RAUTI PARA PROJECT

Pukapuka

ADAPTATION FUND

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Office of the Prime Minister
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Ata wai wolo ye maneke!

Curious children watching while we interview a papa 19 Jan 2015 (Photo by Celine Dyer)

Introduction

The Rauti Para Project team from the Office of the Prime Minister embarked for the island of Pukapuka on Monday, 19th January 2015, to commence the tablet training project for seniors in the northern Cook Islands. The island of Pukapuka was the first island in the North to receive the tablet training funded entirely by SRIC CC Adaptation Fund. Implementing parties were Climate Change Cook Islands and the ICT Division both from the Office of the Prime Minister, SPC EU GCCA PSIS, and the Rauti Para Kumiti (NGO).

Background

The ancient name of Pukapuka is *Te Watu – a – Mataliki* (the rock of Mataliki) and also known as *Te Ulu – o – te – Watu* (the head of stone).

Pukapuka is a coral atoll consisting of three small islets (*motu*) aligned in an almost triangular lagoon formation. There is a submerged reef almost eight kilometres long to the west of the island from which it received its name 'Danger Island'. It has a total land area of approximately 1.3 square kilometres to which nearly one-third is swampland, with a reef circumference of 41 kilometres. The people cultivate taro and *puraka* in these swamp areas which is the main stable crop diet with fish the main source of protein. The highest point on the island is less than 5 metres. Vegetation is mostly coconut trees, *pukama, tamanu* (Pacific mahogany), a few breadfruit trees, pandanus and shrubs.

Source: http://en.wikipedia.org/wiki/File:Pukapuka_Aerial_efs_1280.jpg

Highest point on Pukapuka in the centre of the island 20 Jan 2015 (photo by Celine Dyer)

The people of Pukapuka depended on the copra export right up to the early '80s when the copra market collapsed. Since there is no employment opportunities except for government, many people migrated offshore to join their family members and find work. Irrespective, Pukapuka managed to sustain a vibrant population until it was struck and devastated by hurricane Percy in 2005. From there on, there was a significant exit of the resident population up to now. It practically sliced the population in half and only less than 400 people currently reside on the island, consisting mainly of young children and old people.

Pukapuka Population Trend 1902 – 2011

800															♦					
750											♦		♦	♦		♦		♦		
700												♦								
650							♦	♦		♦							♦		♦	
600									♦											
550					♦	♦														
500	♦		♦																♦	
450				♦																♦
400		♦																		
00	1902	06	11	16	21	26	36	45	51	56	61	66	71	76	81	86	91	96	01	06	2011

Source: Census Report 2011

Transport

Shipping to Pukapuka is infrequent and planes fly on a charter basis, meaning that the people depend mostly on their own initiative with traditional skills and local knowledge to survive the lengthy periods in between shipping schedules. Imported goods are around three times the price of the same product on mainland Rarotonga. In addition, transport to and from Pukapuka is costly, thus forcing children to learn at an early age to forage for food to contribute to the family table; young boys learn fishing skills whilst girls learn to plant taro and acquire weaving skills.

A youngster with the catch of the day, to contribute to the family dinner table 19 Jan 2015 (photo by Celine Dyer)

Pukapuka consists of three permanent villages: Yato, Roto and Ngake, which are based on the main island. There are three other alternate village sites which are based on *Motu Ko*, *Motu Kotawa* and *Motu Roto*. The people from Ngake village owns *Motu Ko* and spend at least six months there to harvest and cultivate the land and the other six months on the main island; this also applies to the other two villages. The people of Yato village owns *Motu Kotawa* and the people of Roto village have an alternate site on the northern side of the main island called *Uta* or *Motu Roto*. These alternate village sites are traditionally placed under *ra`ui* (conservation), including the lagoon areas in order to rejuvenate and recruit resources. Within each village system, adults both male and female are organised into smaller units of 4 or 6 to undertake monitoring duties of the *ra`ui*. Small huts are strategically placed around the entry points to the *ra`ui* area where these small units are rostered to keep watch ensuring compliance of the *ra'ui* by all. Trespassers are fined a fee, which goes to the village kitty or the goods they take from the *ra`ui* are confiscated.

Objectives of the Rauti Para Project

There were three components to this project:

1. Tablet training
2. To produce a video documentary on climate change indicators
3. Climate change awareness

Tablet training

The Cook Islands national vision of '*Te Kaveinga Nui*' elaborates the desire of the government of the Cook Islands... '*to enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment'.* This dream is further echoed in the Cook Islands National Sustainable Development Plan 2011 – 2015 under *Goal 5: Resilient and Sustainable Communities,* and *Goal 6: Environment for Living.* The Climate & Disaster Compatible Development policy 2013 – 2016 also mirrors these views through its strategic objectives of building '...*climate and disaster resilient development...'* as well as '*building capacity of people through education and training'.* The tablet training for the mature-aged population in the *pa enua* (outer Cook Islands) aims to address some of these ambitions.

Since the mature-aged remain in the *pa enua* with some caring for their grandchildren, it becomes a priority to up-skill these seniors as in this instance, they are the lifeline for the survival and sustainability of their particular island, their culture, and their future generations. Although they possess local and traditional knowledge and practices that have worked in the past, their knowledge and skills may not be sufficient to meet or overcome the impacts of climate change. Thus, introducing them to accessible information via the tablet will allow seniors to build upon their existing knowledge and practices. The training will certainly open new horizons for them to communicate with their families and friends living abroad while encouraging the sharing of information.

The Rauti Para project is a valuable and an historical moment for seniors in the *pa enua* as previous computer training have focused largely on Rarotonga; the *pa enua* are often overlooked due to funding restrictions. It is arguable that the existence and future survival of these islands may not depend on government or foreign aid, but rather on the ability of the *pa enua* seniors to interweave their traditional knowledge and practices with new knowledge that will ensure a more resilient population to both economic hardship and particularly the impacts of climate change.

Documentary

Documenting the experiences of seniors are useful to capture their thoughts and lifetime skills and local knowledge that otherwise will be lost as knowledge is not passed down to younger generations due a lifestyle shift towards more Western living. The value of this concept will be measured against the questionnaire survey that is running in parallel to this exercise. With this information, it is possible to elucidate the causes of changes observed, especially whether they are climate- or human-induced.

Survey on climate change indicators

For this component of the project, questionnaires were designed to encourage people to talk freely about their personal observances of their environment in their normal everyday activities whether they are fishermen, farmers or housewives.

Delegation

The team consisted of individuals from the Office of the Prime Minister, with Climate Change Advisor Dr Teina Rongo and Celine Dyer both from Climate Change Cook Islands, and Mitchell Tutangata from the ICT division.

Methodology

A tablet introduction workshop was conducted in parallel to video interviews of selected individuals who are long-term residents on Pukapuka. A climate change awareness presentation was also held in Maori by Dr Teina Rongo.

Logistics

All logistics arrangements were organised by Odi Tangianau, Michelle Foster, and Peretira Teinaki the Executive Officer of Pukapuka.

Outcome

1. **Tablet training**

Due to the short duration of the trip, the team were only able to run the introductory phase of the training once. However, the people of Pukapuka thoroughly enjoyed playing with the tablet and requested for a proper training on their island soon. A few people already signed up their names for the full training (Appendix 1).

2. **Video documentary interviews**

People were shy to speak because of the language differences between the Pukapukan and Rarotongan dialects, but we encouraged them to speak in their local language. Although they tried to speak more in Rarotongan, the team could tell they struggled to express themselves.

Dr Teina Rongo interviewing Mama Mika Opo 19 Jan (Photo by Celine Dyer)

3. Climate change awareness presentation

Dr Rongo gave a powerpoint presentation and showed the video documentary collating information collected from the first Rauti Para project in the southern Cook Islands and a few islands in the northern group. The people appreciated the presentation because it was in the Maori language and were greatful for the opportunity to hear Dr Rongo speak on scientific explanations relating to these changes in their environment. The team also presented thirty calendars produced by the first Rauti Para project, three climate change policy books (two in English and one in Maori), and three of the climate change indicators report collating information from the first Rauti Para project.

4. Climate change Indicators

It was of value that Celine Dyer was a part of the team travelling to Pukapuka as she used to live here around 26 years ago. According to her, it was immediately imminent the changes in the landscape and the intensity of the heat of the sun. It was hotter than she remembered, and it was very uncomfortable that for the two nights, the team slept out on the veranda despite the mosquitos, and ventured out to do the work primarily in the early morning and late afternoon to avoid the heat. Inspite of the hot sun, children took advantage of the very low tide to do some fishing.

Children of Pukapuka taking advantage of the low tide to fish despite the heat of the sun 19 Jan (Photo by Celine Dyer)

According to these young fishermen, the tide was so low and the sun heating up the lagoon made catching fish in the lagoon much easier. In addition, the interviews with Pukapukan elders indicated that *pa`ua* that are now rare on the island used to be abundant in the lagoon. An earlier interview with 103-year old Mama Caroline in Aitutaki during the first Rauti Para project informed the team that Pukapuka around the 1930s when she resided there, was the island with the most *pa`ua* in the Cook Islands. Fishermen in Pukapuka indicated they would see large numbers of *pa`ua* recruits now and then, but they would die off not long after. According to Dr Rongo, the lagoon has gotten shallower as a result of coastal erosion with sand moving into the lagoon from high seas associated with the frequent cyclones in recent decades. This has resulted in the lagoon heating up faster now. Consequently, such an environment is not ideal for *pa`ua* and coral growth. During the trip, it was evident that Pukapuka`s reefs were in a poor state, similar to what was observed on all the other Cook Islands.

Ms Dyer noticed some distinctive landmarks had less vegetation, but on further conversations with the people, the team were informed this was the result of Hurricane Percy in 2005 (one of the six cyclones that passed in close succession during the same year). Accordingly, some people thought that their island has gotten smaller, which aligned with Ms Dyer's observations that the high tide water mark level has claimed what used to be beach areas. This was evident on *Motu Ko* and the landing point on the main land where the water mark comes right up to the shrubs and amongst the coconut trees, which was not the case 26 years ago.

The beach was no longer there for the children to enjoy, which also poses potential threats when young children venture out too close to the shoreline as the high tide water is more treacherous than it used to be (stronger currents) and they can easily be swept away by the current.

Top: Motu Ko high tide water mark level claiming most of what used to be beautiful beach 21 Jan 2015 (Photo by Celine Dyer) Bottom: Three coconut trees are remnant of what used to be a vegetated land area that connected to the main island to the far left of this photo (Photo by Mitchell Tutangata).

Even more prominent to Ms Dyer was the large overgrown swampland areas that used to be planted with taro, puraka, bananas and sugarcane. It is now filled with shrubs and water which according to the locals is saltwater seeping from the northern side of the island (Keonga). It was a sad observation and realization that the Cook Islands don't need to use the situations of other Pacific islands as examples of climate change impacts as it is occurring right here. Indeed, saltwater intrusion is evident on nearly all of the northern side of the swamps. Moving to the middle of the island, people also experience flooding problems in the taro patches when there is too much rain because of the lack of drainage. From the lagoon side of the swampland, this area becomes inundated with saltwater during strong waves and hurricanes, therefore creating compounding problems for the residents.

The people are already struggling with the hardship of living on such a remote island, and yet, have to face another bigger problem of saltwater intrusion which is beyond their means to adapt. Living in isolation from the world including from mainland Rarotonga, the people have no concept at all about what is happening on their island and the impacts of climate change which have already hit them. Yet, they don't complain and talk about these incidents, thinking that they are just part of the natural cycle.

Swamp area at Uta, Motu Roto, which used to be planted with taro, now inundated with saltwater and no longer cultivated 20 Jan (Photo by Celine Dyer)

Pukupuka's renewable energy initiative, which was completed in late 2014; taken 19 Jan (Drone photo by Teina Rongo)

Recommendations

It is recommended that the Vulnerability & Adaptation assessment report for Pukapuka take priority and be updated urgently in order to identify and document the issues as well as to devise solutions to the problems.

The SRIC CC programme should prioritise projects for Pukapuka, particularly in the areas of sea level rise and saltwater intrusion, health and social well being.

More climate change awareness programs are needed in Maori for the people of Pukapuka to inform them of the consequences of climate change already occurring and how to prepare themselves to alleviate their current situation.

Tablet training should go ahead and be conducted for those on Pukapuka who have already enrolled for the training.

There ought to be better communication between Rarotonga and Pukapuka, updating Pukapukans on developments affecting their island and well being.

A comprehensive assessment of Pukapuka's reefs should be undertaken to provide baseline information that would be useful for understanding the impacts of climate change on reef health and biodiversity on this island.

References

1. *Google http://www.cookislands.org.uk/atiu 25/1/2015*
2. *Census Report 2011, Ministry of Finance and Economic Management, Government of Cook Islands*

Appendix 1

List of names of those wanting tablet training in Pukapuka

1. **Rapaua Temoana**
2. **Ieremia Yawea**
3. **Tekura Yawea**
4. **Pirimou Nooroto**
5. **Tinotai Kiriti**
6. **Romea Temoana**
7. **Tangimetua Aumatangi**
8. **Teaitu Tauia**
9. **Moari Dariu**
10. **Ono Matenga**
11. **Kii Mataora**
12. **Wanuna Papana**
13. **Akangaroi Marurai**
14. **Wunama Papana**
15. **Tipe Vave**
16. **Pirimou Nooroto**
17. **Toreta Punga**
18. **Ulua Lupena**
19. **Yekitea Pakere**
20. **Ranga Ataela**
21. **Ruarau Iakobo**
22. **Aerenga Kiriuyi**
23. **Uluwoe Raikonga**
24. **Tai Ravarua**
25. **Aue Ravarua**
26. **Tere Matatia**
27. **Moko Dariu**
28. **Ngarime Noroto**
29. **Nootai Akima**
30. **Wutu Vigo**
31. **Congo Pana**
32. **Kati Vigo**
33. **Temoana Rapana**
34. **Rotoua Wuatai**
35. **Walewaoa Walewaoa**
36. **Marurai Marurai**
37. **Kua Marurai**
38. **Tearo Tinomana**
39. **Iutita Tauia**
40. **Irry Pereo**
41. **Tawaia Mataio**
42. **Moungi Maia(MMR)**
43. **Wale Jnr Teingoa**

44. Ngametua Teingoa
45. Maru Jnr Piira
46. Levi Walewaoa
47. Brian Opo
48. Atela Teremoana
49. Tikove Piira
50. Dolly Piira
51. Lito Tinokura
52. Pare Walewawa
53. Woetai Woetai
54. Manila Matenga