

ROTUMA SCHOOLS ECO-CAMP REPORT 2007

ROTUMA ECO CAMP 2007



The Rotuma Schools EcoCamp is funded in parts by the Vodafone Fiji ATH Foundation and the GEF Small Grants Programme.









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Forest walk

- Seagrass Watch Method
- Financial Literacy
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Special Thanks

On behalf of the EcoCamp team of volunteers, LäjeRotuma would like to thank Gagaj Kausiraf, his wife and community elders of Oinafa for their hospitality and continued support prior to the Camp and extending to the 3-day event that was held in December 5, 2007. LäjeRotuma aCknowledges the special contribution of the following:

- Island liaison contact Ritia Atalifo and her
- The Ralifo family of Saurotuma, Noatau.
- The network of island volunteers
- The four primary schools on Rotuma
- Gagaj Fakaru'etoag of Malha'a District
- Elders of Motusa village, who hosted the team during the seagrass watch field trip
- Oinafa elders who shared their fishing and acted as locals guides for the forest walk & bird watch.

Other partners that have contributed in Kind include Colgate Palmolive, Fisheries Department, School of Marine Studies, University of the South Pacific and WWF Fiji Country Programme.



Rotuma Schools' Adopt-a-Habitat Approach

In celebrating five years of partnership with the four primary schools on Rotuma Island, LäjeRotuma adopted a different approach to the schools' environmental awareness outreach program. The **"Adopt-a-habitat Program"** goal is to allow students to learn more about their natural surroundings by an adoption-scheme of a habitat situated close to the school, easily accessible and safe for the students to visit and conduct fun-filled learning. Targeting this age group (primary schools) on Rotuma aims for the long-term result of changing the attitude of a generation, that is bound to be the future of Rotuma, as leaders and stewards of the island's natural resources.

The Rotuma Schools EcoCamp is aimed primarily at bringing the four schools together to showcase environmental lessons from each of the schools' adopt-a-habitat program and to learn more about their natural island environment through creativity, innovation and outreach to the wider community of Rotuma. The Rotuma Schools EcoCamp schedule offered a variety of hands-on, fun activities that helped the young campers learn more about their natural world, other people and self.

The eco- camp's goal is to demonstrate good principles in the use and management of natural resources with practical knowledge such as the wise use of water, recycling and auditing of household waste generated from the camp.

This report highlights the fun learning activites EcoCampers enjoyed during the 3 days amidst the wake of a tropical cyclone and a grounding at the anchorage. The next EcoCamp is scheduled to be held during the schools term 2 break in August 2008.

"I love the dance workshop. We can fly like a bird and swim like the fish when we dance; it's so much fun" Chesta of CTK Primary School

"We take advantage of the natural environment in Rotuma and stop appreciating it in our everyday life. But the bush walk, beach profiling & collecting rubbish items to make artwork is making us see things in a different light now!"

"We only know how to draw but now I can make nice art-work out of the things lying around and even learnt to reuse rubbish Wilfer Rigamoto of Rotuma High School

Fanifau Rafael, teacher



A total of 18 Campers took part in this activity. The types of plants found during the forest walk were recorded and listed according to its common occurrence along the trail and values of each plant were discussed. A total of 26 plant types were observed, during the hour-walk in the bush. The summary of results during the forest walk is included in the Appendices.



Hata Occurrence: Low



Rau ji Occurrence: Medium

0

10

20



Hefau Occurrence: Low



Sumi Occurrence: Medium



U'lu Occurrence: High



Fakmaru Occurrence: High

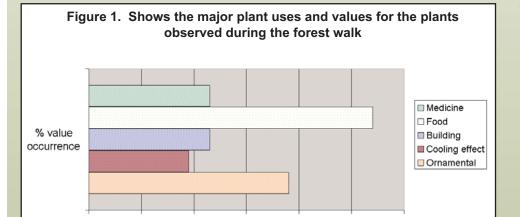


Ota Occurrence: Low



Tieri Occurence: High

The graph demonstrates the many important uses of plants & trees for food, such as trees to build houses, provide shade and a source of medicine.



30

40

50

60



A total of 14 Campers took part in this activity. The Bird watch group hiked through the forest recording and tallying all the forest birds they could sight. Birds are also identified through the sounds they make.



Armea Abundance: High



Purple Swamphen Abundance: Medium





Branded rail Abundance: Low

Brown Noddies



Orange Dove Abundance: Medium



Black Heron Abundance: High

Bird Name	Abundance	e rating
Banded Rail, Ve'a	medium	• A ground bird that is a good source of protein for the locals
Domestic Chickens (Jungle Fowls), Moa	medium	• The domesticated variety of the jungle fowls that is an important source of protein
Polynesian Triller	high	Highly vocal and of ecological importance
Rotuman Myzomela, Armea	high	• A striking scarlet and black bird that is endemic to Rotuma
Golden Plover	medium	A migrant species presently transiting the island
White Tern	High	• A beautiful pure white bird that nests in the trees of the low land forest
Ruddy Turnstone	High	• Found in small flocks of 5 and 6 along the coastline and grassy areas around settlements
Brown Noddy, Gogo	medium	Large sea bird resting in palms on Oinafa Bay
		An important food source for the owls
Jungle fowls	medium	Wild fowls of the inland forest that is usually hunted by the locals for food
Pacific pigeons	high	• Large grey and green pigeon commonly seen on breadfruits or feeding on the fruits of the strangling fig (aeva)
Black Faced Shrikebill	medium	Only encountered females and fledglings on feeding forays
Crimson crowned fruit dove	medium	Small flock feeding high in the canopy of large strangling fig tree (aeva)



A total of 17 Campers took part in this activity. Campers were encouraged tomake detailed observation such as the many types of rubbish, trees growing along the beach or the shore birds and other marine animals found on the beach. The 3 hour beach walk led to more group work on making profiles (sketches) from materials like plastic bottles, and other rubbish $\frac{1}{2}$ detritus found on the beach.



Sketching beach profile

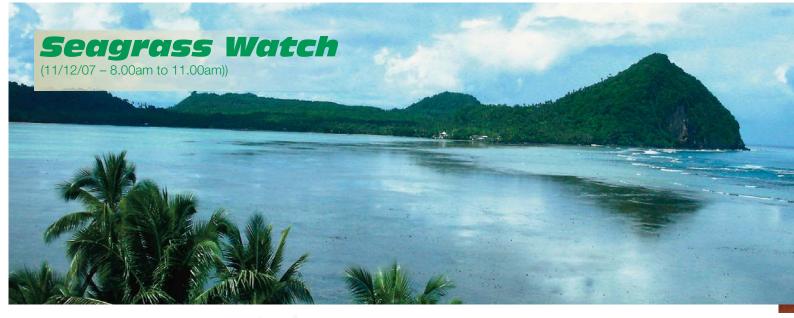


A mock coral reef



Sharing the results, on the beach.

On the beach



What is seagrass? "Ma'usu te Maka"

The only flowering plant that can live underwater. Seagrass is often confused with algae. Seagrass have seeds and fruit whilst algae have spores and do not flower or produce fruit. Seagrass has a root system whilst algae have holdfasts and don't have veins that carry molecules around the plant.

According to the Maka Bay seagrass survey, mean seagrass cover was at 56 percent compared to the algal cover of 33.1 percent. (Please refer to appendices)

Maka Bay Seagrass Watch 2007

Following the wake of tropical cyclone DAMON on December 7th, a team of EcoCamp volunteers spent the day at Maka Bay, conducting the first extensive surveys of the only seagrass area found in Rotuma. There were 19 volunteers who first took part in the orientation of how to conduct seagrass watch survey techniques on the beach before finally taking the measure tape to the water. Four seagrass survey sites were set up spanning at least 400metres along the Maka shoreline and extending as far as 200 metres from shore towards the reef that fringes the lagoon to the bay area.

Why adopt-Maka Bay seagrass habitat?

Maka Bay is a rich seagrass area. The seagrass meadow act as nutrient sinks by buffering and filtering nutrient to the marine environment. The seagrass water water mark and acts as a nursery for commercially important fishes.

The marine animals found at Maka Bay were mainly sea cucumbers, small sized fish, sea snails and different types of sponges. Turtles also feed at the seagrass area.

Field Reflections...

To get a better picture of the health of the seagrass at Maka Bay, annual extensive seagrass sampling must be conducted to monitor seagrass health over time. This kind of information will help towards the protection of such an important habitat. Action led by the community seagrass watch team is piloted by the adoption of the seagrass area by the Motusa District School. It is through this learning and seagrass field surveys for which experiences are inadvertently shared with other schools during the next EcoCamp program.



Volunteer conducting the seagrass surveys at Maka bay.

Where does seagrass grow?

... in shallow soft-bottom sheltered coastline. The seagrass area is strongly influenced by the physical disturbances from storms, cyclones and flooding. The coastal seagrass habitat also experiences the changes to coastline which affects where it is found and what types of seagrass is found growing there. The survival of the different seagrass species at the shallows is determined by its exposure at low tide and to wave action. The common seagrass type at Maka Bay is *Syringodium isoetifolium*



Aimed at senior campers and team leaders, this activity introduces the concept of personal budgeting and saving.

The highlights of this session is Goal Setting and Prioritising., as described in the Table 2 below.

Goals	Priority of Importance	Frequency	How can we achieve this goals
Water	High	Daily	Use less amount of water (Control)
Education	High	Yearly	More resources and tools
Transportation	Medium	Yearly	Use better road materials
Medical	High	Weekly	Better resources and equipment
Infrustructure	Medium	Yearly	Use materials wisely
Environment	High	Monthly	More awareness programs
Communication	High	Daily	
Re-creational			
Facilities	Low		
Fuel	Medium	Weekly	Regular shipping from Fiji
			Eat more of fresh food then canned
Food	Low		food

After doing this exercise with the high school children and the adults, it was clear that no one knew what budgeting actually meant. The awareness on budgeting and saving information on how to save and why they need to save. Saving has always been a short-term goal for most participants. A community financial literacy training & wider outreach is planned for 2008.



REFLECTIONS:

From the field team

- 1. EcoCamp is too short..can it be extended for a week!
- 2. The EcoCamp was fun.
- 3. The timing of the EcoCamp wasn't suitable for many students. Can it be organized during the school term break for an increased participation at the next Camp date!
- 4. Teachers- lower Classes (1-4) were not invited to attend. Can the youngsters participate in the next EcoCamp?
- 5. Thank you for inviting me to be a part of the EcoCamp Resource dance artist.
- 6. EcoCamp resource team to travel and be onsite two weeks prior to the Camp dates. This allows for orientation of Camp Volunteers and effective delegation of tasks and responsibilities to improve on Camp schedule.
- 7. More interactive reflective exercises and presentations by the young Campers
- 8. To relocate to a well equipped Camp site due to Oinafa's exposure to the normally windy conditions and the lack of housing facility to accommodate the young EcoCampers.
- 9. More hanuju sessions- learning about the environment through story-telling
- 10. More time spent for the art n Craft workshops
- 11. Maintain engagement of the elders and community for wider outreach of messaging concepts of the EcoCamp.
- 12. Working as a team

FINANCES:

Operating Expenses for the Rotuma Schools Camp (October-December 2007).	Amount (\$FJD)
Income from Sponsorships	
USP Rotuman Students Association	500
Vodafone Fiji Foundation (under the community outreach program)	3000
GEF SGP (under the camp budget line)	2000
Private Donations	600
Total income for the Rotuma EcoCamp	6100
Operating Expenses	Amount (\$FJD)
Inter-Island travel (boat passage)	1539.6
Island travel costs (including truck hire)	1007.68
Liaison travel (Suva) costs	426.3
Equipment/ camp materials	365.21
Food costs (including pre-camp clean up & EcoCamp)	896.32
Personnel (including island coordination costs, volunteer allowance)	925
Resource persons	450
Workshop stationery/ items	423.16
Internet/ Telephone costs	151.95
Contingency costs	98.52
Total costs	6283.74
less total income	
Note: - EcoCamp costs were shared with other LRI outreach activities - Contribution in kind	-183.74 \$5000.00

Driftwood art workshop







Eco Sign writing & Signage & Canoe art





Island motion... dance workshop



APPENDICES - FOREST WALK

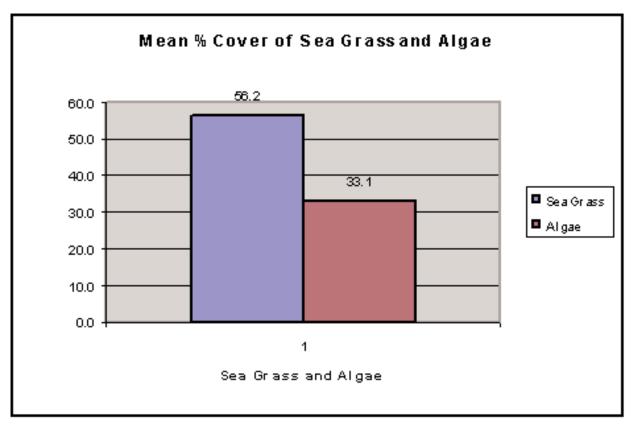
Sumi	Medium	Beach plant
		Provides shade
		Decorative
		Roots reduces coastal erosion
Тодоі	Low	Provides shade
		Nut (salisa) is edible
		Bark and leaves as herbal medicine (flu)
Aeva	Low	It grows on other trees finally killing them
		Found growing on the togoi tree
		Is an important plant as it provides a lot of fruits for the a lot of fruit eating birds
Fakmaru	high	Leaves arfe used for making tefui, for cooking
		Nuts is an important food source for many birds
Pua	medium	Flowers are for making tefui and for decorative purposes
		Provides shade
Fao	low	Fruits are edible
		Provides shade
'Am'ama	low	Leaves are used as cough medicine
Firmoto	High	Fruits are used for making jam
		An important food source for pigeons
		Stem is used for building houses
Mor Jaen ta	low	Fruits are edible (good source of vitamin C)
Sir'ie	high	Leaves are used to make dance costumes
		Ornamental value
Hahia' ramram ta	high	For building houses (not the edible kind)
ʻUlu	High	An important food source
		Leaves are used in cooking
		Also used to make fishing nets
Kapui	low	Ornamental plant
Umasa	medium	Fruits are an important food source for many birds
		Stem is used for building houses as well as making canoes
Papai	medium	Underground stem is used as food
		Leaves used for cooking
Hau	High	Stem is used for building
		Leaves used for medicine
		Bark is used as ropes and dance costumes
Jojo	medium	Stem used as pegs for clothes line
Ota (Sago palm)	low	Leaves used for thatching houses
		Stem used for making starch
Vi	low	Fruits are edible
Sere	high	Violet flowers attract butterflies and armea
'Ura	High	Fruits and leaves are used as medicine
Sesei	High	A creeping fern, its rhizomes are used as medicine for the flu
Niu (Coconut tree)	High	Nuts, leaves and stem are very useful to the local people
Mara	high	Underground tuber is used for making starch
Tieri	high	Flowers are for making tefui and oil
		Stem for making tools such as 'iso'a for planting taro and husking coconuts
Julia	high	A fern whose leaves are used for making dance costumes
		Leaves are also used for medicine

SEAGRASS WATCH METHOD

Four sites were selected along the beach about a 100m apart. A 50m transect line was laid at each site, perpendicular to the beach and starting from the edge of the seagrass meadow on the beach side. The first recording starts at the 0m mark where a 0.25m2 quadrant (a 50cmx50cm square made from PVC pipe or rod) was placed. Observations about the percentage cover of seagrass and algae, the type of sediment whether it be sand, mud or silt and other living organisms found in the quadrant were recorded. The quadrant was then laid every 5m along the transect line and all the data observed were recorded till the 50m mark. The next line transect was laid 5 m beyond the 50m mark of the first transect line and recording of similar observations were collected at every 5m interval. A total of 3 transect lines were laid at each site totaling 150m. At the end of the sampling, there was a total of 6 sites sampled with five of the sites totaling 150m transect lines each and one of the sites having a 200m transect line.

Results:

The graph below shows the mean percentage (%) Seagrass (Syringodium isoetifolium) cover and algal cover:



Seagrass and coral reefs are connected. A reef that fringes the coastline and its lagoon within it, protect shoreline from waves allowing seagrass community to develop. The important role of seagrass in trapping sediment and slowing water movement cause suspended sediment in the water to fall out, benefiting corals which grow better in clean clear water.

FINANCIAL LITERACY

Exercise 1: HOUSEHOLD INCOME

This is an exercise that involves all the money that is earned and coming into the family is recorded accordingly whether it's a weekly, monthly, yearly or sometimes. (A)Total them up by adding per column and then (B) multiplying by the number of weeks (52 weeks) per year, number of months (12 months) per year. (AXB) adding the total for Weekly, Monthly, Yearly and sometimes. This becomes the Total Year Income.

Group [·]	1
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		Family	Income		
types of income		Weekly	Monthly	Yearly	Sometimes
income from selling at	the market	\$70			
Wages from your job (1	full-time,				
casual)			\$500		
Pension			\$70		
Remittance			\$300		
Stipend			\$500		
Handicraft		\$150			
Copra Cutting		\$90			
Total	(A)	\$130.00	\$1370.00		
	(B)	X 52	X12	XI	XI
Total Income	(AXB)	\$16120.00	\$16440.00		
TOTAL INCOME (Add	l: weekly+mon	fhly+yearly+soi	metimes) \$3250	60.00	

Group 2

types of income		Weekly	Monthly	Yearly	Sometimes
income from selling	at the market	\$75.00			
Wages from your jok		10.00			
casual)		\$120.00			
Pension			\$80		
Remittance					\$100
Total	(=)	e105.00	# 90 00		e 100.00
Total	(Ā)	\$195.00	\$80.00		\$100.00
	(B)	X52	X12	XI	XI
Total Income	(AXB)	\$10140.00	\$960.00		\$100.00

Group 3

		Family	7 Income		
types of income		Weekly	Monthly	Yearly	Sometimes
income from selling	at the market	\$100.00			
Wages from your jok	o (full-time,				
casual)			\$160.00		
Pension			\$200.00		
Copra Cutting					\$40
Selling Apei (fine w	hite mat)			\$800.00	
Total Income	(A)	\$100.00	\$360.00	\$800.00	\$40.00
	(B)	X52	X12	XI	XI
Total Income	(AXB)	\$5200.00	\$4320.00	\$800.00	\$40.00

Exercise 2: HOUSEHOLD EXPENSES

This exercise is to show all in details all the expenses that are met. This will show how the money is spent and on what and whether it could be monitored and studied to actually spend the money wisely and to more important and essential items that are needed. It has the same calculations as the income exercise but for expense it's more detailed. Calculate by adding all the respective column and then multiplying

Group 1

Types of Expenses		Daily	Weekly	Monthly	Yearly	Sometimes
Groceries (Tela'a)		\$20.00				
Toiletries			\$15.00			
Water Bill				\$6.00		
Electricity Bill				\$21.00		
Phone Bill				\$60.00		
School Fees					\$20.00	
TV					\$300.00	
Transport						\$54.00
Total	(Ā)	\$20.00	\$15.00	\$87.00	\$320.00	\$54.00
	(B)	X365	X52	X12	XI	XI
Total	(AXB)	\$7300.00	\$780.00	\$1044.00	\$320.00	\$54.00

Group 2

Types of Expen	ses	Daily	Weekly	Monthly	Yearly	Sometimes
Electricity				\$25.00		
Water				\$30.00		
Toiletries			\$12.00	\$15.00		
Medical				\$20.00		
Telephone				\$25.00		
SchoolFees						
(uniforms, stationary	r,etc)				\$250	
Transport			\$4.00		\$296.00	\$370.00
Fuel			\$30.00			
Gifts					\$50.00	
Household items					\$200.00	
Leisure Activities				\$40.00		
Rent				\$180.00		
Commitments (chu	rch, Hanua,					
School)				\$50.00	\$100.00	
Clothes					\$100.00	
Food		\$6.00		\$55.00		
Total	(A)	\$6.00	\$46.00	\$440.00	\$1196.00	\$370
	(B)	X365	X52	X 12	X 1	X 1
Total	(AXB)	\$2190.00	\$2392.00	\$5280.00	\$1196.00	\$370

Group 3

Types of Expenses		Daily	Weekly	Monthly	Yearly	Sometimes
Food			\$50.00			
Transportation			\$8.00			\$50.00
Fuel				\$20.00		
Water				\$10.00		
Church Levy					\$50.00	
Soli			\$2.00			
Education					\$70.00	
Village Levy						\$100.00
Other Expenses					\$400.00	
Total	(A)		\$60.00	\$30.00	\$520.00	\$150.00
	(B)	X365	X 52	X 12	X 1	X 1
Total	(AXB)		\$3120.00	\$360.00	\$520.00	\$150.00

The children now have a fair idea of what the financial literacy session was about when they compared their household income with their household expenses, one of the groups had more in their expenses than what they had in their income.

Comments:

Despite not having the tools / resources this workshop was a step forward to actually having that thought of doing a personal budget or for the family.

Date	Objectives	Target Group	Budget
March – April, 2008	Financial Literacy	Youths	\$1000.00
(A 2 days training)	Training	Seven districts of	
		Rotuma	

PARTICIPANTS

PARTICIPANTS

Christ the King EcoCampers ...

- 1. Ryan Savea (11 yrs.)
- 2. Susau Petero (11 yrs.)
- 3. Tieri Kijiana (12 yrs).
- 4. Chester Joseph (12 yrs).
- 5. Romeo Josehp (12 yrs.)
- 6. Jude Saverio (10 yrs).
- 7. Frederick W (11 yrs).

Malha'a EcoCampers ...

- 8. Milika Tabua (11 yrs)
- 9. Ruth Amoe (8 yrs)
- 10. Aisake Voi (11 yrs)

Paptea EcoCampers ...

- 11. Ross Kuna'u (10 yrs)
- 12. Ben Drala (10 yrs)
- 13. Kevin Fesa'itu (10 yrs)
- 14. Arthur Fesa'itu (9 yrs)
- 15. Lupe Fesa'itu (8 yrs)
- 16. Joseph Fesa'itu (7 yrs)
- 17. Moiro Afereti (11 yrs)

Motusa EcoCamper

- 18. Jonathan Motofaga (11 yrs)
- 19. Morris Ralifo (10 yrs)

Rotuma High School EcoCampers

- 20. Steven Crocker (14 yrs)
- 21. Tupou Pene (16 yrs)
- 22. Emma Voi (16 yrs)
- 23. Vamarasi Fiu (14 yrs)
- 24. Barbara leli (14 yrs)
- 25. Marine Voi (14 yrs)
- 26. Manua Tigarea (14 yrs)
- 27. Gloria Fesaitu (12 yrs)
- 28. Wilfer Afrete (17 yrs)
- 29. Philip Viliame (19 yrs)

- 30. Toutou Olsen (13 yrs)
- 31. Julius Tiuhea (18 yrs)
- 32. Mark Philip (14 yrs)
- 33. Jacob Rupeti (14 yrs)
- 34. Paula Mani (14 yrs)
- 35. Priscilla Kapieri (16 yrs)
- 36. Gina Aropio (17 yrs)

Adult Campers

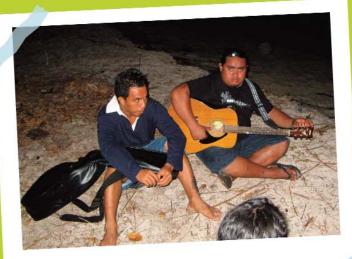
- 37. Mareta Tiuhea
- 38. Victor Apao
- 39. Sauroa Vaivao
- 40. Selai Penamena
- 41. Fanifau Rafaele
- 42. Theresa Aropio
- 43. Makarita Josefa
- 44. Ruth Samson
- 45. Gagaj Tomanav Solomone

LRI EcoCamp Suva Team...

- 1. Alfred Ralifo (Camp leader/artist)
- 2. Craig Marlow (Artist)
- 3. Serpapelu Fatiaki (Choreographer)
- 4. Jacob Itautoka (Facilitator-Financial Literacy)
- 5. Marie Pene (Facilitator-Waste/awareness outreach)
- 6. Akata & Vamarasi Ralifo (youth/catering)
- 7. Monifa Manueli/Fiu (Liaison/catering)
- 8. Teri Tuxson (Coral reef awareness)
- 9. Feskato'a Isimeli (awareness)
- 10. Rusila Savou (seagrass watch volunteer)
- 11. Kathy Howard, Yashika Nand, (volunteers)
- 12. Antoine Nyeurt (marine biodiversity-algae)
- 13. Ashwini Prabha (Communications)
- 14. Nataniela, Paul, Sumasafu (catering/song exercise)
- 15. William Fuata (Facilitator-climate witness/fisheries)



Offloading from the Jetty



The camp talented signers



Feeding time ... Yum!



Volunteers dancing to the island beat



Camper receives his certificate from Gagaj Kausiraf (Chief)



Celebrating Kathy's birthday

