

Climate impacts in the Pacific

Assessing capacity for change

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Pileni fishermen are interviewed by a Solomon Islands Red Cross volunteer.
(Photo: Rebecca McNaught/Climate Centre)

The island of Pileni, Temotu province, Solomon Islands

A Solomon Islands case study

This is the story of one Red Cross society's effort to incorporate climate change into its regular work, and what it found on Pileni island – remote even by the standards of the Solomon Islands. In 2010 the Solomon Islands Red Cross (SIRC) began working with the small – very small – community on Pileni which is grappling with the impacts of climate change and the uncertain future they generate. Climate projections for the Pacific region as a whole indicate more extreme weather, warmer seas and rising sea-levels, and declining fisheries, on top of existing stress-factors like dwindling resources, population pressure and conflict.

The SIRC, a contributor to the government's national adaptation programme, recognised the threat of climate change and took part in the Red Cross Red Crescent Climate Centre's "Preparedness for Climate Change Programme" (PfCC) from 2007 to 2009. A capacity-building programme implemented in 64 National Societies globally, PfCC links them to climate stakeholders, improves understanding of the issue through workshops for staff and volunteers, and culminates in action plans to integrate climate into regular programming.

In its own plan, the SIRC saw the need to consider climate change within the "participatory" methodology of the standard Vulnerability and Capacity Assessment (VCA) used in the Red Cross Red Crescent Movement worldwide.



Pileni islanders rely on traditional canoes and sail boats since fuel for outboard motors is so expensive. (Photo: Tim Lewis-Nicholson)

There are barely enough bananas, coconuts, breadfruit, alite nuts¹ and cabbage, since the ground is becoming infertile from saltwater intrusion. Some taro² has been planted but it is not healthy and not producing good tubers. Islanders exchange fish for sweet potato and taro with neighbours. Average income per household

Pileni, like other low-lying islands, may not be inhabitable in 20 years

is up to only US\$ 26 a *month*. Sources of cash are pigs, fish, shark fins, and baskets and mats sold to tourists in the provincial capital, Lata, and remittances. Petrol for boat rides (in fine weather only) to health centres on other islands is prohibitively expensive; the elderly tend to move away.

The Provincial Disaster Management Office says it has noticed a significant increase in erosion in the last four years, and at current rates Pileni, like other low-lying islands in Temotu, may not be inhabitable in 20 years.

Vulnerability and capacity

In November 2010, a week-long VCA was undertaken for which special training was carried out in Lata with male and female volunteers from the island. The community is isolated and totally dependent on natural sources of food and knowledge, but this makes them excellent judges of change in the environment. The SIRC explained how such changes are occurring elsewhere in the Solomons and around the world. To document and understand them, the SIRC successfully expanded the local seasonal calendar, plotting observed changes in weather and fruit harvests – a tool now being used by the National Society to map climate impacts countrywide. The Red Cross experience was also shared with the government, as the Solomon Islands seeks to operationalize climate factors.

The Pileni community has tried to adapt to the changes they are experiencing, by building sea walls and using pig manure to grow vegetables, for example. One VCA respondent felt walls were cheaper than relocation; others said that in the long run relocation would be the only option. In the medium term, moving to other islands is difficult because of the complexities surrounding land title in Solomon Islands law.

Pileni island: remotest of the remote

Pileni island is the size of 14 international soccer pitches put together. A remote corner of a remote province, Temotu, exposed to seismic and climatic threats – high tides, tsunamis, lack of drinking water, drought, cyclones, heavy rain, coastal erosion, declining fish stocks and crops, and coral bleaching. One of the northern Reef islands, Pileni's estimated 300 people are of Polynesian descent, in a predominantly Melanesian country.

According to the Temotu meteorological office, rainfall and temperature have been changing since records began in 1971, and islanders now talk often about the unpredictable nature of the weather. People on Pileni can no longer use traditional signals to predict the weather with the accuracy they once did. The island's paramount chief says trust in traditional methods is being lost. People have noticed significant changes to wind patterns, mainly the northerly and southerly winds that sweep across the island.

¹ Solomon Islands pidgin for tropical almonds, widespread in the tropical Indian and Pacific Oceans.

² A staple crop of the Pacific, with edible starchy corms and fleshy leaves.

Access to technical advice and materials from the outside world is very limited. All respondents said they have very limited access to external organizations, or none at all.

High sea-levels and erosion are among the greatest concerns, followed by declining fish stocks, poor water quality and falling agricultural production – as well as the changing frequency of the storms that once were easily predictable. Advised by the SIRC, the community decided sea walls could be reinforced with wire netting. Church leaders, island committees and the chief are all involved in implementation. The community noted that they had once worked on sea walls only as individuals, not collectively, which was preferable.

There is a strong adherence to culture and tradition on Pileni. The chief acknowledged the changing world and the need to embrace new ways of doing things, but it was *culture* that bound people together on Pileni and helped them retain their identity.

The Red Cross Red Crescent then built on the results of the VCA to make a detailed assessment of the capacity of the Pileni community to adapt to climate change. (See box, “Measuring Pacific communities’ adaptability: seven key factors”.) This study, by the International Federation of Red Cross and Red Crescent Societies (IFRC), Solomon Islands Red Cross, and the Climate Centre, with backing from the Australian Red Cross, was part of the Australian government’s “Pacific Adaptation Strategy Assistance

Program” that aims to help countries understand their vulnerability to climate changes and develop plans to adapt. The study was one of eight undertaken by the University of the South Pacific and the Secretariat of the Pacific Community, and it contributes to a growing Pacific knowledge-bank on adaptation.

Conclusion

The Pileni community, in conclusion, can be shown to be highly resilient and self-sufficient. It has a strong sense of identity; it’s quite homogenous; and while welcoming new ways of doing things, it’s conscious that traditional culture is well worth retaining. The

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system of chieftainship operates in a way that gives people a say and resolves conflict. The Anglican Church also provides a locus for sharing information and resolving conflict; the community has active committees providing useful mechanisms for group activities.

But the Pileni community lacks the resources it needs, mainly finance, to implement many of its ideas. Ultimately, it is the captive of an environment that, for various reasons, is becoming more hostile and poses an increasing threat.

NB The Climate Centre has produced a guidance note for National Societies including climate change in VCA: www.climatecentre.org/downloads/File/VCA%20guidance/VCACC_forpractitioners_April2011.pdf.

The Pileni children’s classroom is the island’s only permanent structure. (Photo: Rebecca McNaught/Climate Centre)



Measuring Pacific communities' adaptability: seven key factors on Pileni island

Dealing with climate stress

A traditional method of dealing with high winds and cyclones on Pileni is to place large coconut leaves on roofs. People also relocate to the other side of the island. Another strategy is reliance on “famine foods” such as nuts, dried breadfruit and taro wrapped in coconut husks. But this is dependent on crops that are now declining.

Health and human capital

Water and sanitation is the biggest environmental-health concern in Temotu, where people's strongest request to the authorities is for an improved supply of water. There is no fresh running water and the community depends on wells and tanks. There is no solid-waste disposal or sanitation either. Many communities in the region rely heavily on coconut water for daily hydration. Malnutrition in children is reported.

Community cohesion

Respondents spoke of a strong sense of identity and belonging. The demography of the island includes seven different clans with much intermarriage. Inward migrants tend to be people who have married Pileni islanders. Most respondents agreed the community works together and nearly all households interviewed were involved in at least one local committee: church, school, development projects (such as transport), the chief, women, youth.

Belief systems

The only organized religion on the island is the Anglican Church. The traditional matriarchal system of land succession still operates. People in the Solomon Islands are deeply religious and some see climate change as a sign of the end of the world, but respondents said they need to do something about

it for the sake of their children. Questionnaires revealed each household had an average of at least one member living or studying away from the island, suggesting a high level of remittances.

Resources

The primary-school classroom is the only permanent building on the island. Students must leave the island to go to high school; their families often follow. The decline in fish stocks is worrying since most respondents said this was their main source of protein and they exchange fish with other islands for fresh fruit and vegetables. One of the largest recent impacts on the community is the conservation-driven ban by the government on the export of *bêche-de-mer* (sea cucumber).

Information

The Church is the main meeting place. But there is a serious lack of external communications capacity: personal battery-operated radios can make communications difficult during extreme weather. But with help from the chief, the community has successfully ranked key priorities, indicating an ability to analyse information and options.

Adaptation

The community has adapted to some of the changes they are experiencing, by building sea walls and using pig compost, for example. One of the most obvious adaptation options would be to decrease dependence on ground water, which is declining in quality anyway. Meteorological information via two-way radio would compensate for unreliable weather forecasts. While environmental decline on the island may lead to the need for relocation, this is fraught with difficulty given land-tenure complications. Most agree solutions should be found on the island for as long as possible.