd Round of monitoring – June c. 4th Teachers meeting – July d. Art & Craft workshop at Cuvu District School e. Environmental Education Session at SMPS 2. Market Composting <ol style="list-style-type: none"> a. On hold due the upgrading of the Sigatoka Municipal Market b. Acquired of quotations for the purchase of trailer and rubbish bins [coloured]. c. Composting will resume on September. 3. Hotel Waste Reduction Project <ol style="list-style-type: none"> a. Procurement of bottle crusher to crush glass bottles b. Hotel has a shredder on site belong to the contractor 4. Sigatoka Disposal site Rehabilitation <ol style="list-style-type: none"> a. Mr. Sato present his findings to SA-Sigatoka b. Survey to redefine pegs will be done in September c. Rehabilitation scheduled to commence on September and looked after by
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	<p>Mr. Sato</p> <p>5. Other 3R Activities</p> <ul style="list-style-type: none"> a. Visits from Japanese school b. JICA volunteer visited the Naboro landfill site c. Ms. Eseta resigned from STC and joining MOH d. Installment of recycling bin in town. 19 more to be installed
<p>Nadi Town Council</p>	<p>1. Collection of Recyclables is sustained</p> <p>2. Home Composting</p> <ul style="list-style-type: none"> a. 244 bins till to date b. 6 bins monitored and found kept in satisfactory condition <p>3. Eco Bags</p> <ul style="list-style-type: none"> a. Work continued with garment factories and local women groups b. Sold 1753 bags till to date <p>4. Clean School Program</p> <ul style="list-style-type: none"> a. Received A/P from school outside town boundaries b. 1st monitoring was conducted from 17th – 24th July c. More request received from outside schools d. Conducted PD session for the teachers of 2 rural schools e. Capacity Assessment conducted by James (JPRISM) <p>5. Other Activities:</p> <ul style="list-style-type: none"> a. NTC participated in the Bula float by using recycling materials b. AHI Nafiza attended training in Japan on Environmental Education from 23/05/14 – 07/07/14
<p>Lautoka City Council</p>	<p>LCC has sustained the 3Rs activities</p> <p>1. Separate Collection of Recyclables</p> <ul style="list-style-type: none"> a. Participation rate is very low <p>2. Home Composting</p> <ul style="list-style-type: none"> a. 255 bins were sold until August 2014; January 2014 – August 2014-35 bins b. 15 bins were monitored awareness <p>3. Market Waste Composting</p> <ul style="list-style-type: none"> a. From January 2014 they have sold 4350 kg (\$1305.00) b. Average of 1 tons/day is composted presently. c. Collected more than \$4000.00 from compost sales. <p>4. Clean School Program</p> <ul style="list-style-type: none"> a. Letters sent to 49 schools to participate in clean school program b. A/P received from both rural and urban schools c. 1st round in progress d. LCC Officials and JET member were guests at Environment Day Celebration at Lautoka Andhra. <p>5. Vunato Disposal Site</p> <ul style="list-style-type: none"> a. Section 2 is used for disposal b. 183 tonnes of recyclables collected by waste pickers as of Jan – July 2014. Average of 26tons/month. c. Repaired of Council's D6 machine <p>6. Awareness Raising Meeting and Visits</p> <ul style="list-style-type: none"> a. Facilitation visit to VDS from Kiribati counterparts b. Free Bird Institute visited the VDS on August 8th,2014

	<p>7. Grass Waste Composting</p> <p>a. Grass cuts from parks are raked and transported to council's garden mixed with mill mud for compost purpose.</p>
<p>Suva City Council</p>	<p>1. Market Waste Separation Project</p> <p>a. 15% of waste reduce</p> <p>b. Total waste/month – 200 tons</p> <p>c. Compost – 21 tons</p> <p>d. Data of Composted Waste for March – July</p> <p>2. Green School Program</p> <p>a. Engage schools in Green School Program</p> <p>b. 1st round of school monitoring to 6 schools</p> <p>c. 3rd Term Plan for the 6 schools</p> <p>d. Challenges is the Crude Dumping from schools</p> <p>3. Green Village Project - BAGASAU</p> <p>a. Issued 3 separate bins for each blocks</p> <p>b. 2 compost bins each block</p> <p>c. Challenges – mixture of waste</p> <p>- Participation rate is low</p> <p>4. 3R Activities & Awareness Programs</p> <p>a. # of compost bin sold from July – Aug: 9 bins</p> <p>b. Promotional Giveaway – 4</p> <p>c. Sale of Compost – January to date: \$987.50</p> <p>5. Upcoming Projects</p> <p>a. Central Collection Points. Partnership with Total Service Station</p> <p>b. Recycling and composting at My Suva Park</p> <p>c. PSC Green Initiative Taskforce</p> <p>6. Training</p> <p>a. SHI Naresh attended the Enhancement of Solid Waste Management Capacity in Japan</p> <p>b. SAHI Robert attended a training in Japan on 7th – 11th of July 2014</p>
<p>Rakiraki Town Council</p>	<p>1. On Going Awareness/Implementation</p> <p>a. Educational Awareness in schools</p> <p>b. Market Learning Centre</p> <p>c. Dump Attendant briefed on waste separation</p> <p>d. Separate bins with different types of waste</p> <p>e. Partnership with Rakiraki RLA for educational awareness on environmental background</p> <p>2. Clean School Program</p> <p>a. 10 schools engaged in school program</p> <p>b. Environment Officers were selected from schools</p> <p>c. Teachers were briefed on how to implement the concept in school</p> <p>d. School visit by RTC officers and JPRISM officers</p> <p>e. RTC donated 1 c/bin to RPHS</p> <p>f. NGO donated 1 c/bin to RMPS</p>

	<p>3. Composting</p> <ul style="list-style-type: none"> a. Bin has been painted to indicate the types of waste b. Green Bin for Green/Organic Waste <p>4. Naria Disposal Site</p> <ul style="list-style-type: none"> a. Conducted awareness to site attendant b. Collection recycled materials from the disposal site <p>5. New JICA Volunteer – August 2014</p> <ul style="list-style-type: none"> a. Mr. Ryoichi Koga started on 1st August for the period of 2 years b. Concentrate on Waste Management and Awareness program
<p>DOE</p>	<p>1. Finalization of the draft 3R policy</p> <ul style="list-style-type: none"> a. Consultant has been recruited b. Consultancy is intended for 3 months. i.e. Sep – Nov, 2014 c. TOR of the consultant has been prepared <p>2. Future Plan</p> <ul style="list-style-type: none"> a. Home Composting Subsidy Programme and CSP Proposal b. Expansion of 3R Activities to Govt, Local Authorities, Business Sector, NGOs, Communities, General public c. Establishment of Divisional Landfill <p>3. Endorsement of Draft Monitoring Sheet</p> <ul style="list-style-type: none"> a. Monitoring Sheet template was endorsed which the Council will use as a monthly reporting template.

5.0 Other Matters:

1. Forum members needed more assistance and information from DOE with regards to bottle & PET and e-waste recycling and how councils can maximize this opportunity to enable them to clear PET and e-wastes that make up bulk of the waste collected.
2. It was requested by the council members that DOE take lead role in organizing meeting with MOH-CBH to work together to have similar 3R message across as CBH is issuing notices for schools to continue with incineration practices and this is the opposite message of what 3R is trying to achieve.
3. Nadi Town council shared how they went straight down to grass roots level and targeted villages to practice 3R and found to be very effective.
4. SA – RTC also requested DOE to take EMA out and have it fully implemented especially the penalty provision. He also requested that DOE fully exercise its powers under the EMA across all sectors to be aware of the excessive burning that is being carried out in the West.
5. Nasinu Town council shared how they have tried their best and put in a lot of efforts in providing bins to squatter settlements in their jurisdiction but to no success. Requesting assistance also from DOE to assist in terms of awareness or under any provisions in the EMA to take people to task.
6. Mrs. Tagivuni of Grace Triffam Ministry gave her contact details and offered her services for any council counterpart who they could partner with to take on awareness and show practical ways in reusing waste materials.

7. Mere Leba: Collection of Recycle bottle by STC. How is it recycled? Ashnil said that the Shangri La Hotel is in partner with Coca Cola Amatil who is collecting the PET bottles from the site at the Fijian Shangri La Resort.
8. Briefed from Lami TC – So far the Council is practicing Composting at the market. Other 3R concept still pending due to limited resouces.
9. Nausori Town Council shared to the forum how the council is conducting waste sorting exercise awareness program to its vendors. This will assist them in terms of waste collection when their new market will be in operation. For their Clean Schools Program, they are targeting schools (officially speaking to their Principles) in their jurisdiction in terms of awareness but will kick start the program proper in 2015.
10. Nasinu Town Council shared how the council is challenged with the lack of resources (human resource) that is a major hindrance to the progress of their work. For, this they are grateful that a JICA volunteer is with them assisting in so many ways.

6.0 Closure of Meeting:

The meeting was closed by SEO-West with a wrap-up prayer by Mr.Taito of SCC before dispersal. Next meeting to be confirmed once minutes of 10th Bi-monthly meeting is circulated; collective decision will be made.

Annex 1: Attendance List

Annex: 2: Agenda

Annex 1: Attendance List

ATTENDANCE LIST

10TH PRISM MEETING

VENUE: SIIVA CITY COUNCIL

DATE: 22/08/2014

Time: 10.00am - 2.30pm

NAME	ORGANISATION	PHONE CONTACT	EMAIL ADDRESS
Naresi Narenga	SEC		
Kk. E. Kalo	STC		
Ryoichi Koga	RTC		
Safarina Tagiwani	Grace Terevan Ministry		
Sera Nagatelevu	Bagasau		
Robert Cook	Rakiviki 71 Council		
Ashlyn Lai	Nassau Town Council		
Talca Donati	Grace Terevan Ministry		
Amwasa Benegere	DOE		
Josae Pakinif	MUADHE	A/DS	

22/08/14

Annex 2: Agenda

Agenda of 10th JPRISM Bimonthly Meeting 22nd August, 2014 – Suva City Council

Agenda

10:00 am	Welcome (SA - SCC)/Chair
10.05 am	Opening Remarks (A/DS – MLGUDHE)
10.15 am	Introduction & Apologies [DOE] Review of 9th Bimonthly Meeting Minutes
10.30 am	Morning Tea
10.45 am	Presentation of Council Monthly Progress [Chair] - STC - NTC - LCC - BTC - RTC - TTC - SCC - DOE
12.45 pm	Other Matters [Chair]
12.55 pm	Closing Remarks
1.00 pm	Lunch
2.30 pm	Dispersal

b. **第11回定例会議**

**MINUTES OF MEETING
FOR
THE 11TH BI- MONTHLY MEETING
ON
JAPANESE TECHNICAL COOPERATION PROJECT FOR PROMOTION OF
REGIONAL INITIATIVE ON SOLID
WASTE MANAGEMENT IN PACIFIC ISLAND COUNTRIES (J-PRISM) FIJI
SIGATOKA COUNCIL CHAMBERS, 16TH OCTOBER, 2014.**

1.0 Prayer and welcome Remarks

Opening Speech – A/CEO STC - Mr. Abhay

Welcome – Sakenasa Namisi

2.0 Introductory

- Ms. Romika of Ba Town Council
- Mr. Josh Waqanivalu of Nausori Town Council
- Mr. Aminio of Sigatoka Town Council

3.0 Apologies

Present - Refer to Annex 1

Apology – Mr. Tulsi Ram – Tavua Town Council

4.0 Update of Progress Reports

Sigatoka Town Council	<p>CSP</p> <ul style="list-style-type: none"> ● School Monitoring ● 3R Bilibili Race preparation ● 5th Teachers meeting in September at Cuvu District School ● Upcoming events on final monitoring and judging to be held in November <p>Market Composting</p> <ul style="list-style-type: none"> ● Re-implemented after the opening of the new Sigatoka Market ● Purchasing of a trailer as approved by SA ● Placement of new posters at the market after the reopening ceremony <p>Hotel Waste Reduction Project</p> <ul style="list-style-type: none"> ● Site visit on the 5th of Sept. at the Fijian Shangri La's Hotel ● Purchased of bottle crusher and a shredder by the hotel ● Waste separation at source ● Construction of bottle shed <p>Disposal Site Rehabilitation</p> <ul style="list-style-type: none"> ● Signed of contract between the JICA JPRISM and Shankar & Sons on the 22nd of September ● Redefined of the survey peg by Survey Landmark Consultants under the supervision of Mr. Sato. ● Work at the rehabilitation site begins on 23rd of September and official
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	<p>opening on 28th of November, 2014.</p> <ul style="list-style-type: none"> Mr. Aminio of STC Works Manager emphasized the process of rehabilitating the existed site and the expectation of the site for operational and maintenance.
Nadi Town Council	<p>3R Recyclable Collection</p> <ul style="list-style-type: none"> Separate Collection of Recyclables for the 3 wards continued. <p>Home Composting</p> <ul style="list-style-type: none"> Total of 245 bins sold 15 bins monitored and found to be satisfactory Eco Bags Promotion of Eco Bags continues Total of 1763 bags have been sold since 2012 <p>Clean School Program</p> <ul style="list-style-type: none"> 2nd Monitoring conducted in 15 schools Prepared for the final judging with the inclusion of DOE and MOE
Lautoka City Council	<p>3R program has been sustained so far on the exist area of recycling location.</p> <p>Market Waste Collection</p> <ul style="list-style-type: none"> Managed to compost 800 – 1000kg of green waste. (5 days a week only : Monday – Friday) Monitored market waste separation by market contractor and composting process at VDS. 1.18 tons of peas (Dhal) which was unfit for human consumption and condemned for disposal. Sold 5740 Kg (\$1,722.00) from January, 2014. (150% of 2013). Sold 14.76 tons of compost from January 2011 worth \$4,428.00 Long dry spell has affected the compost as it delays the process from the absence of moisture in the heap. <p>Koroipita Model Project</p> <ul style="list-style-type: none"> 11 compost bins were sold and set up in Koroipita which involved the LRLA and NGO's Total Households = 150 <p>Clean School Program</p> <ul style="list-style-type: none"> Monitoring has been progressed for schools that submitted Action Plan HI Wally participated in the Open Day at Lovu Sangam School PET bottles collected from Lautoka Central Primary School <p>VDS</p> <ul style="list-style-type: none"> Section is used for disposal 251 tons of recyclables collected by waste pickers in 2013 (218 tones from Jan – Sept, 2014) : Average 24.22 tons/month. <p>3R Awareness Raising, Meetings and visits from 61 USP students in Suva included facilitation of site visit to disposal site, weighbridge operations, home composting, market waste composting etc.</p> <p>Grass Waste Composting</p> <p>Grass cut and collected from roadside and parks were disposed at the Council's garden. Mixed with mill mud and turned regularly to make compost.</p>
Rakiraki Town Council	<p>Market Awareness</p> <ul style="list-style-type: none"> Trial for separation of waste with different bins was not effective as public and buyers were lack of knowledge. Relocation of market dump site with the assistance of the Market Manager. Placement of colored bins to indicate different wastes. A laborer was assigned for the collection and separation of market

	<p>wastes.</p> <p>Clean School Program</p> <ul style="list-style-type: none"> • School monitoring continued but there will be no judging this year. <p>Naria Landfill</p> <ul style="list-style-type: none"> • Rest house at the landfill has been constructed which consists of washtub and toilet. Still awaiting letter from Lands Dept. to endorse for new water meter.
<p>Suva City Council</p>	<p>Market Waste Composting and Recycling</p> <ul style="list-style-type: none"> • Elaborated the tons of organic waste collected, composted, compost produced, # of bags sold and the sales from the selling of compost. <p>Compost Bins</p> <ul style="list-style-type: none"> • Total Sold = 23 - \$690.00 • Promotional Giveaway = 5 <p>Waste Paper Recycling</p> <ul style="list-style-type: none"> • South Pacific Recyclers collected 336kg of papers <p>Bagasau Green Village Project</p> <ul style="list-style-type: none"> • Total recyclables collected = 108.4/2 months • These include of cans, PET bottles and papers <p>Other Green Activity</p> <ul style="list-style-type: none"> • Revisited of some schools on crude dumping and open burning. Waste separation is practiced in schools • Visits from PNG delegation – Ms. Nanai Raga • In partnership with FELA in promoting 3R awareness in schools. • Visit by the Fiji Correction Services to learn on how to reduce waste going to the landfill. Thus, 10 bins were procured and installed at Korovou Prison and the initiatives have augured well to other correction centers in the Suva area. <p>Nausori Town Council Market Waste Composting</p> <ul style="list-style-type: none"> • Highlighted that they have started creating awareness to market vendors on waste separation which will commence when the new market opens. • According to their survey, out of all the solid wastes disposed, Nausori Market (104 vendors) has disposed more waste than the residential areas. • All vendors were advised to be part of the training if they want to be allocated a space at the new market. • Requested for a JICA Rep to assist them in Composting.
<p>DOE</p>	<p>Finalization of the draft 3R Policy</p> <ul style="list-style-type: none"> • Consultancy contract has awarded to Environment Consultant after it was endorsed by Minister • Consultancy period is 3 months <p>Review Process of NSWMS 2011-2014</p> <ul style="list-style-type: none"> • Conducted an In-house Review with HOU's on the 3 Strategies on 25/9/2014: • National Solid Waste Management Strategy 2011 - 2014 • National Liquid Waste Management Strategy 2006 • National Air Pollution Control Strategy 2007 <p>Adapt Waste Project</p> <ul style="list-style-type: none"> • Labasa Disposal Site – 90% of the work has completed <p>Future Plan</p> <ul style="list-style-type: none"> • Home composting Subsidy Programme Proposal • Expansion of 3R Activities • Post JPRISM Proposal <p>Other 3R Initiatives</p>

	<ul style="list-style-type: none">• Conducting awareness outreach with SRLA to Waila 3A/3B settlement on proper waste management.• Conducted 2 weeks of WDP compliance inspection on facilities along Navua- Nausori corridor• Assisted the Dept. of Local Govt. on Green Town Assessment.• Conducted good waste management practices awareness in schools and villages in Kadavu.
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5.0 Other Matters

1. Mr. Shalend of LCC was asked to elaborate on the operation of the Waste Pickers at the disposal site? There were 35 w/pickers at 1 time at the site and they have to adhere to rules and meet requirements before they can be certified. Waste pickers attended OHS training organized by LCC.
24 tonnes of recyclables are utilized by the waste pickers and play a major role in managing the disposal site.
2. Mr. Ashnil asked that people who came looking for scrap are they also under waste pickers? Mr. Shalend replied that as long as they certified and have proper safety wear for picking waste.
3. Mr. Sakenasa of DOE congratulated the hardwork of the LCC Team in partner with LRLA to extend the concept of 3R to Koroipita Community. As LCC is very advanced in composting despite the dry spell, they still have the courage to produce quality manure out of the compost.
Likewise for SA Rakiraki Town Council who is spearheading the 3R program in Rakiraki Town Council.
4. JICA Rep for RTC has been granted an approval to be taken around LCC and RTC and also familiarized himself
5. Mere Leba of DOE confirmed that Nausoti TC has sent a formal request to DOE and JICA to assist them in getting another compactor truck for the garbage collection.
6. Romika of BTC has requested for JICA Volunteer to assist her in the project.
7. NTC and LCC appreciated the DOE and the government for the initiation of the subsidy program that will assist them in the home composting program. However, SCC questioned DOE on what criteria do they assessed the Council by giving away \$350.00?
8. Fiji Correction Services have requested SCC for the 2 days training on Compost Practices and SCC requested for the specialist to facilitate the training.
9. Aminio of STC said it is important to make use of waste to generate income such as chandeliers.

The meeting was closed with the closing remarks from Mr. Sakenasa before the Team departed for a site visit to a Rehabilitated Sigatoka Disposal Site.

Thank you.

