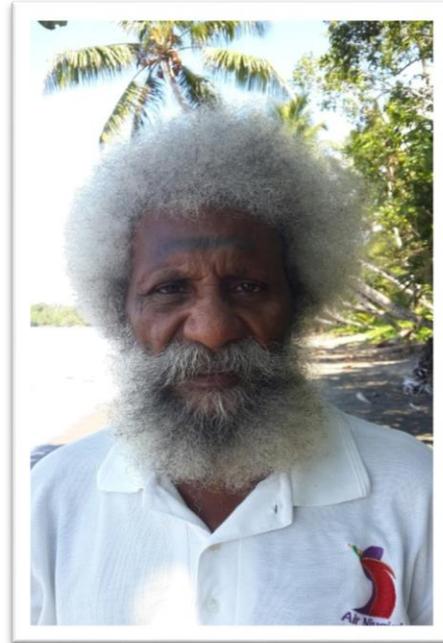


“The Actual Sea Went All the Way Up”: Coastal flooding on Manus, Papua New Guinea, December 2008

“I can remember, vividly,” said Dr. Gabriel Kulwaum, the Climate Change Coordinator for Manus Province, Papua New Guinea. “The actual sea went all the way up about 5,000 feet inland. It came through under my house and it was about 1 foot, 2 feet, high where I stood and witnessed the ducks and chickens floating.” Most of his neighbors had evacuated to higher inland areas by that time, on December 8, 2008. Only a few residents remained by the coast, whom later had to be rescued from roofs and the tops of coconut trees.

Manus is the northernmost province of Papua New Guinea (PNG), composed of several low-lying atolls and green and hilly Manus Island – where the province capital sits, along with most of the province’s population of 60,000. The province is located just below the equator, atop the tectonic ‘Ring of Fire’ responsible for many volcanic eruptions, earthquakes and associated tsunamis in the region. Waves reaching inland beyond their bounds are not unfamiliar to Manus.

Several days before Dr. Kulwaum witnessed the water rising under his house, the PNG Natural Disaster Office began telling coastal communities that huge swells generated by distant storms to the north were forecasted to strike the northern coast of Manus Island. The warnings were aired over the radio, keeping people across Papua New Guinea informed. “PNG Natural Disaster Office was coordinating the disaster that happened across the country. And in Manus, they kept us informed and we were ready to move. And the police and the army, they were organized on standby,” said Dr. Kulwaum.



Local author Dr. Gabriel Kulwaum, the Climate Change Coordinator for Manus Province, Papua New Guinea. Source: Gabriel Kulwaum.

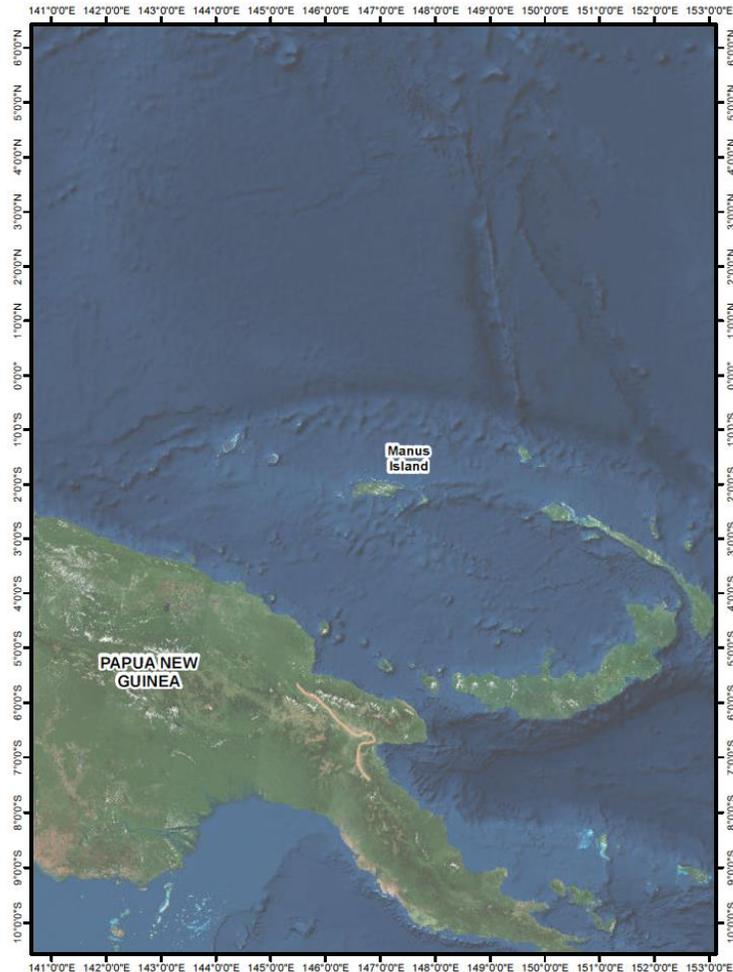
Key Message

Engage with the community and other stakeholders early and often – building community ownership and participation from the beginning leads to more positive, sustainable outcomes.

On December 8, the unusually large swell reached the northern coasts of islands in Manus Province, along with many other parts of Papua New Guinea, the Solomon Islands, the Marshall Islands, Kiribati and the Federated States of Micronesia. “I was right there on the beach. I saw the falling trees,” Dr. Kulwaum said of the first day of the coastal flooding. “So I decided to move inland and I started up the hill, watching the sea come onshore. The sea went up 10 feet. In fact about 1,500 feet from the shore you could see the swell coming up. Very frightening.”

“Most people moved uphill. They moved up with their eating utensils, their bedding, and so on.” Manus Island’s hilly center, with elevations up to 2,350 feet, offered refuge for coastal residents. “We are looked after by our natural environment. We have land where we can collect firewood. We have gardens inland that were not affected by the rising sea and the fruits were available for that as well. But more importantly, we have family networks, we have very strong family networks, where we depend on each other.”

Tribal chiefs, or lapan, helped to mobilize the community at a family group level during the flooding. In addition to the national and provincial government, the Manus people recognize the lapan as a traditional form of tribal governance. “We need to strengthen the tribal governance. I think across the Pacific we have the chiefmanship system. We have the traditional institutions that must be strengthened because we depend on that to mobilize our people to address the natural disaster.”



KEY MESSAGE

Know your social/cultural setting – understanding community values, aspirations, and perspectives, as well as the sensitivity of assets critical to and the adaptive capacity of the community will drive adaptation from a grassroots level.

The coastal flooding continued for a week. “People were looked after by their relatives. The churches also were on standby and the government came in after 10 days of disaster. They distributed food, especially to the outlying islands.” The low-lying atolls in Manus Province were struck much harder than Manus Island. “The islands were very much overrun by the sea and the actual food crops were destroyed, and soon after this the government in Manus sent a rapid assessment team out with the assistant from the national government to the islands to make the assessment.” As a result of this assessment, food and fresh water, along with other supplies, were sent to the outer islands.

Coastal flooding events such as this are infrequent in the region. “I am 52 years old now. I live with my mother. I live with my father. And they never tell me the story of this disaster. So in other words, what I am saying is, such a disaster did not happen in their lifetime,” said Dr. Kulwaum. Tsunamis, caused by earthquakes along the Ring of Fire, are more common. But the combination of exceptionally large swell and high tide, which caused the extreme flooding in December 2008, happens so rarely that the people of Manus haven’t experienced it in the last 100 years. With accelerated sea level rise and more severe storms caused by climate change, the frequency of flooding events such as these will increase. Subsequently, the demand for early warning – days, weeks, months, and even years ahead of time – about potential coastal flooding will also increase.

In response to projected impacts from climate change, Manus province initiated a project on climate change adaptation a few years after the flooding event. “The point of this project was to build resilience in coastal communities and their ecosystems to the impacts of climate change,” said Dr. Kulwaum. “We have community educators, we trained them, we informed them, and they went out into the community to pass on the information about the effects of climate change and how it happened.” They spread awareness through many channels including radio, printed materials, and songs and drama by school children.

“There are two kinds of knowledge: we have the scientific knowledge and the traditional knowledge. And I must say that our people knew about climate change before the scientists came in and told us that this is climate change.”

“It is acknowledged at the government level that we need to address climate change,” said Dr. Kulwaum. “But the question is the actual implementation. How do we translate this policy to the community level?” The impacts of climate change are so overwhelming in Manus – and the government funding equally underwhelming – that Manus communities are taking it on themselves to adapt. “The people took ownership and the people became accountable.” They are testing salt-resistant crops, buying water tanks, digging wells, and lifting houses off the ground. “We are getting ready and we are responding to the issue of climate change.”



The flooding felled many trees near the shoreline, several of which remain on the beaches as reminders of the event. Source: Gabriel Kulwaum.

The Pacific Islands Climate Storybook can be found at: <http://pacificislandsclimate.org/csdialogs/>
Climate Stories can be found at: <http://www.pacificislandsclimate.org/csstories/>

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