

Pacific at risk: Our Islands, Our Lives





On low-lying atolls in the Pacific, people have had to radically change the way they grow crops, because rising sea levels are seeping into the soil, making it too salty to grow staple crops such as taro, pulaka and yams.

In Tuvalu, farmers used to dig pits in the sandy soil, fill them with compost and plant their root crops. Now, however, increasingly brackish water is poisoning

Coastal roads, bridges and plantations being destroyed

As well as slowly rising sea levels which are eroding coastal roads and other infrastructure, countries like Kiribati, Tuvalu and the Marshall Islands also suffered unusual storm surges in February 1997 and again this year, where the tide just kept on coming in, destroying sea walls, bridges and roads and flooding houses and plantations. In Kiribati, the bridges linking Tarawa and Betio were destroyed. Kiribati has now established a task force to oversee management of a \$US253,000 fund for reconstruction of causeways, roads and other infrastructure destroyed by coastal erosion.



On Majuro atoll in the Marshall Islands, the airport has been flooded on several occasions recently, despite an eight-foot sea wall. Throughout the Marshall Islands, coastal erosion is evident everywhere. While some erosion in more populated parts can be blamed on inappropriate land use practices, the coasts of outer islands that have had no development are also crumbling into the sea. Like virtually all Pacific island countries, the Marshall Islands are ill-equipped to deal with sea-level rise. An extensive sea-wall protection system would cost more than \$US100 million for Majuro atoll alone, disregarding the protection needs of the other 28 atolls in the Marshall Islands. The Marshall Islands' total gross domestic product is just

US\$80 million, more than half of which comes from grants from the United States which could terminate as early as 2001.

Even if it were economic to build a sea wall to protect Majuro, it would not be feasible; a sea wall around the atoll would kill the inner lagoon ecosystem. This would have flow-on effects on the tuna fishery, which depends in part on fish which spend their juvenile period in the lagoon.

Disappearing islets

Rising sea levels have already swamped some motu (small islets) in the Pacific. In Kiribati, the motu of Tebua Tarawa

Tepuka Savilivili slowly being engulfed by the rising ocean



used to be a landmark for fishermen. Now it is gone. In Tuvalu, the motu of Tepuka Savilivili has lost its coconut trees and its sandbanks and the ocean is slowly moving up its remaining rock.

Family land crumbles into ocean

In most of the Pacific, land tenure systems mean people living on a coastline that is disappearing beneath their feet cannot move inland, because that land belongs to other families. So people on the coast in countries like Kiribati and the Marshall Islands are trying to reclaim their family land, dumping trucks or other old equipment into the sea and then piling rocks around them to try to build up their patch of land once more. Outsiders think this is pollution: in reality, it is an attempt to survive in a changing world.

Changing climate hits national economies

The Pacific's climate is changing, as countries like Federated States of Micronesia, Fiji, the Marshall Islands, Papua New Guinea, Samoa and Tonga are only too well aware. All these countries have been hit hard by recent



devastating droughts. In Fiji, drought wiped out some two-thirds of the 1998 sugar cane crop, which normally provides 40 percent of export earnings. Tonga's squash crop, which produces about half that country's exports by value, was more than halved. In Papua New Guinea, Australia spent more than AU\$30 million in 1998 delivering food aid to people in isolated areas in the highlands and low-lying islands, many of whom were close to starvation. The drought substantially reduced Papua New Guinea's important coffee harvest. In FSM, almost 40 atolls ran out of water and the capital, Pohnpei, was reduced to living off brackish underground water and shipping water to neighbouring atolls. In the Marshall Islands the United States brought in desalination plants to provide water for the population. In Samoa, fires sparked by the unusually dry conditions destroyed large areas of forest on the island of Savaii.

Changes in fisheries

Pacific people traditionally depended on the ocean to supply most of their protein requirements. Over the centuries they developed a wealth of knowledge about when and where to fish. In recent years, however, the fish have not been found where traditionally they would be expected. The currents have changed, and so have the locations of the fish. In Papua New Guinea, for example, on Manus Island, people traditionally catch large hauls of tuna in October. They use this not only for their own sustenance, but also to sell to the country's fish markets. In 1997 the tuna did not arrive.

Warmer temperatures bring more mosquito-borne diseases

Throughout the Pacific, malaria and dengue fever, both mosquito-borne diseases, are increasing. In Papua New



Guinea, for example, the past ten years have seen outbreaks of malaria in the highlands, 2000 metres above sea level, where previously it was too cold for malarial mosquitos to survive. The same is true of the highlands of the Solomon Islands, where malaria has also begun to appear. Malaria and dengue fever are starting to appear in New Caledonia. Previously there was no malaria there and virtually no dengue. But now, at some times of the year, there are outbreaks of malaria and dengue fever in New Caledonia.

Environmental refugees

For some, the battle against a changing climate and rising sea levels has become too much, particularly when these are combined with population pressures. Environmental refugees are already a reality in the Pacific. Kiribati has begun an internal resettlement programme, moving people from Betio to the outer islands. Niue recently accepted seven families from Tuvalu, who decided to escape from the increasing risks of living on a low-lying atoll.

The Pacific's plea

The world's climate scientists have already said human greenhouse gas emissions are having a discernible effect on global climate. While the Pacific does not have the expertise to say that the changes it is experiencing now are a direct result of greenhouse gas emissions, it does know that it is vulnerable now, and that there is a considerable probability that the risks will only increase in future.

The Kyoto Protocol to the United Nations Framework Convention on Climate Change, which provides for an overall 5.2 percent reduction in greenhouse gas emissions by developed countries, goes nowhere near the 60 – 80 percent reductions which the Intergovernmental Panel on Climate Change has said are needed.

As far as the Pacific is concerned, the sooner countries start making the reductions they have committed to, and accept that much stronger reductions will be needed, the better the Pacific's chances of surviving the next millennium.

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