



climate WITNESS

Climate Witness

Imagine hearing the personal stories of how climate change has altered the lives of an Australian farmer, a Fijian chief, an Inuit shaman and a fisher woman from Kabara? Until now these stories are largely untold, hidden tales of immense emotion and power that put a human face on climate change.

Through Climate Witness, WWF is helping to collect and record these stories in peoples own words, and to make these stories public. WWF is also working to build a connection with people on the ground around the world who are concerned about climate change, and to provide a vehicle to connect with people and get people talking about this issue.

Working at the community level, WWF is working to empower people not only to better understand the

impacts that climate change has upon their livelihoods, but also work to develop community based strategies to increase their resilience against such impacts.

WWF is also working to empower these communities to share their stories first hand and use them to influence important decisions on climate change, which will have an impact upon their future livelihoods and sustainability, across the globe.

Climate Witness in Kabara, Fiji

In the South Pacific, WWF has embarked upon a Climate Witness project, on the island of Kabara, in the Lau Group of Fiji.

This publication shares some of the initial stories and results, brought back by the team, from Kabara Island.

The tale of Togoru



water as they await their fathers who have gone fishing.

According to the patriarch of the settlement, octogenarian Kini Dunn the graves were "way back in land, in the bush" when he was a young man, "We lived on the coast," he said squinting as he pointed out some 200 metres into the sea. "The house I was born and raised in was way out there."

He and younger brother Nicholas tell of days when the graves and their rather unusual tombstones where sheltered by big trees, way back in the bush... things began to change, the coastline eroded much faster and the sea washed away our land," said Nicholas.

The Dunsns have lived in Togoru for as long as they can remember, proud of their Irish ancestry, the close knit family cannot see themselves relocating anywhere else, although the land upon which their forefathers once walked is gradually receding into the sea.

Although some family members have left Togoru to settle elsewhere there are few like Kini, Nicholas and their nephew Semisi

These tombstones were at the centre of a community settlement

It is not everyday that one gets to walk on a beach in Fiji and find tombstones a few metres out at sea from the high tide water mark.

Visit Togoru settlement, a 30 minute drive out of Suva and that is exactly what you will find. Eerie? Maybe, but it does not stop the descendants of the departed from frolicking in the



Penina's Story

" We have begun to notice that the fish and shellfish we used to gather so easily are getting harder to find .

Stems of the cassava or tapioca plant will be infested with white bugs when it becomes really dry.

Our village is a village of hardship, but we have grown used to it. We are a high spirited people

There are no streams. We have to take water out to water the cabbage patch....the small edible plants mainly....they're just fed a bit so they can at least taste some water in order to prolong their survival. When the sun is too hot, the plants wither.

Another pressing problem were facing is coastal erosion. We have a narrow beach. Coastal vegetation used to provide a natural buffer against wave action. But now as a result of strong waves, it has uprooted some and carried it off. When the waters ebb, it buries off any sign that anything is there. The high tide watermark is gradually eating its way up. Were trying to plant more vegetation along the beach. The sand is continuing to erode. In Naikeleyaga the problem is worse.



Penina Moce, 43, is married and has five children. The family live in Udu on Kabara Island in Fiji. Recognised as a strong spokesperson, she was selected to speak as a Climate Witness on behalf of the Kabara community at a village meeting in October 2004.



In my village, there will be nowhere else to relocate to if the water extends to our settlement, as it is the village community is directly at the edge of the cliff bottom. I don't know maybe we'll end up swimming out to the ocean at some stage. It would be difficult to build a settlement on the rocky outcrop above."

“ In my island, it doesn't rain often. It fills the tank a bit, but only takes a short while before it dries up again. This is now the dry season, from October, November right through January. When the water dries up, it dries up really good. We try and save up as much as possible for drinking.

If our root crops run out, we are off to Lomati, another neighbouring village. Our men go along to Lomati to plant crops there because the soil there is good for planting.

A full tank will take at least one month to last for one family before it runs dry. It can only be used for cooking and drinking but not for washing.....that's done with well water near the beach. Each family has a tank. If our tank dries we'll just have to go to our neighbour. And if the water in the whole village is depleted, we just have to go to the next village.

In three months, for instance, it will rain for a wee bit. But when it does shower, everyone will leave whatever they are doing and rush outside. At that moment we are concerned about saving water. We are lucky if it runs for two days straight, day and night. Our water problem is an issue for the whole island, not just for Udu.

People in my village try to conserve our tank by taking a boat to Naikeleyaga, a neighbouring village, where they have a well. In my dialect we call it "luvu". Because this water is a mixture of salt water and fresh water, we have to keep scooping water out, which we use for washing, before we reach the good water towards the bottom.

Family welfare is important to me and with all our problems we can only rely solely on God. The more it will rain the more our tank will be filled. But when its too hot, our concrete tanks are horribly affected also. There are also not enough water tanks. The vegetation becomes withered - cassava, sweet potatoes and bananas.



KABARA FACT-FILE

- **Population:** 433
- **Four villages:** Lomati, Tokalau, Udu and Naikeleyaga
- **Land area:** 32.75 km²
- **Natural resources:** Marine, Vesi or Intia Bijuga
- **Agriculture:** Rootcrops for subsistence only
- **Main income source:** Sale of *tanoas* (deep bottomed receptacles used to contain *yaqona* or kava)
- **Income:** 35% of households earn between \$50 - \$70 USD per month

Water water everywhere, but not a drop to drink

Coconuts, symbol of things tropical, quench thirst, are a food source and make super improvised bowls. But this is one instance you'll hear of its failure to quench. Location: Kabara, where droughts are becoming as increasingly common as the numerous water tanks on the island. Unfortunately, in times of drought the Kabara community can't depend on the coconuts because during the dry season they simply fall off the tree, and their nourishing juice is lost from their wrinkled shell.

The people are increasingly having to tough it out during periods of water deficiencies. Without any sources of surface water, the island is further aggravated when the dry season sets in and decides to really make its presence felt. Kabara, one of about 57 small islands spread from north to south in the Lau chain, lies in the dry belt. Its geographical position also means that it does not have the luxury of the same levels of rain fall as the main island, Viti Levu.

"In Kabara we are heavily dependent on rainfall for our water needs," said Leba Beitaki, a 36-year-old fisher woman from the village of Naikeleyaga. Lacking rivers and streams, the people of Kabara are reliant on what they can capture from rainfall, to provide all their water needs, from drinking, cooking, bathing and watering their agricultural crops.

Water, therefore, is captured in either shared household or community tanks. All four villages: Lomati, Naikeleyaga, Udu and Tokalau have a communal tank, with most houses also sharing additional tanks, with a ratio of roughly one tank to two households. These



Kabara villagers are depend heavily on collected rain water for their daily water needs.

tanks can hold some 5000 litres of water and if used wisely this can last for more than three months. More so the Kabara community have



Leba Beitaki, from Naikeleyaga, Kabara.

developed over the years their tolerance and learned to ration water when the annual weather cycle enters the dry months. But then it becomes drier and drier. Each day the watermarks in the tanks continue to drop. Although the villagers have

drastically cut their water use, sometimes it's not enough. The people on Kabara are finding themselves increasingly vulnerable to external influences, and are not immune to globally changing weather patterns, a heating earth and changing rainfall patterns caused by increased fossil fuel usage in the industrialized world.

Dry season equates to more regulated water cuts. Each family would get one to two gallons of water per day. "When we begin to move into the dry season, we start to ration our water so that it lasts until there's rain," says Leba. "When there's rain we have enough water to drink, wash and cook our food. But when there's no rain and we run low on water in our tanks and we resort to our *tuvu* (wells). "These wells help us get through severe drought periods, but we use them only to wash our clothes and bathe." Unfortunately, well water has its limited uses, and with a strong salty taste to it, is not suitable for drinking.

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Water water everywhere, but not a drop to drink



Vegetation on the island relies heavily on rain water.

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During periods of prolonged drought, even these wells have been known to dry up.

Not only is the human spirit weighted by the worries of insufficient water, the island's vegetation including natural forest and edibles are also exposed to the elements. Without rain water, or water in the tanks, there is a danger that their already limited food supply becomes at risk, and forces the community to implement strict water rationing. "Sometimes our tank and other household tanks run dry, but we still have one last tank in the village, a community tank. The village headman monitors the allocation of water to each household and we are very careful on how this water is used."

Religion is big on Kabara. People believe that when the tanks run dry, the wells even drier and the rains still refuse to come, calling for divine intervention is their only form of hope. "There have been

times when both tanks and the wells run dry. When this happens our reverend on the island organizes a church service for the whole island to pray for rain. "The last time we ran out of water and one such service was organised, immediately after the service rain fell."

But for how long can the people of Kabara continue to look to the heavens for their drinking water? As greenhouse gas emissions from industrial nations continue to rise at alarming rates, how long will people like Leba continue to survive on their already limited water rations?



Even the community church building has to collect water for the village.

We know that human interference is already altering our global climate system, but at what point will life on Kabara no longer be sustainable due to these changes?



Where have all the fish gone?

It is past mid-day. It's hot. Forty three-year-old Penina Moce is still waste deep in seawater. She and other women from her village wait for their fishing lines to bite.

There are a couple of fish in the basket, but not enough for more than one meal. There's nothing wrong with either the bait or their fishing technique; the sea is their life.

Penina remembers: "Before, our mothers and grandparents...when they go out fishing, it would only take a short while before their baits bite and would net big fish. "It takes ages now...up to half an hour to five hours before anything happens and when it does, the fish are small. Other seafood like shellfish are also decreasing".

"Another thing we've noticed is that the sea is slowly eroding our coastline and spreading the sand within our fishing grounds. This has caused the sea-grass bed to spread rapidly, clogging up the natural flow of water within the fishing grounds, burying the corals and changed the types of fish and shellfish in the area. We are finding it harder to find the things we like collecting for our meals."

She raises her eyebrows, her eyes widening, she says with more than a hint of incredulity:

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The tale of Togoru



During high tide the Dunn family tombstones are barely in view

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who have worked for years in other towns in Fiji and return to Togoru to retire.

Barney Dunn who is in his mid forties recalls that at least 30 years ago the graves where not even in the water, "We would walk past them every day after school to get home," he said pointing some 50 metres out to sea, "Now they are in the sea."

The graves and the tombstones have dipped into the sand, there is not much left of the iron casing atop some graves or the wrought iron fences that once decorated others. All that remains are tilting slabs of concrete with pillars to mark the spot where earlier Dunns where buried.

"Between us we do not know exactly who is buried there and when, it could be the early 1900s, but they were Dunns just like us," quipped Nicholas.

Their charm and friendliness belies their anxiety as they watch the waves literally crash on their doorsteps.

Even Nicholas has noticed a pattern in how the sea claims the land, "You see that," he said pointed at coconut trees with roots exposed almost toppling into the sea, "That is the first sign, the trees go first then the grass dies as the sand chokes them."

And he has every reason to be watching these developments, as his house is less than 100 metres from the shoreline. Generally, the families are aware that there is something amiss not only has the shoreline receded dramatically but there are also changes in the patterns of plants bearing fruits and flowers.

Their main concern is where they are going to go should the land they live be lost to the sea and its is not something that they sit around all day and discuss, "In the past we have sought assistance from Government, from anybody we hope will hear of our plight and help us," explained Barney.

Some 25 odd years ago, a seawall was built and for a while that kept the waves at bay, however development up and down the coast from the settlement have contributed to changing shorelines and could have contributed to the demise of the seawall.

For the older Dunns, Kini and Nicholas, they feel there is not much they can do, they have seen what the sea has done to the land they grew up in. For Barney the sea is an imminent threat, "What is worrying for us is that if this continues soon we will have nowhere to move, we will lose our homes our plantations- everything," he explained.

The current Togoru settlement is wedged between a receding shoreline and mangrove swamps. The shoreline seems to be "attacking" them from the front, cornering them into the mangroves and the sad fact is that there is not much room to manoeuvre.

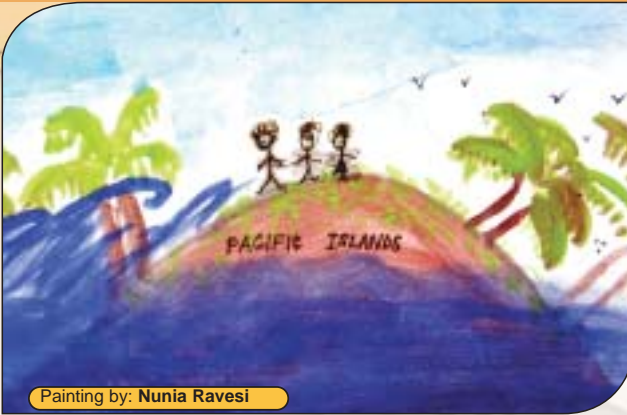
As Barney and his uncles stand on the beach, Barney's daughter Barbara and her siblings flick sticks into the shallows a few metres from the grave. As the younger Dunns play, the older generations watch them and glance warily at the sea as if expecting a giant wave to swamp Togoru displacing them from a place they have called home.

"... 30 years ago we would walk past the grave yard every day after school to get home" ... Nicholas and Barney Dunn sharing a traditional bowl of kava.



Climate witnesses share their stories through

art



understand the concept."

In Nunia's drawing, she correlates the melting of ice in Antarctica and how the excess liquid eventually streams into the Pacific Ocean. It creeps its way up a populated landmass, in the process redefining the terrestrial face of islands in the Pacific. She labels the landmass 'Pacific Islands', Kabara clearly a part of it.

Isabella Rosi, class six, share Nunia's sentiments. They're aware that their daily sustenance comes from the ocean and food gardens. They're also aware that it may not last forever. It's not only a matter of food security, but as Isabella illustrates, this whole global climate problem is causing her insecurity as a person living on a portion of Kabara, literally a stones throw away from the ocean. Through her drawing Isabella describes on the one hand "... fish to eat in the sea and the beautiful coral that make the homes for the fish and protects the coastline, with a lot of space for us on the coast to live and play." On the other "the sea has covered a lot of our land area and we get waves destroying our homes, the corals have died and we now feel unsafe on our land."

If (and they are!) at 11 years old Nunia and the rest of her vulnerable community is experiencing the gradual inward shift of their shoreline, forcing them to relocate more inland, one wouldn't need to strain the imagination beyond the students' illustrations of what will happen if the causes are not curbed.

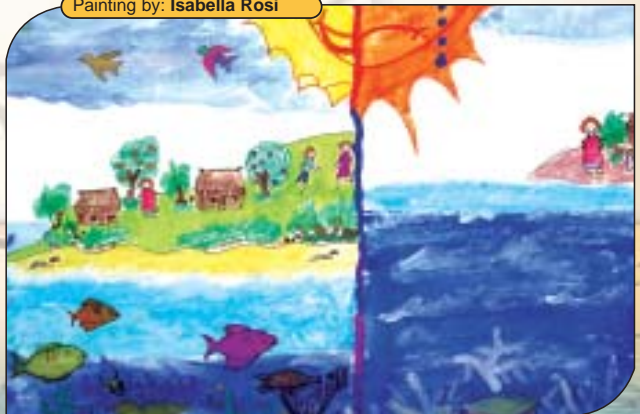
Three years ago, 11-year-old Nunia Ravesi was oblivious to the concept of climate change. Until recently, Nunia was blissfully unaware of how human actions are interfering with the earth's climate systems causing unprecedented heating towards dangerous levels. She is aware now. Nunia, like all of her classmates have just come to terms with the fact that although isolated, Kabara is no safer from the global threat of climate change and how the human-induced climate crisis is not selective in its tit-for-tat and potentially destructive attitude. Following awareness workshops, the Kabara community now has a renewed understanding and is redefining the state of their receding coastlines and low-lying island along the buzz-words of sea level rise. What Nunia understands is: "When the ice begins to melt at the poles, it will cause the sea level to rise and flood the low areas on our island. We will lose our gardens and houses when this happens."

As foreign as the idea of a large ice mass is to a person living in the tropics,



more
so in a somewhat remote location as Kabara where the villagers live through the bare necessities, the message sinks in. This school poster activity was part of WWF South Pacific Programmes Climate Witness project, in getting the awareness across, demystifying misconceptions of the causes and advocating the need to be pro-active environmentalists in their own small way. Students from Naikelyaga Primary, Udu Primary and Kabara Primary schools become 'Climate Witnesses' in the own right, expressing through their art work their perceptions of how their own lives will be impacted by climate change. Heading the Kabara excursion was Francis Areki, WWF-Kabara Project Officer. "We asked them to show how climate change affects them...Climate change is still a very new idea to them, but they

Painting by: Isabella Rosi



Young Climate Witnesses, from the Cook Islands, have also recorded their impressions of how their lives may be affected by climate change, through their art. These pictures were designed by young Cook Islanders, as part of an island wide awareness campaign, in Rarotonga, coordinated by WWF Cook Islands Country Programme.

Where have all the fish gone?



There's less fish around our reefs compared to 30 years ago
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"Before, I would fish for two or three hours and in that time I manage to provide for a number of family meals. After the second day we'll still have surplus seafood to take us through another day or two". "Now," she adds, lowering her voice, "we're lucky to get enough for one meal."

Anaseini Tadulala, 83, from neighbouring Lomati Village recalls: "In the past from October until December, we know this as the time of intense heat. Now we get really strong winds and stormy weather". "I often get worried about this," says Anaseini, "because when this happens we women can't fish."

Penina is from Udu Village on the island of Kabara. Ika (fish) and other *sasalu ni waitui* (edible marine life such as shellfish) are the quintessential high nutrient food sources that fill their plates. For an island only 32.75 km² with inadequate water, poor arable soil and the unease that the quantity of fish is not as plentiful, food security is a worry to the 433 residents of Kabara. Canned foods from the village co-op does not count. You need money for that and this leads to an entirely fresh subject of Kabara's other prized natural resource, the *Vesi* (Intsia Bijuga). But that's another story.

Weaving is the other activity Penina engages in when she isn't waist-deep in the ocean. With more time spent seeking increasingly scarce marine resources, it's an activity she doesn't get to enjoy as often. Whatever is fished is purely for subsistence and/or communal functions. No one fishes on Sunday. While fishing is largely a female task (some men pitch in), planting and the harvesting of root crops and other hefty outdoor responsibilities fall in the male domain. "We need to start protecting our marine resources. We also notice that the corals are not so healthy, even dead and it pushes away various marine organisms in and around it. The water is also getting a lot hotter. "The children in the village notice. They're noticing the predicament we're in. They say: 'Oh, mum fish are not so plentiful eh'.

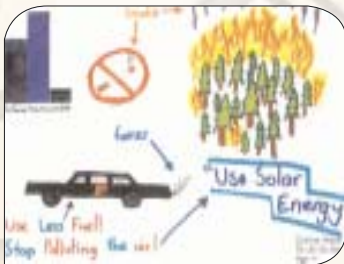
The clear blue waters off the coast of Udu projects a sense of 'security'. But one need only talk with people like Penina to know that it's not all that sunny at the oasis. She talks about reefs that are bleached and the loss of valued marine organisms. "With the corals going white we also notice that some of our shellfish have also disappeared. One thing we consider a delicacy amongst our clan is the shellfish, *gera*, it's now very difficult to find."



Signs of coral bleaching on Kabara



Painting by: Rose Carrad
Te Uki Ou School
Age: 8



Painting by: Corrie Webb
Te Uki Ou School
Age: 11



Painting by: Matangaro Rima
Arorangi School
Age: 8

A traditional leader's view of climate change

By Imogen P. Ingram (*Te Pa Mataiopo*)
President, Taporoporoanga Ipukarea Society Inc.

Mr Charlie Numanga, from the Cook Islands Red Cross, and holder of the traditional title of *Poata Rangatira*, recently spoke of changes to the Cook Islands climate, which he has observed over the past five to ten years. These changes were shared with listeners to a Cook Islands Talk Back Radio Show, organised by the Cook Islands Environment Service.

Working in the hospitality industry, where flower 'ei's' (traditional garlands) are required for "meet and greet" services, *Poata Rangatira* takes a keen interest in the availability of flowers. In Rarotonga, the frangipani trees now have a much shorter flowering season than previously. When he visited Rakahanga in the Northern Group, and other islands in the southern group which are north of Rarotonga, he saw that they flowered profusely.

Another result of the perceived change in climate is that all the islands suffer droughts and water shortages more frequently than used to be case. He acknowledged that some of this may be due to a greater visitor population, which puts a heavier demand on the island infrastructure, but he felt that dry periods were becoming longer and more frequent.



Frangipani, used for traditional garlands in the Cook Islands

He suggested to listeners that it would be practical to harvest rainwater from the roofs of their homes.

Poata Rangatira has also noticed the erosion of the foreshore by high seas, and the more frequent flooding of low-lying areas by heavy rain. He felt that this was consistent with more frequent and more severe weather events that we have been told to expect. His advice to listeners was to ensure suitable vegetation is planted to reduce erosion of the beaches and stream banks.

His final example of the permanent change in climate was that the cool season months during El Nino years are very cool indeed, due perhaps to the South-East tradewinds.

The talkback elicited some good responses from the listening public, with suggestions to trim back vegetation near the home and for the local government authorities to ensure stream beds are deepened in order to reduce flooding of nearby residential areas during heavy rains. It was encouraging that a young traditional title-holder displayed his leadership by suggesting practical steps the community could take to protect their homes. We hope that other traditional leaders will also pool their skills with technical experts in order to raise awareness of climate change issues and suggest ways to adapt to the change.



Village on the lagoon edge, in Tongareva, Cook Islands

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