

Penryhn Rauti Para



Teina Rongo, Celine Dyer, Mitchell Tutangata 2015, Office of the Prime Minister



Acknowledgement

We wish to thank the Mayor Mr Tini Ford, the finance officer Mr Teremoana Viniki and all government workers involved in organising all arrangements for our stay in Penryhn.

We also thank the SRIC CC focal point Mr Thomas Kohe Taime for assisting us with our program in Penryhn.

Finally, a big 'Meitaki Ma'ata' to all those who shared their lifetime experiences to be recorded on video camera and to all the people of Penryhn, thank you so much for your warm hospitality and friendly smiles.



Mrs Teremoana Viniki of Omoka, Penryhn 23 Jan 2015 (Photo by Celine Dyer)

Introduction

The Rauti Para Project team from the Office of the Prime Minister landed on Penryhn island on the 21st Jan after two days on Pukapuka island. The strong cool breeze of Penryhn was a welcoming change from the heat of Pukapuka. Penryhn island is the second island lined up for the Rauti Para introductory training since we only had two days on these two islands. Implementing parties are, Climate Change Cook Islands and the ICT Division both from the Office of the Prime Minister, SPC EU GCCA PSIS and Rauti Para Kumiti (NGO).

Background

Tongareva is the ancient name for the island of Penryhn which is the northern-most island in the Cook Islands. The people of Tongareva believe in the ancestral story that a canoe load of voyagers travelled from Savaiki in the north-east in search of pandanus fruit, a well known staple food for atoll-dwellers.

On arriving at what was later to be called Tongareva the voyagers named the island Hararanga, meaning abundant pandanus fruit, in remembrance of achieving their goal to find the pandanus fruit.

The name Penryhn was given by Captain Severn of the HMS Lady Penryhn in 1788. In 1862/63 'Blackbirders' from Peru kidnapped people from Penryhn and took them as slaves for the sugar plantations in South America which almost wiped out the population. The United States Army set up base camp on Penryhn during the second world war and constructed an airstrip which is still in use today. American personnel were there until July 1946.

Penryhn is the largest island in the northern group with a land area of 9.8 square kilometres and with one of the largest lagoons of 233 sq kms framed by fifty three motus (islets). The two villages of Omoka and Tetautua



Source: <https://www.google.co.nz/search?q=map+of+Penrhyn+Cook+Islands&biw=890&bi>

are situated opposite each other across the lagoon. On good days the boat crossing may take twenty minutes and longer when conditions are bad.

The highest point above sea level is less than 4 metres, soil is infertile made up of a mixture of coral debris, shells and silty limestone. Coconut trees, pandanus, breadfruit, toa and tamanu make up the main vegetation. Penryhn is famous for its natural blacklip pearl oyster to which the people harvest and sell on the Rarotonga market. The women are well known for their weaving skills in making the fine rito hats which sell on the Rarotonga market for more than hundred NZ dollars.

The population have been consistent since the early 1900's until 1996 when it plummeted to almost half from 606 to 257 in 2001, at the last census only 213 people currently reside on Penryhn (Census Report

2011). Most of what is left is mainly old people looking after their grand children and government workers with their families.



Looking towards the airport, the highest point on the island, with seawater seen flooding areas on the lagoon side of the runway. Photo taken in 23 Jan 2015 by Celine Dyer

Population Trend of Penryhn Island 1902 – 2011

445	420	335	326	376	395	467	654	527	619	628	545	612	531	608	497	503	606	257	255	213
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 and from Penryhn 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. In addition, the transport to and from Penryhgn is costly, including the price of goods which is three times more to that of mainland Rarotonga. Thus children learn at an early age to fish, joining in with other family members in the various fishing activity that are carried out in the lagoon and also over the reef.



Fishing is a family affair in Penryhn; children helping with net fishing in Omoka. Photo taken on the 21nd Jan 2015 by Mitchell Tutangata

Objectives of the Rauti Para Project

There are 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* 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 instant 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. 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. The target number for the survey was based on population size of the island, with at least 10% of the population surveyed to be statistically valid for any analysis.

Delegation

Team leader was Dr Teina Rongo, Climate Change Advisor, Celine Dyer both from Climate Change Cook Islands and Mitchell Tutangata from ICT all from the Office of the Prime Minister.

Methodology

A tablet introduction workshop was conducted in parallel to video interviews of selected individuals who are long term residents on Penryhn. A climate change awareness presentation was also held in Maori by Dr Teina Rongo including the showing of the climate indicators documentary work in progress.

Logistics

All logistics arrangements were organised by Odi Tangianau, Michelle Foster and Teremoana Viniki the finance officer of Penryhn.

OUTCOME

1. Tablet Training

We set up the tablet training at the administration centre on Omoka village. It was mostly the school kids on school holidays that turned up and made use of the tablets. They did not need any assistance from us, as apparently nearly every child on the island owns a tablet. The tablet training was for two hours, and then at 8pm we had the climate change presentation and the showing of the documentary. The adults turned up for this section and were able to verify the information from their island in the documentary.



Children of Omoka village enjoying playing with the tablets 21 Jan 2015 (Photo by Celine Dyer)

2. Video documentary interviews

Those previously interviewed from previous trip of the Marine Park consultation were interviewed again but this time focussing more on climate indicators both on Omoka and Tetautua villages. The interviews are to complete and verify information in the documentary video.



Above; Mr Alex Maretapu showing area inundated by sea level rise a common sight 22 Jan (Photo by Mitchelll Tutangata)

3. Climate change awareness presentation

The team decided to show the climate indicators documentary, which was still a work in progress for people to comment on. The overall consensus was that the people were happy with the information provided by those interviewed in the video, especially as several individuals included in the documentary were elders from Penrhyn.



Family catch for the day consisting of a variety of species mullets, 21 Jan (Photo by Celine Dyer)

4. Climate change indicators

Like all the other islands covered in our survey, people on Penrhyn have also indicated many changes that have occurred on their island over their lifetime. Certainly, *ika tauira* (seasonal fish recruits) are a concern, because these have declined. According to residents, past recruitment events would come in the thousands, seen as dark clouds along the coast and are often washed ashore. Some important food fish like the *ature*, and *koperu* are not running like they used to. Along the coast, it was clear that coastal erosion is an issue, however, much of these sediments are ending up in the lagoon causing it to become shallow. In addition, these sediments are also filling the drainage passages between the *motus* where new ocean waters pass through. Consequently, these problems limit water exchange between the ocean and the lagoon. Today Penrhyn's lagoon is degraded (very little live coral cover), with high sediment conditions. Such conditions may explain the decline in paua populations. Interestingly, high sediment conditions may be ideal for some species to thrive in. For example, people are noticing that the *pipi* (natural golden pearl oysters) are now common on the patch reefs in the atoll lagoon. Because these oysters are small, perhaps they are better at removing sediment more efficiently than the larger black pearl oysters. Some farmers in Manihiki are suggesting that this is happening in their lagoon; there is a shift towards more golden pearl oysters.



Golden pearl oyster on patch reefs in the lagoon of Penrhyn. Live corals are depauperate on much of the lagoon areas especially where the pearls are found. These reefs are dominated by coralline algae (seen here as pink), encrusting all surfaces including the shells of oysters. Photo provided by Paolo Cattania.

On land, people are seeing some positive changes especially with regards to agriculture. When compared to the past, crops are doing better today. According to residents, any fruit tree brought in from Rarotonga would now grow on Penrhyn, which something that never used to happen in the past. This is due to the wetter conditions experienced in Penrhyn in the last few decades; prior to that, islands in the north were experiencing more drought conditions. These changes we know today was a result of shifts in climatic cycles that occur at the decadal scale.

The most prominent and obvious climate change impacts that we observed during our trip was the effect of sea level rise. It was obvious that coconut trees lining the mean high water mark were at one time in the past several meters inland. According to some elders, islands are clearly getting smaller. Interestingly, high seas and rough conditions seem to be normal for residents. We noticed that the king tide that occurred during our trip didn't seem to bother the residents much. The sea was washing over the main road littering coconuts everywhere making it difficult to drive a vehicle on the road.



Right: coconut trees that were once further inland are now in the water in Tetautua. Left: Main road on Omoka flooded during the king tide making it difficult to cross from the main town area to the Hospital, Telecom office, and the airport. Photo taken on the 23rd Jan 2015 by Mitchell Tutangata.

Recommendations

- While people of Penrhyn are aware that climate change exists, there is still a need to raise the awareness of climate change on Penrhyn. People need to understand what is climate change driven and what is not, as planning differs accordingly.
- In the past, the people of Penrhyn would deposit their organic debris along the coast, for the purpose of protecting their coastline from erosion. It was suggested that such practice would also advance land seaward, because the debris would act as sediment traps. However this is no longer practiced because the collapse of the cobra industry in the 1970s - people used to clear the motus of debris for easy access to the coconut trees, and the debris are then deposited on the beach for the purpose mentioned above. Others also suggested that the practice was stopped because this was deemed an eyesore by health officials. Perhaps such practice needs to be reintroduced not only to Penrhyn but also to the other atolls in the north, considering that coastal erosion is more an issue today because of sea level rise.
- Penrhyn is threatened by sea level rise therefore climate proofing projects for the island must take priority above all others.
- Incentives or measures must be put in place to encourage the people to move towards building structures such as houses and water tanks higher off the ground and including the use of salt water proof materials.
- People on Penrhyn are very familiar with the use of tablets and mobile phones particularly the young children where almost every child on the island possess either one or the other, therefore, we recommend that the SRIC CC Focal Point be provided with tablets to train the few seniors on the island in both villages.

References

1. ***Census Report 2011, Ministry of Finance and Economic Management, Government of Cook Islands***
2. <https://www.google.co.nz/search?q=map+of+Penrhyn+Cook+Islands&biw=890&bi> date accessed 27 Jan 2015



A child standing outside her house at Tetautua village a few meter from the sea. Photo taken on 22nd Jan 2015 by Celine Dye.



High seas associated with king tide in Omoka, with residents seen here securing their boats. Photo taken on the 23rd of Jan



Children in Omoka enjoying a swim near their home during the king tide. Photo taken on the 23rd Jan by Mitchell Tutangata



Papa Manata Akatapuria getting interviewed on climate changes indicators. Photo taken on the 23rd Jan by Mitchell Tutangata