

Finance and Recycling Suggestions from Kosrae State Experience

**Kosrae Recycling project started
by UNDP, KIRMA and Kosrae State
in October 2006**

**Micronesia Eco Corp Recycling
Operator since December 2007**

About Kosrae

Kosrae is comprised of one island located in North Pacific ocean. The population is 6,616 (2010 Census) (it was 7,700 in 2000 Census) and the land mass area is 108 km².

Livelihood - The lack of a lagoon and the very rugged interior mean that Kosraean's are more dependent on earnings from wage and salary employment than other Micronesians. In recent years the wage and salary sector of the economy has contracted. Between 1995 and 2008, 9% of the formal sector jobs disappeared. With more limited livelihood options than elsewhere, job loss has resulted in a dramatic increase in the number of households living below the basic needs poverty line.

Health - Non-communicable diseases are known to be a serious problem in Kosrae.

Environment - The main threat to marine biodiversity is overharvest, other threats include destructive harvest methods, pollution and trash; habitat destruction, climate change and introduction of alien species.

Recycling - Due to the success of the scheme nearly all households in Kosrae utilize and participate in the recycling system with women being the main users and drivers within the system.



<https://www.youtube.com/watch?v=69MNAAL88MA>

Kosrae Recycling Activities

6¢ deposit fee



Kosrae State

4\$ deposit fee



MEC

Every week we go around the villages to buy the recyclable materials

we pay
5¢



we pay
3\$

we get 6¢ back from
the State



we get 4\$ back from
the State

FY2013

Income		Expenses	
Deposit fees Collected	\$ 70K	Reimbursement to RO	\$ 72K
Loss	2K		
Total	\$ 72K	Total	\$ 72K

FY2014

Income		Expenses	
Deposit Fees Collected	\$ 64K	Reimbursement to RO	\$ 71
Loss	\$ 7K		
Total	\$ 71K	Total	\$ 71

FY2015

Income		Expenses	
Deposit fees Collected	\$ 81K	Reimbursement to RO	\$ 66K
		Profit	\$ 15K
Total	\$ 81K	Total	\$ 81K

Problem:

Deposit fees < Reimbursements the System could frozen

- Because the no. of items charged < no. Items entering the island → State Finance
- Because the amount of items reimbursed > no. of items entering (or produced) the island → Recycling Operator
- Old items



Deposit fees and State Finance

Deposit fees must be paid when importing or producing the goods (ie. beverages containers, cooking oil, car batteries). State Finance checks the invoice and stamp the Bill of Lading for the release of the goods after collecting the deposit fees and eventual other taxes. The recycling deposit fees collected shall be immediately deposited in the Recycling Fund.

Problem: State Finance employees may haven't been trained enough about the system and do not collect the deposit fees for all the recyclables items.

If fees deposited in a wrong fund. If misuse of the funds.

Items not declared by the importers.

Credit allowed and may not get paid.*

Suggestions: being a team and have periodical meeting with the State finance, frequent monitoring, external help (ex. volunteers), FSM customs code, do not allow credit on deposit fees, activities i.e. visiting shops, no. Imported cars, etc.

*In Kosrae, the importers are allowed for 60-120 days credit. This can cause a not perfectly matching datas.

Expenditures and Recycling Operator

The recycling operator collects and pays the community the recyclable materials, then he submits the report and list of people reimbursed with their signature to KIRMA and State Finance



Problem: friends and family

Suggestions: have two guys counting, one writing the ticket, cashier double checks (trustful employees not related), cashier counts the batteries and bags at the end of the collection, none of the employees can get money from the recyclable items.

Ticket System & Book

For tickets, we reuse old papers, stamp and numerate them



Two boys count, one writes the name, phone no. and qty, give the ticket to the customer, the customer checks that it is correct, the customer gives the ticket to the cashier, the cashier double checks, count the items, write the ticket in the book, the customer signs, and gets the money

Recycling @ Okat (10/16/13)

NO.	Name	Last	Initial	AL	PET	GL	BATT	TOTAL
81.	Margareth	Jackon	MJM	805	140			22.25
82.	Deekla	Nena	2m	825	HS			30.10
83.	Marsiah	Solomon	ST	975	HS			28.50
84.	Solome	Merke	ST	215				10.75
85.	Sape	Emrick	SD	180				9.10
86.	Renee	Isaac	Kenye	410				20.50
87.	Yosko	Joseph	Yok	500	HS			33.75
88.	Rathine	Jonathan	Kid	110				38.50
89.	Alokay	Jonathan		820	130	215		58.25
90.	Emerald	Rickson	CL	520	20	675		59.75
91.	Amako	Lihak	de	250				8.10
92.	Shree	John		500	95		5	44.75
93.	Leming	Geovick	Xm	715	55			35.50
94.	Marcia	Agrippa	SAM	895				44.75
95.	Michaela	Jonathan	llk	500	300			41.10
96.	Sape	Jack	McV	285				14.25
97.	Junia	Samin	Junia	650	155	75		45.50
98.	Kevin	Kevin	Karen	320				16.10
99.	Bella	Sarah	Bella	305	120			21.25
100.	Desana	Harry	Almond				8	24.10
101.	Tony	Atwin	de	415	1420			91.75
102.	Grace	Clem	Shed	235				11.75
103.	Afric	Wickson	Sophia	535	205	200		50.10
104.	Sape	Ruf	Sofia	340	220	60		31.00
105.	Hellen	Kast	Helika	415			3	29.75
106.	Solua	Ben	Solua	180				9.10
107.	Webber	Atoka	Willa	325				16.25
108.	Edna	Arlo	Edna	90		145		11.75
109.	Tulpe	Rondwich	Tulpe	375	130			25.25
110.	Michae	Stinson	Me	535		405		44.10
111.	Efferrin	Hoffin	dees	360				18.10
112.	Grace	Rincon	Kid	270				13.00
113.	Delucia	Alat	AT	215				10.75
114.	Korra	Queb	Xm	720				36.50
115.	Hennrick	Kinere	de	720				37.00
116.	Luct	Killing	Lutayn	105				5.25
117.	Leon	Pat	de	340				17.10
118.	Ronny	Jakeo	Rin	395				19.75
119.	Tulpe	He-Hig	Sullen	500				25.10
120.	Batty	Mongkeya	de	230	230			23.10

Recycling Operator & Recycled Items

- **Problem:** Missing from the recycling facility
- **Solutions:** spray the batteries and pallet them, crush the cans the same day, check names in the book



System not perfect
but has been
working since 2007

Destination of the PET Bottles

The last 40' container of PET crushed bottles was shipped out in December 2014. Because of low fuel prices, it will be very difficult to ship another container in the early future. We have been experimenting with a new use for those materials in building construction since 2012. Approximately 3400 crushed bottles were used in a 2.84X2.70 meter wall for storage room at Pacific Treelodge Resort.



Destination of PET Bottles

March 2014



March 2016



The cement was partially mixed with glass ground down to serve as sand and gravel. This is the first time that those materials have been combined together. After two years (and few storms), the wall is still strong and is termite-proof. We are now implementing the use of crushed bottles for the insulation of the roof.

Destination of the Glass Bottles

The glass bottles are ground into the shape of sand and stones, which makes a better material as aggregate in the cement.

At the meantime, the primary use by local residents is for filling purposes.

The small stones could also be used for mosaic decoration.



Aluminum Cans



In December 2014, a 20' CNT full Aluminum cans was shipped to Korea. We will be ready to ship another one around April 2016.

ULAB (Used Lead Acid Batteries)

In December 2013 we have shipped one 20' container of ULABs to Korea. For the first time in FSM, a recycling operator got approval for shipment under Basel Convention rules. The shipment of almost 1500 ULABs was successfully accepted by the Government of Korea. The batteries will be recycled according to strict environmental procedures.



We will be ready for another one at the end of the year 2016.



Basel Convention

The overarching objective of the Basel Convention
Basel Convention is to protect human health and the
environment against the adverse effects of hazardous wastes.



Profit or Loss of the Operations



Most of the profits of the recycling operations come from the selling of the aluminum cans.

Last D20 (10Kkg of cans) container was paid USD11.5K FOB. This amount was able to cover the shipping costs for the D20 (USD 2140) and the shipping costs for the D40 of PET (USD 2800) and generated some profits.

Despite many other recycling operations around the world, which has been suffering or closing after the crash of the metal prices, the Kosrae Recycling operation is still surviving (with low profits and no losses). We have been able to keep the BEP of the operation quite low, reducing the amount of costs:

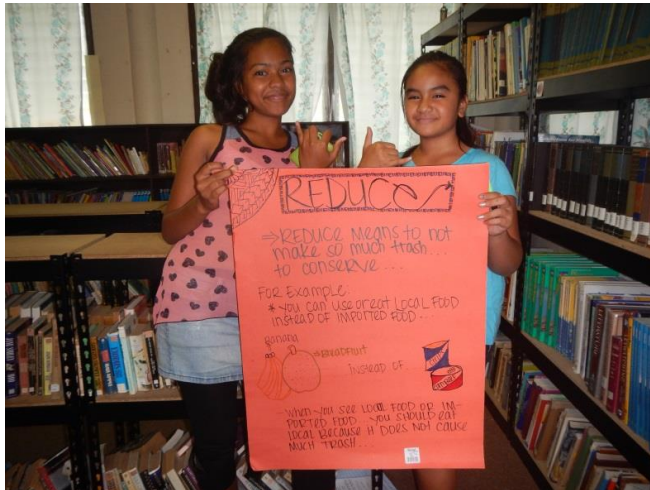
- Electricity: Minimal operational hours
- Labor cost: Joint employment (from Pacific Treelodge Resort)
- Fuel cost: Rationally programmed schedule collection
- Maintenance costs: voluntary offered by Mark

The costs are completely covered by the collection income.

The strong will of the management is the engine to keep going despite the every day difficulties

Environmental Awareness in the Elementary schools

"Children should turn into an ambassador for the environment and take their newly acquired knowledge home to their families"



Micronesia Eco & Pacific Treelodge are committed to do more work-shops in the elementary schools and teach the kids how to "Recycle" and "Refuse, Reduce, Reuse".