

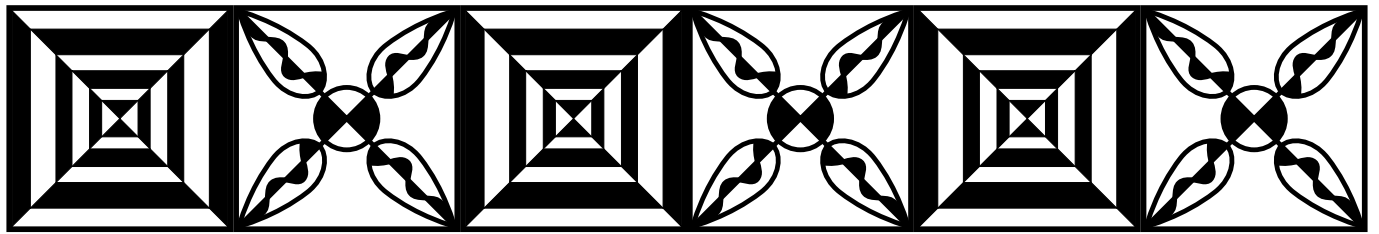
Hungry for justice, thirsty for change

CARITAS STATE OF THE ENVIRONMENT REPORT FOR OCEANIA 2016





**Wani Filipe ties climbing beans
at Tutu Rural Training Centre,
Taveuni, Fiji.**



Hungry for justice, thirsty for change

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FOR OCEANIA 2016

*Monū'ia ā ka ko kinautolu 'oku fie kaia mo fie inua
ki he mā'oni'oni, he 'e faka makona 'a kinautolu.*

*Ka hoa te hunga e hiakai ana, e hiainu ana ki te tika;
ka mākona hoki rātou.*

*Blessed are those who hunger and thirst for justice,
for they will be satisfied.*

MATTHEW/MATIU 5:6

FEAST OF ST FRANCIS OF ASSISI
4 October 2016





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Caritas Australia acknowledges the Gadigal people as traditional owners and custodians of the land where our Head Office is located. Caritas Australia pays its respects to the elders past and present of all nations and clans of First Peoples in Australia.

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About this report

In 2015, Caritas Aotearoa New Zealand – the Catholic Agency for Justice, Peace and Development – released its first *Caritas State of the Environment Report for Oceania* on the Feast of St Francis of Assisi (4 October). This reported on five issues we had identified through our 2014 foundational report *Small yet strong: Voices from Oceania* on the environment.

In 2016, Caritas Aotearoa New Zealand is joining together with Caritas Tonga and Caritas Australia to jointly produce this second *Caritas State of the Environment Report for Oceania*.

These reports draw on interviews with groups from our Catholic and Caritas networks and partnerships across Oceania, to paint a picture of environmental changes and issues impacting on the lives of all people of our region.

In 2016, our research has taken place against the backdrop of the international consensus reached at the December 2015 United Nations climate change conference in Paris – when the world agreed on the steps needed to overcome the threat that climate change poses to the future of the planet as a habitable home for human beings (the Paris Agreement). This year also marks the establishment of detailed indicators to monitor progress towards the Sustainable Development Goals agreed in September 2015.

This work has also taken place in the context of the extraordinary Jubilee Year of Mercy declared by Pope Francis, in which the Catholic and wider community have been called to consider what more we can do to reach out to our neighbours in need. This can help ensure all people have what they need to survive and flourish as members of one human family.

Caritas Aotearoa New Zealand, Caritas Tonga and Caritas Australia are members of Caritas Oceania, one of seven regions included in the Caritas Internationalis confederation of more than 160 Catholic welfare, development and social justice organisations. Since 2003, Caritas Oceania has raised environmental justice and climate change issues within our confederation, as matters of urgency affecting the well-being of communities across the Pacific.

All three agencies over the last decade or more have been addressing environmental challenges facing our region, through community development and relief programmes, advocacy and education work. In tune with Pope Francis' consistent call throughout his ministry to be protectors of one another and of our common home, Caritas strives to work with all people of goodwill for greater care of the earth and care of people.



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ROBERT KAMO, KAPO, PAPUA NEW GUINEA: *"When fire destroyed the cocoa trees, we all wept as it was like losing a child."*



TRI KANEM, WEST PAPUA: *"Women must walk very far to fetch water while carrying their babies on their back."*



URSULA RAKOVA, CARTERET ISLANDS, PAPUA NEW GUINEA: *"Children on the island can't go to school. Why? Because there's hardly any food for them."*

TONY INIKRE, VANIMO, PAPUA NEW GUINEA: *"People have died and are being sick because they have no food to eat and no safe clean water to drink."*

FRANCIS KEMAKEN, PAPUA NEW GUINEA: *"When water sources became scarce, people moved to find and use water where it was."*



MIKAELA KENNY, SOLOMON ISLANDS: *"Food not grow good because of more rain, more sun, at the wrong time."*



ROWAN FOLEY: *"Carbon farming is providing a sustainable economy on Aboriginal lands."*

Hunger and drought in the Pacific: 2015/2016



ARCHBISHOP CHRIS CARDONE, SOLOMON ISLANDS: *"Here in Malaita we've had many places that have had a great shortage of rain."*



KATARINA BETERO, MAIANA, KIRIBATI: *"There is much salty water."*



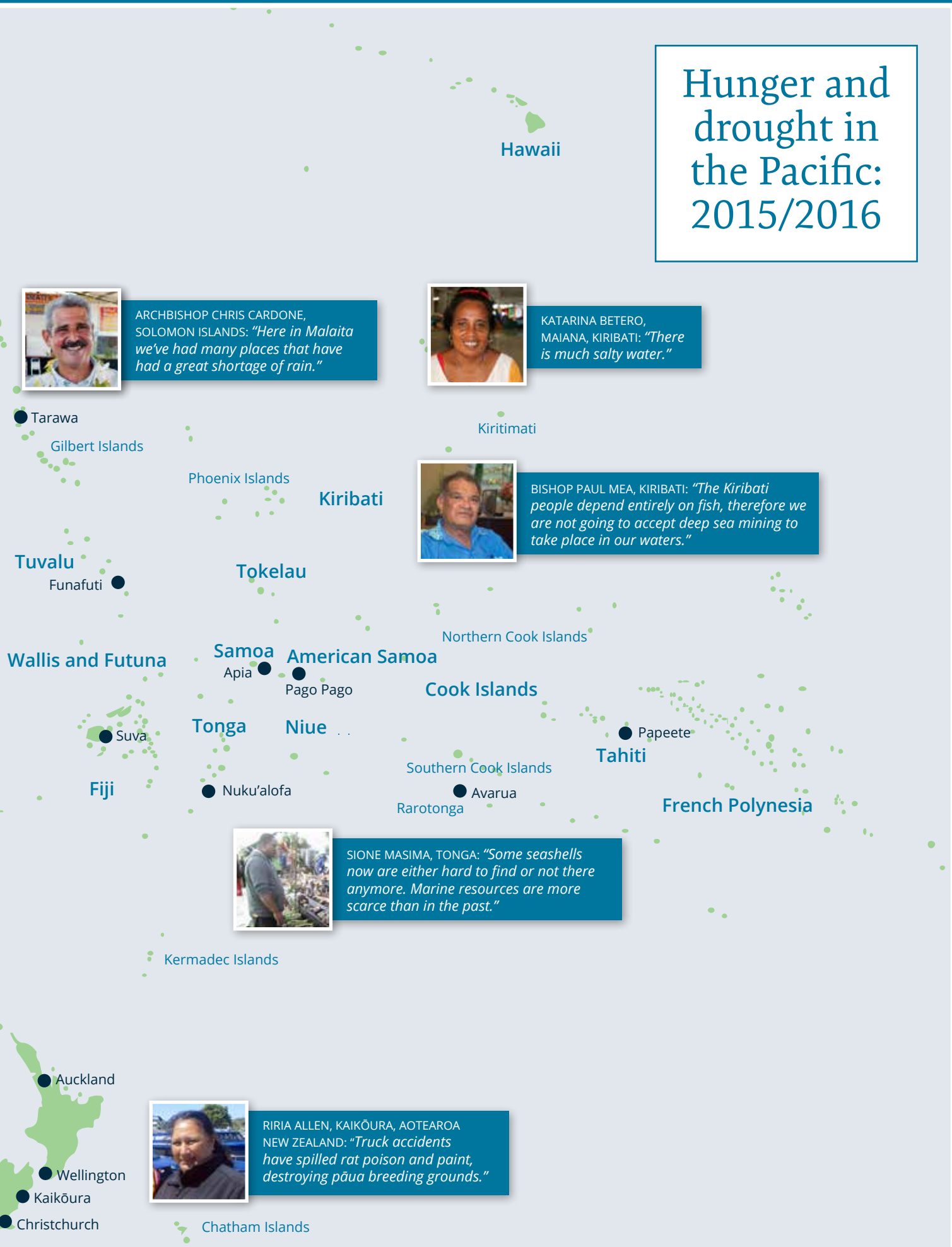
BISHOP PAUL MEA, KIRIBATI: *"The Kiribati people depend entirely on fish, therefore we are not going to accept deep sea mining to take place in our waters."*



SIONE MASIMA, TONGA: *"Some seashells now are either hard to find or not there anymore. Marine resources are more scarce than in the past."*



RIRIA ALLEN, KAIKŌURA, AOTEAROA NEW ZEALAND: *"Truck accidents have spilled rat poison and paint, destroying pāua breeding grounds."*





This is the opportune moment to change our lives!

This is the time to allow our hearts to be touched.

POPE FRANCIS: *MISERICORDIAE VULTUS/THE JUBILEE OF MERCY*, 2015

Introduction

The Jubilee Year of Mercy called for by Pope Francis (8 December 2015-20 November 2016) reminds us of the imperative to give practical assistance to the poor – to feed the hungry, give drink to the thirsty, and shelter the homeless. It is a time to ensure all people can access the basics of living. It also calls for addressing all issues of justice and forgiveness, of restoring right relationship with each other and with the earth. As the New Zealand Catholic Bishops Conference have explained in their letter for the extraordinary Jubilee of Mercy: “A Jubilee Year is a practical experience of the restoration of fairness and goodness...of grounded holiness where we experience the awe and joy of doing what is right in the eyes of God.”

This past year, 2015/2016, has highlighted the Pacific’s vulnerability to extreme weather events that affect food and water supplies. One of the strongest El Niño cycles brought hunger and thirst to millions across the region. It forced people to walk for days seeking sustenance, to rely on food with poor nutritional value, and, in some cases, to become severely weakened or die from malnutrition. This is not something we normally associate with the Pacific, with its general abundance of wild foods and prolific growth of plants and animals on land and in the sea.

Unprecedented weather events and temperatures regionally and around the globe in 2015/2016 serve as another warning of the environmental dangers the human family faces. Record-breaking temperatures across the globe for 2015 and the first half of 2016 were reflected in the Pacific region, while the strongest recorded cyclone to ever hit land in the southern hemisphere devastated large parts of Fiji. People suffered major setbacks to livelihoods, income and education.

More Pacific communities are losing ground to coastal erosion and coastal flooding, disrupting food gardens, cemeteries and homes. As the sea continues to rise, bringing future unknown changes, Caritas continues to hear more stories of whole communities moving because of these rising seas and stronger king tides.

The Paris Agreement gave much hope in December 2015, when a global climate treaty was finally agreed that could “change the world” if implemented fully. It spurred greater global commitment to financing adaptation and mitigation measures, but much more is needed. New Zealand and Australia are still doing less than their fair share to minimise emissions, support the most vulnerable in Oceania, and take practical steps towards inclusive, global development that cares for both the earth and the poor.

Deep sea mining continues to tempt governments and business with mineral wealth from the sea floor, despite the warning signs that we don’t know enough about its potential impacts – and the detrimental impact that ‘experimental’ seabed mining has already had on indigenous and local communities. However, there is a growing movement of community and Church opposition to these offshore ventures.

In this Jubilee Year of Mercy, “feeding the hungry and giving drink to the thirsty” requires us to respond with ever greater urgency to the environmental damage that is depriving vulnerable communities of what they need to survive. This report brings voices from the Pacific which amplify the cry of the earth and the cry of the poor. We need to listen to them.

2016: Summary of environmental impacts

Below is a summary of the five key environmental issues that Caritas organisations in Oceania are monitoring each year, for their impact on people and communities, through our *State of the environment report for Oceania*. Through our staff, partners, the communities we work with, and Church contacts across the region, the reports reflect the voices, experiences and observations of people at the grassroots and coastal edges of life in the Pacific. Our assessment of each issue reflects the impacts people have experienced from July 2015 to June 2016 (2015/2016) in Oceania.¹

Environmental factors affecting people's access to safe healthy food and drinking water

The Caritas assessment for the overall impact on people of environmental factors affecting people's access to safe healthy food and drinking water was **severe**, up from high in 2015. This relates primarily to environmental factors affecting access to safe and healthy, locally sourced food and water.

In making this assessment, we considered:

- Numbers of people affected by unsafe or inadequate food or water, for example: deaths, illness, loss of livelihoods, educational impacts, community and family stress
- Geographic spread
- Severity of immediate impacts
- Severity and length of time for ongoing impacts.

We based our assessment on the lasting and sustained impact on people's access to food and water, whether through subsistence farming, fishing or loss of livelihoods. The El Niño weather pattern hit widely across the Pacific in 2015/2016, causing severe food and water shortages across the region. Where food is usually abundant, it became scarce. People were forced to travel long distances for food and water. Malnutrition and longer-term impacts were evident at the end of our reporting period.

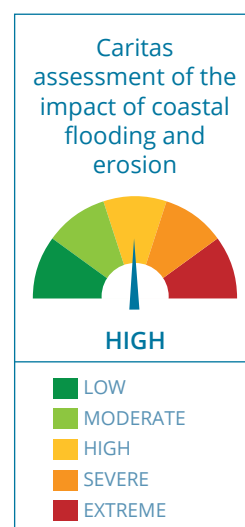
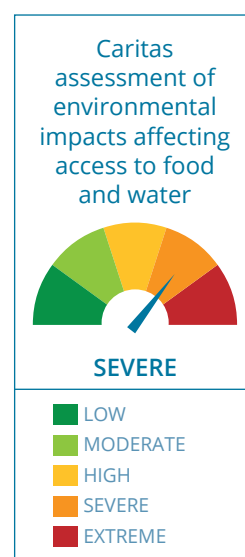
Coastal erosion, flooding and rising seas

The Caritas assessment for the overall impact on people of coastal erosion, coastal flooding and groundwater salination or rising water tables associated with relative sea-level rise remains at **high**.

Criteria we considered in this report included:

- Numbers of people affected, for example: by relocation of houses or displacement to other centres
- Loss of food or water sources
- Scale or frequency of disruption (for example: regular high tides that flood houses or surroundings).

Coastal erosion across the Pacific has been happening gradually but relentlessly, as observed by communities over decades. Though coastal erosion arises from a number of causes, we are seeing increasing anecdotal and scientific evidence of the role of ongoing, incremental sea-level rise.



¹ The region covered by the Federation of Catholic Bishops Conferences of Oceania, which includes most of the Pacific Islands (excluding Hawaii), Papua New Guinea, Solomon Islands, Australia and Aotearoa New Zealand.

Rising seas are no longer affecting only low-lying atolls, but larger volcanic islands as well. Coastal erosion and flooding is causing increased movement and dislocation. We are concerned that funding for infrastructure is often prioritised over funding to support people.

Climate finance

The Caritas assessment for the overall impact on people of climate finance (for adaptation to climate change and mitigation of greenhouse gas emissions) is in three categories: quantity, quality, and support for the most vulnerable.

ASSESSMENT OF QUANTITY

The Caritas assessment for the overall quantity of finance into the Pacific relative to what is needed on an annual basis is **inadequate**. Despite developed countries committing to more ambitious levels of finance at the Paris climate conference in December 2015, it will take time for the indicated step-up in finance to ‘trickle down’, especially to where it is most needed. Australia and New Zealand governments have not made climate finance additional to other overseas development funding, which still falls short of international commitments.

ASSESSMENT OF QUALITY

The Caritas assessment for the overall quality of finance (how well it supports inclusive, carbon-neutral development) is **inadequate**.

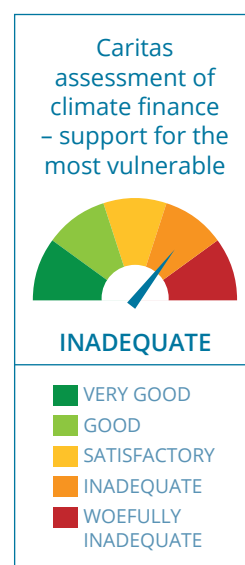
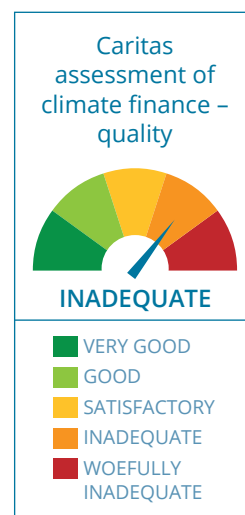
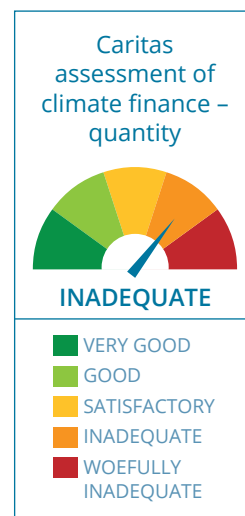
It can be difficult to determine how much climate spending for mitigation and adaption is additional to what would otherwise be spent on development aid. Australian climate funding is split between bilateral aid and the multilateral Green Climate Fund, while New Zealand prioritises direct bilateral aid. While there is much support for renewable energy and building resilience to disaster, and some funding for good community-led adaptation programmes; we consider New Zealand continues to overemphasise “maintaining infrastructure and business as usual”, while Australia’s aid programme lacks a dedicated climate strategy. There needs to be better balance between supporting essential infrastructure and ensuring appropriate community-led development responses.

SUPPORT FOR THE MOST VULNERABLE

The level and the degree to which climate finance offers tangible and practical support to the most vulnerable people affected by climate change is **inadequate**, down from woefully inadequate in 2015.

The rating improved this year, mainly because of good support in the extreme weather events that hit the region. Emergency and drought preparedness largely reached the most vulnerable and reduced the potential death toll, although some isolated communities missed out.

It is good that future climate finance assessments for Pacific nations will include gender and social inclusion as a factor. We also look forward to the Strategy for Climate and Disaster Resilient Development in the Pacific (SRDP) which brings together preparation for and responses to climate change and disaster risk.



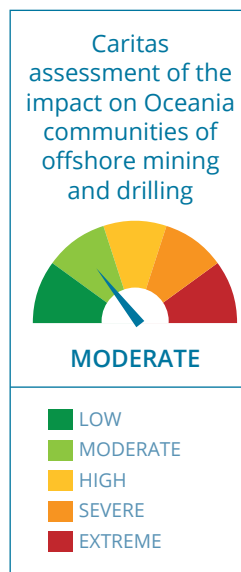


Offshore mining and drilling

The Caritas assessment for the overall impact on people of offshore prospecting, exploration, and commercial exploitation of oil, gas and minerals remains at **moderate**. Criteria we took into account included:

- Numbers of people and communities affected by offshore activities
- Impact on food sources
- Impact on traditional and cultural connection to the sea
- Lack of consultation and respect given to coastal communities and indigenous peoples most likely to be affected by offshore activities.

We note the growing community concerns across the Pacific about deep sea mining, including from various Churches in the region. But there is little acknowledgement of these concerns by governments, and mining companies downplay the potential impacts of offshore mineral and oil/gas exploration within the region. There are also issues around appropriate consent of affected communities. No new reports came to our knowledge during 2015/2016 of impacts on marine life from offshore oil and gas explorations.

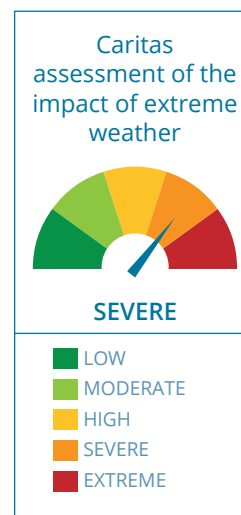


Extreme weather

The Caritas assessment of the overall impact on people of extreme weather events (for example: drought, heavy rain, floods, extreme winds, frosts) is **severe**. Our criteria included:

- Numbers of people affected, for example: deaths, illness, displacement, loss of livelihoods
- Geographic spread
- Severity of immediate impacts
- Severity and length of time for ongoing impacts.

Two significant events hit the region: El Niño and Cyclone Winston, with deadly results and widespread impact on food and water supplies, health, livelihoods and shelter. However, the impact could have been much worse were it not for good disaster preparedness, early warnings and community support processes. While there was a generally well-coordinated emergency response by agencies in the region, Caritas partners reported concern over some government responses which sometimes missed smaller, more isolated communities. The 2015/2016 year saw further evidence of a growing trend of multiple disasters affecting the same communities and compounding challenges, particularly the strong El Niño following the widespread impact of Cyclone Pam the previous year. It highlighted the region's vulnerability to extreme events, but strong community resilience and appropriate external help has helped recovery efforts.





Recommendations

Food and water

- **Governments and non-government and community organisations of the different countries of Oceania** must continue to work together to enhance food and water security for the most vulnerable communities. This requires encouragement of agricultural practices and crops that are resilient to extreme weather; forward planning to preposition supplies and identify vulnerable populations; and effective distribution of food and water aid to all communities in need during times of emergency.
- **Governments of the region of Oceania** must take immediate steps to implement the Sustainable Development Goals 2 (*End hunger, achieve food security and improved nutrition and promote sustainable agriculture*) and 6 (*Ensure access to water and sanitation for all*).
- All **Pacific Island governments** should prioritise development projects that ensure food and water security for vulnerable communities, especially where people are living with the impacts of climate change and extreme weather.
- **Australian and New Zealand** official development assistance should prioritise climate-resilient investments in agriculture, fisheries and water that directly assist Pacific communities to access sustainable sources of food and water.
- **We can all** take steps to grow more of our own food, and support locally produced food, rather than depend on imported foods.

Coastal erosion and sea-level rise

- The **global community** must create legal protections for people who are forced to relocate because of climate change and environmental degradation.
- The **Pacific Islands Forum** should oversee the mapping, by an appropriate regional body, of specific communities and locations in Oceania affected by coastal erosion or rising seas.
- The **New Zealand and Australian governments** must recognise that communities are losing land, homes and livelihoods now, and allocate sufficient funds within their aid budgets for the adaptation required by people who are being impacted by coastal erosion and sea-level rise.
- **All governments in the Oceania region** prioritise the short- and long-term needs of vulnerable coastal communities. This involves sharing accurate, appropriate information about sea-level rise; and working with local communities on responses to immediate coastal threats and long-term predictions. Priority must be given to the poorest and most vulnerable communities.
- **We can all** become more informed about the impact of sea-level rise on vulnerable communities throughout our regions, and monitor the responses of local and central governments.

Climate finance and the Paris Agreement

- The **global community** must ensure mechanisms to address loss and damage are agreed, and subsequently implemented, at the COP22 Marrakesh climate change conference in November 2016.
- **All governments in the Oceania region** should ratify the Paris Agreement by the end of 2016.
- **Australia and New Zealand governments** must take immediate steps to transition to a low-carbon economy, setting national emissions targets to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursuing efforts to limit to 1.5°C.
- The **Australian government** must scale up its contribution to international climate finance to \$558 million in the 2017 budget. Climate finance must be on top of Australia's existing development assistance, to prevent the diversion of funding from other poverty reduction programmes. The **Australian government** must develop and implement a climate change strategy for Australia's aid programme to ensure climate change is integrated across programmatic areas.



- **Donor countries, multilateral funders and non-government organisations** must ensure an appropriate balance of large scale development projects for essential infrastructure needs, and small scale community-led development projects which directly help vulnerable communities.
- **Governments of the Oceania region** should regularly and transparently report on their progress towards meeting their commitments to Sustainable Development Goal 13 (*Take urgent action to combat climate change and its impacts*).
- **We can all** reduce our carbon emissions by considering our own financial investments, superannuation funds and electricity providers, and engaging with political leaders to call for urgent national action, as an act of solidarity with all Pacific peoples.

Deep sea mining and prospecting

- The **global community** implement a global moratorium on deep sea mining and exploration until more is known on the impacts of ecosystems and communities.
- **Governments of the Oceania region** must take immediate steps to listen to the voices of local communities and indigenous peoples who are warning of the impacts of deep sea mining exploration at the prospecting stages.
- **Pacific governments** and others implementing legislative frameworks for deep sea mining ensure they incorporate human rights and environmental rights. This would include free, prior and informed consent by affected communities; effective environmental impact statements; and appropriate remedies for damage.
- **Businesses** undertaking offshore prospecting activities in Oceania ensure they are implementing corporate responsibility by following the principles contained in the United Nations Global Compact, the *Guiding Principles on Businesses and Human Rights*.
- **We can all** become better informed about plans for offshore oil and gas exploration and deep sea mining in our own countries and throughout our region, and share our concerns with decision makers.

Responding to emergencies

- **Regional and national bodies of Oceania** fully implement the new Strategy for Climate and Disaster Resilient Development in the Pacific (SRDP), when it is adopted (see page 55).
- **Regional and national bodies throughout Oceania** should work together to ensure ongoing and sufficient support for adequate meteorological and early warning services, and appropriate, clear communications from government agencies to people about short- and long-term weather and climatic predictions.
- **Governments throughout Oceania** should pursue development that strengthens the resilience of communities to adapt to climate-related hazards and natural disasters.
- **Governments and non-governmental organisations throughout Oceania** continue to ensure that humanitarian aid reaches the most vulnerable communities throughout our region in times of emergency.
- **We can all** ensure we are prepared for local disasters, and we can get to know our neighbours and communities, so that we can support each other during severe weather events and other emergencies.

**Crops affected by drought in
Papua New Guinea in the
summer of 2015/2016**



CARITAS



CARITAS INDICATOR

Caritas assessment of environmental impacts affecting access to food and water in 2016

[Read more on page 23](#)

1 Eating paracetamol, drinking salt: access to food and safe drinking water

There has been widespread hunger and thirst across the Oceania region in the past 12 months. The most significant change from Caritas' 2015 report on the Oceania environment is the reduction of Pacific Islanders' access to nutritious food and safe drinking water. In 2015/2016, food and water shortages caused hardship, illness, malnutrition and even death to vulnerable people. The causes included severe drought, cyclones, damage to land and marine ecosystems, and overuse of natural resources. The lack of adequate and nutritious food and safe water also impacted health and children's access to education. Those most affected included those most marginalised: indigenous peoples, isolated rural communities, women and children.

In the aftermath of Cyclone Winston, children in **Namosi, Fiji** were reduced to eating tough cassava roots softened with baking powder and powdered paracetamol. The roots had hardened because the plants had been so disturbed by the strong winds. Their boarding-school shelves were progressively depleted and, six weeks after Winston, had to be replenished by the Social Empowerment Education Programme (SEEP – a Caritas partner organisation).

This rural community, living among bush-clad hills 40 minutes from Suva, was missed by government food distributions as it lay outside the worst hit parts of Fiji. Though only a few houses were damaged, the storm destroyed many food crops on which they depended.

The cyclone also damaged water supplies – already under stress from use exceeding capacity. The water system flooded, and some of it became blocked by gravel and debris. As a result, children went to the river to fetch drinking water, even though it was contaminated. The local primary and secondary schools rely on two outdoor wood fires for cooking. "How can you boil water for 100 kids, and use the fire, plus food – there is no option?" the property manager for the two schools, Sipiriano Nariva, told Caritas. Several children a week were being sent to hospital with diarrhoea or vomiting from unhealthy food or water.

Oceania does not figure largely in world food-insecurity statistics, and at most times, in most cases, there is enough – or even an abundance of – food. However, 2015/2016 highlighted the vulnerability of food and water supplies in the region when hit by extreme or unexpected events such as a 'super' El Niño weather pattern or a Category 5 cyclone.

The El Niño weather pattern in 2015/2016 brought high temperatures and extreme weather to most of Oceania, severely impacting cultivated and wild food sources and depleting water

What is El Niño?

El Niño ('the Christ child' – a weather pattern named by South American fishermen) is a warming of the central to eastern tropical Pacific waters that occurs generally every two to seven years, and affects ocean circulation and weather around the globe. The western Pacific, Australia and Aotearoa New Zealand experience warmer, drier weather, but Tuvalu and the northern Gilbert Islands of Kiribati are usually wetter. Stronger cyclones are also associated with El Niño, while tuna and other fish will migrate with the warmer water eastward. Its impact can last 12-18 months.



supplies. United Nations humanitarian agency OCHA estimated it affected almost five million people in 13 Pacific countries.²

At the peak of the El Niño drought in **Papua New Guinea**, an estimated 2.7 million people were affected by food and water shortages.³ Caritas Diocesan Coordinators reported widespread weakness, illness and impacts on education. In February 2016, Tony Inikre of Vanimo Diocese in northwest Papua New Guinea said people were walking days to find food and water. "People have died and have been sick because they have no food to eat and no safe, clean water to drink," he said.

Father Joe Amanos, from the Telefomin area of the Diocese, said the situation was worse than previous droughts, and children were especially affected. During a 1997 drought, people were less affected because they had access to safe food and water supplies. However, that was not the case this time.

Food continues to concern **Carteret Islanders** who are gradually moving from offshore atolls threatened by sea-level rise to mainland Bougainville in Papua New Guinea, as profiled in last year's report. "Women and children are the most vulnerable in terms of diet, intake of food," Ursula Rakova, community leader and Director of Caritas partner Tulele Peisa, said.

"We've had women dying because they do not have the strength to carry on their everyday activities in supporting their children to survive, their families to survive. There are children who are also dying on the island because they don't have enough food. As I'm talking to you today, the children on the island can't go to school...because there's hardly any food for them to take with them for concentrating in class."

When Caritas visited Pentecost Island in **Vanuatu's** central district, in August 2016, we found a continuing lack of water was severely impacting food security. Water tanks were running dry, and people were struggling to cultivate some foods, such as Island cabbage – a staple in the local diet and an important source of iron and vitamins. There was little food available from people's gardens, due to the drought. Due to the relatively high cost of meat and tinned fish, there was little protein in people's diets.

Caritas heard similar reports from **Solomon Islands** in June 2016. Mikaela Kenny, a nurse aide from Visale, said reduced availability of food and hunger was making people sick: "Food not grow good because of more rain, more sun, at the wrong time. People don't have enough food, not enough healthy food."

As in previous years, Caritas continues to hear of large-scale resource extraction diminishing access to food and water in places such as Fiji, West Papua and Solomon Islands. Numerous contacts in Solomon Islands said logging and road building was spilling soil into rivers before being washed out to sea, impacting food sources both in rivers and along the coast.

Fr Peter Hou from Honiara said: "When I was a little boy, all the reefs back home were crystal clear, but when logging or they build roads throughout the forest and during bad weather, all the soil has been washed down to the sea and it really makes the reef not really as clear as it used to be. If the sea or reef is not clear, not healthy, the fish that live around the reef, the reef fish, they have been badly affected. And now we are losing a good number of them."

² OCHA Update, 6 June 2016.

³ OCHA 9 March 2016: *El Niño Overview of Impact*; EM-DAT.

Taveuni, Fiji: New agricultural techniques to survive Cyclone Winston

Taveuni island in northeast Fiji was among the most severely affected parts of Fiji by Cyclone Winston in February 2016. It is home to Caritas partner Tutu Rural Training Centre (Tutu), whose Director, Fr Michael McVerry, said the disaster was “frightening and terrifying” and “the most damaging cyclone in recorded history for this region.” South Taveuni lost 90 percent of its buildings and 100 percent of its crops including large numbers of coconut trees.

Tutu itself suffered widespread destruction of dalo (taro) and yagona (Tutu’s main cash crop, used to make kava) and vegetable crops. However, early warning systems, emergency preparedness and some novel agricultural techniques enabled Tutu, its staff and farmers to recover well from Winston.

Before Winston arrived, Tutu put most of their seedlings in two large shipping containers. One farmer stripped back most of the leaves on his yagona plants, so they would be less susceptible to damage. It probably set back growth by one to two years, but they survived. The experiment worked, and highlights the importance of disaster risk reduction strategies for vulnerable communities.

Six weeks after Winston, Fr McVerry took Caritas for a tour of Tutu’s plantations, pointing out a yagona plot. “All these plants, they were all six feet tall,” he said, pointing to damaged and topped plants. “But we’ve managed to save them.” They did this by weeding around the base of the plants to encourage new growth. “If you just go around and just really clear the bottom, they sprout again from the bottom. It takes a lot of work, but it looks like we’ve saved this. And there’s 12,000 of them here.... It was all done by hand.” Despite the setback, Fr McVerry says: “This is a magnificent patch of yagona. You wouldn’t find a better patch of yagona in the whole of Fiji.”

Tutu also planted quick-growing green vegetables to be first back on the local market in early May 2016.

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Alena (left) and Wani Filipe are on the married couples’ agricultural course at Tutu Rural Training Centre. They are from Moliyagaiwala village on Fiji’s larger northern island of Vanua Levu.

Namosi, Fiji: Dark clouds on the horizon

“Our land is our heart,” is what the people of Namosi say about their bush-covered hills, 50 kilometres southwest of Suva in **Fiji**. However, over the past 47 years, various mining companies have taken an interest in their land. The paramount chief of Namosi gave approval for the current mining company – an Australian/Japanese joint venture – and last September the Fiji government gave a five-year extension. However, 93 percent of the local people say they don’t want it, according to Sipiriano Nariva, schools’ manager for the area.

The proposed open-cast mine would destroy the Namosi people’s precious range, the Korobasabasaga, says Sipiriano. This range and surrounding bushland is home to many species they depend on for food, medicine and other resources, while the edge of the mine would come right up to some of their villages. The people have seen what has happened with large open-cast mining in places such as Bougainville, but they claim prospecting has already damaged their lives. The company plans to establish about 40-60 exploration-well sites over a six-month period.

Sipiriano says toxic chemicals from the prospecting are supposed to be buried in a hole, or taken away, but mostly they are discharged straight into the local river, and this has affected plants and animals. In recent years, they have found eels that have turned white, and there are no more prawns. “Some of the fish you taste it – it does not taste like fish. When you cook it, oil comes out.” His wife Elisapeci relates how they went looking for a particular herb recently, in a location where it normally grows, but they couldn’t find it.

As landowners, the people of Namosi feel they have the right to protect and defend their land. They have established ‘Green Monitors’ to check the impact of the mining company’s activities, while last year, Sipiriano and six other men blockaded a road to stop the mining company entering a particular area. They were jailed for two weeks and are still awaiting formal charges.

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Sipiriano Nariva with his wife Elisapeci and their children, in Namosi.

Loss of fish and marine foods

In the past year, the El Niño weather pattern brought changes to fish migration patterns in the Pacific. While some communities lost their traditional source of food, others experienced unusually large schools of fish.

The women of Taveuni, **Fiji** who fish from the reefs noticed changes in the fishing after Cyclone Winston came through. Winston brought in unfamiliar fish varieties and threw up sand and debris onto the reef. But even before Winston, in January and February, dead fish washing up on Fiji's Coral Coast and in **Vanuatu** were attributed to hotter-than-normal sea temperatures. Dissolved oxygen levels dropped too low for many fish and invertebrates, and they effectively suffocated.⁴

The warmer seas also brought on severe coral bleaching which made global headlines over the summer of 2015/2016. Surveys of **Australia's** Great Barrier Reef showed 22 percent of coral on the reef died in 2016 due to the worst mass bleaching event on record.⁵ Across Oceania, coral reefs already under stress were also affected by overheating causing widespread drops in the availability of fish and other marine life for food.

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Miritaake, a member of the Kiribati Caritas youth group. Fishing was plentiful round Kiribati in 2015/16 as fish migrated eastward with warmer El Niño waters.

In the **Solomon Islands**, damage to coral reefs, due to higher ocean temperatures, destructive fishing techniques and contamination from flash floods caused by deforestation, have led to reported falls in fish stocks. Sr Julianne Olokwaio from Sacred Heart Parish in Visale has noticed the change in corals over time and a reduction in their food supply: "The corals on the reef easily breaks. They break the nurseries of the fish. Reef fish are not as many as before and not as big. Our main food is the fish."

The severe risk that increasing ocean temperatures poses to coral reef prompted a call to action by the presidents of **Palau, the Federated States of Micronesia** and the **Marshall Islands** for more funding to protect coral reefs. They face large threats to their people's food sources and local economies. They called for better collaboration between the scientific community and local governments, and better integration of traditional knowledge and customary practices with scientific research, at the June 2016 International Coral Reef Symposium in Hawai'i.

In **Aotearoa New Zealand**, the people of Ngāti Kurī lost local marine food supplies due to chemical spills from truck accidents. Riria Allen from Te Rūnanga o Kaikōura said truck accidents have spilled rat poison and paint, destroying valuable pāua (abalone) breeding grounds. Then a load of formaldehyde spilled into a river, got washed out to sea, and did more damage than the rat poison. The hapū has monitored the impact of this and other spills – and concern about the accidents resulted in a reduction in the speed limit for the area. The sea is a vital part of life for Ngāti Kurī, providing both physical and spiritual sustenance. Jaana Kahu of Ngāti Kurī says, "Our coastline is really plentiful, we've got the supermarket right in front of us."

"Our land is our heart."

NAMOSI PEOPLE, FIJI

"Reef fish are not as many as before and not as big. Our main food is the fish."

SR JULIANNE OLOKWAIO,
VISALE, SOLOMON ISLANDS

4 Pacific Community media release, 19 February 2016: "Concern over dead fish in Vanuatu".

5 Great Barrier Reef Marine Park Authority *Coral Bleaching (13 June 2016)*, at <http://www.gbrmpa.gov.au/media-room/coral-bleaching>

Special marine protection areas

Special marine protection areas are becoming more prevalent across the Pacific to protect fish and fragile ecosystems.

The tiny village of Felemea, at the southern end of 'Uiha island in **Tonga's** central Ha'apai group of islands, has a special marine protection area (MPA) of 1,633 hectares with two 'no-fishing areas' areas' totalling just over 150 hectares. It is small, but has made a significant difference to the life of the community.

Felemea MPA Project Manager Sione Masima says it was set up in 2008 due to declining seafood resources. "People had noticed that some of the fish in the '70s were huge and easily accessed, but not today because fish are smaller in size or completely disappeared. Some seashells now are either hard to find or not there anymore. Marine resources are more scarce than in the past."

Felemea is one of three MPAs in the Ha'apai group, and one of six throughout Tonga. MPA communities manage their coastal fisheries resources with help from central government. Fishing in an MPA is restricted to registered people, or those who hold a permit from the local management committee. There are also designated no-fishing areas, projects to restore fish stocks and habitats, community awareness-raising activities, and other activities to improve living standards in the community.

The Felemea MPA has met with success. "The elders of Felemea claim that fish that have disappeared for a long time now, are starting to grow in numbers," says Sione. "Every year since the village of Felemea has had this project they have won the top prizes for Fisheries at the Annual Royal Agricultural and Fisheries Show. When Felemea won the first prize of \$2,000 plus, they sold their fish and had a total of \$5,000. The prize money was given to the village to assist with their water-pump project, and the rest of the money was distributed amongst the families who have helped with the preparation for the show."

SIONE MASIMA



A boy from Felemea village helps bring in the fish. This was the first time Felemea saw the result of their MPA. The catch was so large, they called in neighbouring 'Uiha village to come and share.

Access to safe drinking water

Although Oceania is a liquid continent, safe drinking water is in limited supply. The severe El Niño-induced drought in many nations brought additional challenges.

Papua New Guinea was one of the worst-hit places in Oceania. It has the highest percentage of people in the world – 60 percent – living without access to safe water. The drought caused by El Niño exacerbated the situation, and water shortages were critical.

At the height of the drought, people were travelling long distances to obtain fresh water, sometimes to historical wells used by their ancestors in times of drought. In the Daru-Kiunga Diocese, Caritas Diocesan Coordinator Robert Frank reported that despite people digging wells, the water was not clean enough to drink. The loss of local sources of water along the Fly River and Lake Murray saw local food sources also lost, as gardens dried up. Robert said people moved away from their traditional lands to live closer to the few remaining sources of water.

The Caritas network in Papua New Guinea has distributed emergency water and purification kits, and helped install and restore rainwater harvesting and bore water systems to provide longer-term water security. However, Robert Frank reports that there are “no tangible plans” from the regional government to provide for future water shortages.

Caritas has also seen how water shortages have impacted education in **Vanuatu**. When we visited Pentecost Island in August, Caritas observed that Lini Memorial High School in Nazareth had almost entirely run out of water. It was using a utility vehicle to carry barrels of water from a nearby bore

– unsafe for drinking, but fine to use for cooking. Some students were suffering from stomach aches as a result of either not drinking enough water, or drinking unsafe water.

Early in the year, Caritas also heard from Veronika Triariyani Kanem (Tri) of SKP Merauke in **West Papua** that women in villages affected by the huge Merauke Integrated Food and Energy Estate (MIFEE) were finding it difficult to get clean water, especially in the dry season. Traditionally, they got water from sago trees – but many have been cut to make way for large scale oil palm, rice or sugar cane plantations. Other natural water sources have gone too.

“Women must walk very far to fetch water while carrying their babies on the back. It was very hard for them and most of their time were spent in finding clean water and also doing domestic work,” said Tri. Wells built in some areas have not solved the problem. “Most wells were very dirty, had no water in them or were neglected by the community.” Local assistance and education about how to keep wells clean and maintained was needed.

Safe water can't be taken for granted, even for reticulated town water in **Aotearoa New Zealand**. In August 2016, schools were closed, over 4000 people were made ill and many hospitalised due to bacterial contamination of the water supply in the Hawkes Bay town of Havelock North. It was the town's third case of contamination in three years, and sparked a government inquiry into the situation and wider issues.

“Women must walk very far to fetch water while carrying their babies on the back.”

TRI KANEM, WEST PAPUA

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Distribution of water buckets and purification kits in the Kiwai Islands of Western Province, Papua New Guinea, during the El Niño drought.

Tonga and Papua New Guinea: Restoring water in a time of crisis

The El Niño drought crisis in Papua New Guinea and Tonga saw people digging deep and restoring old water systems.

The middle Ha'apai group of islands is in a relatively dry zone of **Tonga**, and has long periods of drought. Caritas Tonga has prioritised Ha'apai in recent years for rehabilitation of disused 1920s village water catchment tanks to provide safe drinkable water. This season, the increased strain on water supplies saw Caritas Tonga working with communities to fix four more catchment sheds, doubling the number of community water catchments in Ha'apai.

Caritas Tonga aimed to meet the need for water in four villages on Lifuka and Kauvai Ha'ano islands, reaching 178 families – a total of more than 900 people.

Families earmarked for family water tanks were selected based on a vulnerability index including families with disabled members, elderly, women-headed households and families with six or more children. Immediately after installation of the tanks, Ha'apai islands experienced a few days of rain which resulted in all the tanks being filled with water for drinking.

Caritas Tonga is now urging the Tongan Government to support the refurbishment of further existing community tanks as well as the construction of new collection tanks to back up existing potable water supplies.

People in **Papua New Guinea** also found hope in restoring abandoned water sources. Caritas Coordinator Francis Kemaken of the Diocese of Wewak said people had to cope by finding and using whatever water supplies they could, even though the drought was not as acute as some other parts of PNG.

In one parish area, he said people dug drains to the health-centre to lay pipes to pump water from a well-hole to maintain health services. The well-hole had been abandoned for a creek-water supply from the neighbouring village. "Now with the water levels declining, the abandoned well-hole was revisited to be an alternative source of safe, clean, accessible water," he said.

In the same area, Francis reported that people dug new water-holes five to seven metres from a swamp. The sandy soil composition acted as a purification system. "Water in the dug holes was quite clean and this could be used for laundry and baths, while maintaining rainwater stored for drinking and cooking. Using local knowledge, they quickly found this way of coping with the water situation. Their water holes were quite successful – they lasted out the dry spell. Other families followed and they were able to help each other in meeting their demand for scarce water with enough to survive and prevent diseases."



Kuilani Fa'asolo of Caritas Tonga inspects a newly completed water tank in Ha'apai, in August 2016.



CARITAS INDICATOR

Our assessment of the overall environmental impacts affecting people's access to safe, healthy food and water in Oceania

■ LOW ■ MODERATE ■ HIGH ■ SEVERE ■ EXTREME

Conclusion

For 2016, we have increased the Caritas assessment of the impact on people of environmental factors affecting access to safe healthy food and drinking water to **severe**, up from high in 2015. This is primarily because of the widespread and deadly effects of El Niño across large parts of the Pacific. Millions of people were affected, but it received very little media attention outside of their countries. Long-term climatic changes are also evident, and they continue to make it difficult to plan and plant as people used to.

There was generally a good and swift emergency response to food and water shortages by both government and civil society, and external assistance, aided by preparedness strategies. But in some areas the response was inadequate, and small and isolated communities in particular were missed by authorities and official distributions.

For a region usually characterised by abundant natural food, the year highlighted its vulnerability to sudden or unexpected extreme weather events. Especially in the face of the unknown impacts of climate change, more needs to be done to ensure the *long-term* stability and security of food and water supplies.

What can we do?

- **Governments and non-government and community organisations of the different countries of Oceania** must continue to work together to enhance food and water security for the most vulnerable communities. This requires encouragement of agricultural practices and crops that are resilient to extreme weather; forward planning to preposition supplies and identify vulnerable populations; and effective distribution of food and water aid to all communities in need during times of emergency.
- **Governments of the region of Oceania** must take immediate steps to implement the Sustainable Development Goals 2 (*End hunger, achieve food security and improved nutrition and promote sustainable agriculture*) and 6 (*Ensure access to water and sanitation for all*).
- All **Pacific Island governments** should prioritise development projects that ensure food and water security for vulnerable communities, especially where people are living with the impacts of climate change and extreme weather.
- **Australian and New Zealand** official development assistance should prioritise climate-resilient investments in agriculture, fisheries and water that directly assist Pacific communities to access sustainable sources of food and water.
- **We can all** take steps to grow more of our own food, and support locally produced food, rather than depending on imported foods.

Pouring concrete for a sea wall around Fenua Fala village in Tokelau. (see page 31)



MATT CRAWSHAW



CARITAS INDICATOR

Our assessment of the impact of coastal flooding and erosion in Oceania

Read more on page 33

2 Losing ground: the shifting sands of coastal erosion and sea-level rise

Across Oceania, coastal communities are losing land as a result of coastal erosion, flooding and sea-level rise. In 2015/2016, this had a significant impact on Pacific Islanders' access to nutritious food and clean water. Traditional island staples such as coconuts, pandanus and swamp taro have been lost to higher king tides, storm surges and coastal flooding. There is more evidence of the impact of rising sea levels. Meanwhile, saltwater creeps in from below, contaminating water supplies and killing off plants. More communities are on edge about their long-term viability next to increasingly unstable shorelines. Some have moved inland but, longer term, the very survival of whole islands and nations is at stake.

Caritas partners and contacts from **Solomon Islands, Kiribati, Samoa, Papua New Guinea** and **Tokelau** have reported more losses of coconut, pandanus and swamp taro sources this year. There are increased reports of uncommonly high king tides, and relocation of households and whole communities as a result of erosion. In addition, we are hearing of greater risks of coastal flooding and groundwater salination.

The sea level around the Solomon Islands has been rising by about eight millimetres per year since 1993, about three times the global average.⁷ Archbishop Chris Cardone was Bishop of Auki, covering Solomon Islands' largest province of Malaita, for 28 years.

He says there are many communities in Malaita that are close to the sea. "At high tide their house and their kitchens can be underwater and that

The low down on sea-level rise⁶

- Global sea-level rise has averaged 20 centimetres since 1900.
- By 2050, levels are estimated to rise another 20-30 centimetres, just from greenhouse gases already released into the atmosphere.
- By 2100, levels could be 50-100 centimetres higher than now.
- Sea-level rise varies regionally due to a number of factors, including long- and short-term weather patterns. In the tropical western Pacific, it rose 12 millimetres a year (four times the global average) in 1993-2009. Sea-level rise in Pacific is generally about 10 percent above the global average.
- Over the past year, scientists have said sea-level rise is happening faster than previously thought. NASA estimates current sea-level rise at 3.4 millimetres a year, compared to an average of 1.4 millimetres a year from 1900 to 2000.
- It is not yet known exactly how and when the melting of ice sheets is or will be contributing.
- Sea-level rise impacts include: more coastal erosion, salination of groundwater, loss of food sources, coral reef deterioration (coupled with warmer seas), and displacement of people.
- Pacific Island nations most at risk include Kiribati, Tuvalu, Tokelau, Tonga, the Federated States of Micronesia, the Marshall Islands and the Cook Islands.

⁶ IPCC: Fifth Assessment Report, 2014. NASA: <https://sealevel.nasa.gov/>. Parliamentary Commissioner for the Environment, *Changing Climate and Rising Seas: Understanding the Science*, November 2014.

⁷ Pacific-Australia Climate Change Science Adaptation Planning (PACCSAP) 2014.



obviously affects the wells that they drink from. It affects the gardens, it affects the taro that they plant, and it affects people just being worried about the issue of the sea level rising.”

Father Peter Hou from Guadalcanal says his people depend on swamp taro planted in swampy areas. But because of sea-level rise, “they no longer use these places to plant swamp taro because now all the swampy area is mixed with salty water and this is why the swamp taro are no longer growing. They plant but not long after, it all dies.”

Meanwhile, according to Modesta Hasiaiu, education coordinator for Honiara Archdiocese, the people of Hautahe Marau in eastern Guadalcanal have been planting swamp taro for food security after seeing many of their coconut trees falling into the sea over the last six years. But people are not sure how long the swamp taro will last, as the coastal erosion gets worse. “It is sickening to watch our shores slowly eaten away by the sea. ... what will happen in the next decade? Will the place we call home still be the same or will it soon perish due to sea-level rise?” she said.

This concern for the future troubles many in Solomon Islands. Liborio Maemauro, a maintenance man and woodwork trainer for Auki Diocese, lives on an artificial island offshore from Auki township on Malaita. Built 50-60 years ago for shelter, fishing and to escape from tribal conflicts, he says with the “big change” in the sea, they are having to build up the island more regularly, with additional stones. Elsewhere around Auki Harbour, on the mainland, since 2000, more people have been building up the level of the ground around them, or moving to higher ground if they have the money. “People are trying their best to move to the next level. ... they are not feeling good about this situation. People are living in fear. We don’t have any plans from the government, we don’t know what their next move is.”

An environmental research paper in May 2016⁸ confirmed via aerial and satellite imagery what many had been sensing in Solomon Islands. It showed that five reef islets in the group had been

“They plant but not long after, it all dies.”

FR PETER HOU,
GUADALCANAL ON
PLANTING SWAMP TARO

lost to sea-level rise and coastal erosion, and a further six severely eroded on the northern coast of Isabel. It provided scientific evidence that confirmed anecdotal accounts across the Pacific of the impact that sea-level rise is having on coastlines and coastal communities.

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Graves on the beach in Auki, Malaita province, Solomon Islands. This cemetery used to be located in the bush, but the sea is now encroaching on the site and some graves have already been washed away.

8 S Albert et al, 2016: “Interactions between sea-level rise and wave exposure on reef island dynamics in the Solomon Islands”. *Environmental Research Letters*, 11, 054011.

Tonga: Keeping above the water

In our 2014 environmental report, Caritas told the story of the 'do it yourself' land reclamation by the women of Popua in **Tonga**. The story was told in the face of increasingly higher tides and intensive rain. Katalina Vea whose corrugated iron shelter was home to her husband and six children, has since built up her land further with an estimated 130 truckloads of fill, and has a new house, thanks to help from a church agency and her son who works on a European ship. Her family also now has definite title to the ownership of the land.

Though Katalina is feeling relatively secure, surrounding homes suffer extensive flooding when there is a high tide or excessive rain. Because they are low-income families, they cannot afford to reclaim their land, so they are subject to seawater intrusion into their homes. In the severe rainstorms that affected Tongatapu in mid-June 2016, Katalina's house remained above the floodwaters, but sadly this was not the case for her surrounding neighbours, as shown in the photos.

When asked whether there has been any talk of relocation of these families from their current home, Katalina said that there are no official plans to relocate the families living along the coastline or in the low parts of Popua and Pa tangata. Instead, the Government will simply build roads from the inner-residential areas of Popua to the main road, to provide a safe evacuation route for residents in times of seawater inundation or flooding.

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Katalina outside her family's new house (top left), which contrasts with the older one (top right) made from scrap and recycled materials.



Katalina is happy to have her new home but she is aware that reclamation will be an ongoing issue if her home is to stay above flooding and seawater intrusion. Her ability to continue to keep the house above water is largely dependent on her son's ongoing employment which provides the funds to do so, and small grants from the government or from civil society.

Flooding in Popua, June 2016.

Abaiang island is one of **Kiribati's** atolls most at-risk from sea-level rise. It lies north of the main island of Tarawa, and in recent years, most of Abaiang's villages have been affected by sea-level rise and coastal erosion.

In January 2016, the Kiribati Caritas Youth Group from Tarawa journeyed to Abaiang to fully assess the situation facing communities there, and to run environmental awareness and training workshops. The group raised awareness of the people's own actions that harm the environment – such as building inappropriate seawalls that may lead to erosion elsewhere, or locating toilets or cemeteries too close to water sources.

They also surveyed Abaiang's 17 villages – 15 of which lie on the main island and two on smaller islets. All have experienced coastal erosion, flooding or salinated water. The Caritas group documented impacts on the eight worst affected villages:

Name of village	Issues	Severity
<i>Ubanteman</i>	<i>Water salinated</i>	<i>High</i>
<i>Tebunginako</i>	<i>Coastal erosion and flooding</i>	<i>Very high</i>
<i>Borotiam</i>	<i>Coastal erosion</i>	<i>High</i>
<i>Aonobuaka</i>	<i>Water salinated</i>	<i>Medium</i>
<i>Koinawa</i>	<i>Coastal erosion and water salinated</i>	<i>Medium</i>
<i>Tabontebike</i>	<i>Coastal erosion</i>	<i>High</i>
<i>Nuotaea (islet)</i>	<i>Water salinated</i>	<i>High</i>
<i>Ribono (islet)</i>	<i>Floods during high tide</i>	<i>High</i>



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The Church at Tebunginako.

“Erosion on Abaiang has been a major problem that villagers can’t cope with.”

BOORE MOUA, KIRIBATI CARITAS YOUTH GROUP LEADER

Villagers in these places are reporting ongoing difficulties where they live, and looking for ways to try and regain what they have lost. Father Buutonga Nakuau, with support from Caritas, has involved young people from Abaiang in planting coconut trees to replace those that have died off or been washed away: “Planting coconut trees is now going to commence where the youths are going to do it. Everyone on Abaiang will benefit from this project.”

Since last year's Caritas report, all of Tebunginako village on Abaiang atoll has relocated, except the church and maneaba (meeting house). “Erosion on Abaiang has been a major problem that villagers can't cope with,” says Kiribati Caritas Youth Group leader Boore Moua. “Tebunginako has been devastatingly eroded. People in this village were tending to move inland because their community was totally destroyed.”

While the church and the maneaba are currently stable, they still get surrounded by water at high tides. The government has given \$195,000 to rebuild the church and maneaba closer to the relocated villagers, but more funds are needed.

Kiribati: Building natural defences

Pacific Islanders have not given up on defending their coastlines. Boore Moua left his job with a construction company to devote more time to rebuilding the land and leading the Kiribati Caritas Youth Group. The group has visited several **Kiribati** islands now, raising awareness about climate change and other environmental issues. They're also speaking about the implications for i-Kiribati and outlining what Kiribati people can do to protect their environment.

When Boore was asked, "Why are you planting mangroves?" he answered, "Because I don't want to leave my country. I want to stay.... I am connected to this land. My grandparents are buried here. For me this is my home. Youth are planting mangroves because they want to stay."

"During our climate awareness sessions, I ask the youth: 'Who is the owner of this land?' They give many answers, but they're all wrong.... The answer is, 'The next generation. My next generation, your next generation, Kiribati generation - that is the answer.... I am a borrower, I borrow this land from my grandchildren. So as a borrower I have a responsibility for that, to look after to maintain what I have on this land.'"

And that is why Boore continues to plant mangroves. "I have to plant it - in order to maintain the food, the healthy environment, healthy species, healthy fish, many fish. So that's the reason I should maintain as a caretaker of this land for my grandchildren."

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Boore planting mangroves.

Preparing for sea-level rise in Aotearoa

In November 2015, the New Zealand Parliamentary Commissioner for the Environment Dr Jan Wright highlighted the long-term impact of sea-level rise in **Aotearoa New Zealand**, identifying 9,000 homes across the country as lying less than 0.5 metres above spring high tides.⁹

Dr Wright said sea-level rise over the coming decades would lead to more frequent, more severe and more extensive flooding of low-lying land near the coast; erosion of beaches and 'soft cliffs'; and higher and possibly saltier coastal groundwater.

Engineering options may only work for a while, and she identified South Dunedin as one of the places most at risk. "There are many houses in a fairly impoverished community...which are going to have to move somehow," she said. "So we need to be thinking about this. There's going to be people wanting compensation, because it's not their fault." Homes for some could become uninsurable and uninhabitable.

But the Commissioner said "there is enough time to plan and do it well" and suggested the government set aside funds for long-term climate change adaptation.

Aotearoa New Zealand: Relocating in South Dunedin

Caritas Aotearoa New Zealand Board member Fr Gerard Aynsley also serves South Dunedin, Aotearoa New Zealand as parish priest. Some of his parishioner families were displaced for months in June 2015 by a severe storm that caused an estimated \$138 million damage to the wider region. In South Dunedin, intense rainfall, a naturally high water table and inadequate maintenance converged to create a disastrous flood that forced many from their homes.

A year later, in June 2016, Sefo and Janferie Kelekolio were still living in temporary accommodation, after they were forced from their rented home in South Dunedin, which bore the brunt of the intense rain. Though grateful to their insurer who sorted out their temporary location in Dunedin's hill suburbs, it is far from their South Dunedin parish community, and it has come at a cost to them, both financially and in terms of family arrangements.

"We are struggling with our money...we're way up on the hill, dropping kids off every day at school; and traveling to multiple part-time jobs." Janferie's job takes her to many pre-schools across the city, while Sefo works two part-time security jobs that require transport into the city. "It's hard to get to Mass. We have to get up early in the morning and make sure we're still part of our church community."

Living up the hill means transport is also more disrupted by ice and snow. However, they do not want to live in low-lying South Dunedin again. They feel that being on reclaimed land, it is a liability. Janferie believes similar flooding will happen again. "With the weather changes worldwide, and sea-level rise," she says.



JANFERIE KELEKOLIO

The day after: around a neighbour's home in South Dunedin.

9 Parliamentary Commissioner for the Environment, November 2015: *Preparing New Zealand for rising seas: Certainty and uncertainty.*

Concrete local action for Tokelau

With its three atolls providing a home to 1,400 people, **Tokelau**, northeast of Samoa, is one of the places most affected by coastal erosion and high seas. The Puluenuku (Mayor) for the island of Fakaofu, Moses Pelasio, says coastal erosion is impacting food security, especially taro and root crops.

MATT CRAWSHAW



The end of the wall in progress.

1980s “didn’t really work.” So, with the skills of a certified builder, a New Zealander resident on the island, they are building their own concrete wall.

“All I was interested in was building the sea wall to protect our island and infrastructure,” says Moses. “We are just tired of people coming from outside to do a report. We do it ourselves and hope for the best.” The project has involved the whole community, as funds and time permit.

He says a similar wall built to protect the main village of Fale has been in place for almost 10 years – and it has stayed intact.

“There is concern that some of the trees we depend on like coconut and pandanus are being eroded.” While they are planting more trees to protect the coastline, the main focus currently is on building a sea wall to protect buildings in the smaller village of Fenua Fala, as well as a nearby cemetery.

“We are trying to protect our island from big waves. Especially our big infrastructure like hospitals and schools,” says Moses. A wall of gabion baskets, filled with rocks and stones, built in the

“We do it ourselves and hope for the best.”

MOSES PELASIO

Solomon Islands: Hospitals and health centres get mobile

Last year’s report profiled how king tides forced patients to evacuate from Betio hospital in Kiribati. This year we learnt of two important health services facing relocation, due to rising seas in **Solomon Islands**. These are the main Solomon Islands hospital in Honiara, and Visale Health Clinic in west Guadalcanal.

The National Referral Hospital in Honiara is on the beachfront in Honiara, at the mouth of the Mataniko river. It is Solomon Islands’ main hospital with 330 beds and 754 staff. It is also a training hospital for nurses and doctors from across the Pacific. But as a result of rising sea levels, the shoreline has eroded up to the hospital buildings, and heavier-than-normal rains cause the river to flood. This puts the country’s most important piece of health infrastructure at risk, and people’s lives in danger. In recent years, bigger waves from king tides and storm surges, and flooding from the river have inundated the hospital. Staff have been forced to evacuate patients four times.

Consequently, the government has plans to move the hospital to higher ground. The project is estimated to cost more than US\$100 million, but international climate funding is yet to be confirmed. In the interim, the hospital has reclaimed a few metres of land and built a sea wall to protect the building from the worst effects of sea-level rise and high tides.

At the other end of the spectrum, a small local health clinic in Visale is also threatened by rising seas. The clinic serves people from rural areas including west Guadalcanal as well as Guadalcanal’s weather coast. It is the first stop for sick people before getting transferred to Honiara. It also

delivers primary health services such as blood tests for malaria and dengue fever, and functions as a maternity hospital for low-risk births.

Before the seas started to rise, the area had a large grassy shoreline with many rain trees. As the coastline has eroded, many trees have washed away, leaving the village vulnerable to storm surges and high tides. All that is holding the shore together in front of the clinic is one large rain tree. But, like the other trees, the sea has eaten away under the roots leaving the tree severely weakened. The Visale village chief says, "If this tree falls, this clinic here will be completely damaged. If any cyclone or any big waves come for sure this tree will be falling down, then we will have no clinic any more. So we are trying to find someone to assist us to build a new clinic here."

Samoa: Connection with place eroded

Coastal erosion is also widespread in **Samoa**, especially since a tsunami that hit the south coast in 2009. But long-term sea-level rise is also taking its toll on communities.

Catechist and Deacon for Sagato Atonio parish in Lotofaga, Sapati Moeono-Kolio, has seen significant change to the village on the south coast of Upolu, which he moved back to at the beginning of 2016 after 30 years away. He says Lotofaga has significantly changed. The beach has been eroded back 150-200 metres from where it used to be. "It's like going to a new place...it's all gone, all different landscaping. You see the roots of big trees there – they are standing there, there is no sand underneath now. I think soon those trees will fall down, and the erosion will be happening very quickly."

About five or six extended families have relocated inland from the areas most affected in recent years, losing close connection with relatives buried there, and memories of places special to them. At Sapati's own home village of Falefa, where he grew up, his old primary school has lost about 20-30 acres of land to coastal erosion – about three quarters of its land. Only one family remains living near the school; the others have moved inland.

SAPATI MOEONO-KOLIO



Roots of coastal trees at Lotofaga exposed by erosion.

He remembers his father organising the relocation of the school 30 years ago because of erosion. "It was my Dad who saw the things happening and asked the school to move inland. He gifted part of our family's land in order to build the school. But where we used to play and go hiding – there's nothing there, it's all sea now."



CARITAS INDICATOR

Our assessment of the impact of coastal flooding and erosion in Oceania

■ LOW ■ MODERATE ■ HIGH ■ SEVERE ■ EXTREME

Conclusion

The Caritas assessment for coastal erosion, coastal flooding and groundwater salination remains at **high** for 2015/2016. This year's research has exposed more widespread movements of people, with individual households, as well as whole villages and towns, being relocated.

Movement of people displaced by environmental changes has been going on for decades. Yet there is a lack of reliable, comprehensive data on numbers of people and locations which could guide appropriate policy responses.

Caritas is seeing mixed results from both natural and structural defences (such as sea walls), but they have been only partially successful in protecting people's lives and properties in the islands.

Significant storm events in Australia and Aotearoa New Zealand have brought public attention to the long-term implications of sea-level rise and coastal erosion in those developed nations. The need to address outcomes is vital, especially for poorer families in the low-lying areas most likely to be affected. So far, most governments are not facing up to their long-term responsibilities to their citizens.

What can we do?

- **The global community** must create legal protections for people who are forced to relocate because of climate change and environmental degradation.
- The **Pacific Islands Forum** should oversee the mapping, by an appropriate regional body, of specific communities and locations in Oceania affected by coastal erosion or rising seas.
- The **New Zealand** and **Australian governments** must recognise that communities are losing land, homes and livelihoods now and allocate sufficient funds within their aid budgets for adaptation required by people who are being impacted by coastal erosion and sea-level rise.
- **All governments in the Oceania region** should prioritise the short- and long-term needs of vulnerable coastal communities. This involves sharing accurate, appropriate information about sea-level rise; and working with local communities on responses to immediate coastal threats and long-term predictions. Priority must be given to the poorest and most vulnerable communities.
- **We can all** become more informed about the impact of sea-level rise on vulnerable communities throughout our regions, and monitor the responses of local and central governments.



Fr Papila Tonga in the damaged church of St John the Apostle, Natovi, Fiji after Cyclone Winston.



CARITAS INDICATOR

Our assessment of the adequacy and quality of climate finance in Oceania

[Read more on page 43](#)

3 The promise of Paris: releasing climate finance

In 2015/2016, one of the most important milestones for the global cooperation to face climate change was the Paris Agreement. One hundred and ninety-seven countries have now agreed to take concrete steps to aim to keep global temperature rise well below 2°C, and if possible below 1.5°C. It signaled a long-term change away from our carbon dependency, and a new level of cooperation to mitigate and adapt to the worst effects of climate change. But there is a long way to go, to both cut emissions quickly to avoid catastrophic long-term climate change; and to fund adaptation for the most affected people – now and in the future. While developed countries focus on economic growth, Pacific island nations focus on their survival. Protection of the most marginalised needs to be prioritised above protection of infrastructure. Reflective of the Sustainable Development Goals (SDGs), we need inclusive, sustainable development that “leaves no one behind”.

The Paris Agreement was a global signal change to cut carbon emissions as quickly as possible, and provide more funding to help poorer countries to minimise their own emissions and adapt to climate change. Caritas would have liked to have seen more recognition of loss and damage caused by climate change to countries and communities, and better protection of human rights and indigenous peoples. However, the agreement between 197 countries was a significant breakthrough in the struggle for climate justice and brought hope to many throughout the world.

Now more needs to be done. Even if the commitments signaled by countries gathered at Paris are implemented, global temperatures will still rise between 2.6-3.1°C above pre-industrial levels, according to Dr Joeri Rogelj, a leading expert on carbon budgets.¹⁰

Countries in Oceania are among those most affected by climate change even though they have contributed minimally to its causes. They were instrumental in encouraging stronger reductions targets for industrialised countries and have been the first to ratify the agreement and begin implementing it.

Fiji was the first to incorporate the agreement into national law and this was followed by five other Pacific nations who ratified the Paris Agreement by 23 June, 2016: **Marshall Islands, Nauru, Palau, Samoa and Tuvalu. Tonga, New Zealand and Australia** have made announcements that they will ratify it by the end of the year. In March, **Papua New Guinea** was the first to submit its final Nationally Determined Contribution (NDC) (which outline a country's plan to address climate change) including goals to transition to 100 percent renewable energy by 2030.

“...a significant breakthrough in the struggle for climate justice...”

¹⁰ “Paris Agreement climate proposals need a boost to keep warming well below 2 °C”, *Nature* 534, 631–639 (30 June 2016).



To further strengthen regional commitment, the Pacific Islands Climate Action Network has been promoting a Pacific Climate Treaty to fully embrace the 1.5°C target set in Paris, commit to phasing out fossil fuels and ban new coal mines.

The Paris conference also saw US\$1.5 billion in new climate pledges, with the United Nations' Green Climate Fund (GCF) now the main global deliverer of climate finance.¹¹ Australia currently co-chairs the Fund's board with South Africa. According to the Climate Funds Update (CFU)¹² website, in May 2016, 28 percent of the \$10.26 billion pledged to the GCF had been paid in.

Among the first Green Climate Fund allocations was US\$31 million towards a US\$222million upgrade of Fiji's Urban Water Supply and Wastewater Management in Suva. This prompted leading environmental development commentators Sarah Colenbrander and Jerome van Rooij¹³ to say the GCF and other climate finance channels must support change at the local level and involve local communities, to be effective. Similarly, a United Nations Development Programme report¹⁴ states there needs to be better understanding of the challenges and opportunities at the local level to make climate finance more effective.

Climate finance is a new and rapidly evolving area of overseas aid and development spending. Each of the three Caritas agencies joining together to write this report are working in a different context. This chapter offers some assessment and perspectives of climate finance spending from each of our different contexts.

Caritas Tonga outlines the experience of preparing to apply for funding from the GCF as a recipient country. Caritas Australia offers reflections and observations as Australia co-chairs the GCF at a time of significant aid cuts within Australia's own aid budget. Caritas Aotearoa New Zealand supports the New Zealand government's primary focus on direct bilateral aid as being the way to ensure aid reaches vulnerable Pacific communities the most quickly, and continues to monitor and scrutinise this aid spending.

“It just seemed very hard with a lot of information required, and I wondered if it was designed to be impossible to access funds?”

AMELIA MA'AFU, ACTING
DIRECTOR, CARITAS
TONGA

Tonga: Early experiences of climate finance

Tonga is among at least six Pacific states receiving “readiness support” funding through the GCF. The newly formed climate finance division had two permanent staff in July 2015, but the GCF would provide five additional staff as Tonga begins its readiness programme to receive and account for funding from the GCF and other sources, according to Sione Fulvai, Principal Climate Finance Analyst with Tonga's Department of Climate Change.

Tonga also underwent a review in 2015-2016 of its climate finance arrangements and capacities through the Climate Finance Risk Governance Assessment (CFRGA). This framework assesses projects and funding sources, and avenues available to help Pacific countries access global finance flows. A similar Pacific Climate Change Finance Assessment Framework has been used for Nauru and Marshall Islands. Tonga was the third country to undergo such an analysis, though the CFRGA differs in also addressing ‘gender and social inclusion’ elements.

Caritas Tonga was included in the consultation and process for the CFRGA assessment. Caritas Tonga says it is a promising sign to see the inclusion in the Tongan CFRGA of “gender and social

11 *Climate Funds Update highlights: May 2016.*

12 An independent climate finance website funded by Heinrich Boll Stiftung and the Overseas Development Institute.

13 (26 January 2016): “Green Climate Fund must think micro for macro impact” at <http://www.climatechangenews.com/2016/01/26/28468/>.

14 UNDP, 2013: *Financing Local Responses to Climate Change.*



inclusion,” as a new and additional dimension for assessment, alongside other issues such as funding sources, policies and plans, and development effectiveness.

Very often, grassroots experience and need is not considered or overlooked, says Acting Director for Caritas Tonga, Amelia Ma’afu. She says Caritas Tonga’s early experience of the Green Climate Fund (GCF) in Tonga raises issues about how it will involve affected communities.

Caritas Tonga worked with three other Tongan-based non-governmental organisations, as part of a wider national proposal for GCF funding. Caritas Tonga’s component among various activities was to expand its successful water-tank refurbishment programme, which has already restored secure emergency water supplies to communities in Tongatapu and Ha’apai (see Chapter 1).

Amelia says they went through quite a long, tedious procedure, involving a lot of technical material. “The concept note for the whole project was written by experts from across the region. There was no one from Tonga,” she says. “It just seemed very hard with a lot of information required, and I wondered if it was designed to be impossible to access funds?”

These are early days of the Green Climate Fund, and Caritas agencies will monitor whether local involvement and participation is strengthened and how well it addresses the needs of the most vulnerable populations.

Climate finance – monitoring donor countries

Meanwhile, while both Australia and New Zealand have made commitments to both multilateral and bilateral climate finance, neither New Zealand nor Australia are halfway yet to reaching commitments made in the 1970s, then reiterated through the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) to allocate 0.7 percent of Gross National Income on Official Development Assistance (ODA).


However, there are concerns that pledges and commitments to climate finance contributions may not actually represent additional new spending, but may be a reallocation of existing ODA commitments.

Australia has allocated AU\$200 million to the GCF, while New Zealand has allocated NZ\$3 million dollars, for its initial years. The New Zealand government has indicated it prefers to work through bilateral funding arrangements – something Caritas Aotearoa New Zealand endorses for its ability to quickly reach vulnerable Pacific communities. New Zealand is also supporting Pacific Island countries to increase their access to global climate finance.

New Zealand: Priorities for climate spending

At the Paris climate conference in December 2015, New Zealand Prime Minister John Key said **New Zealand** would provide “up to \$200 million for climate-related support over the next four years, the majority of which will benefit Pacific nations”. However, this potentially represents a *drop* in climate finance, relative to the previous two years, when New Zealand, within the ODA budget, provided \$60 million and \$56 million respectively for the financial years ending June 2014 and 2015. New Zealand’s Ministry of Foreign Affairs and Trade (MFAT) indicated to Caritas that the climate-related expenditure for the year ending June 2016 is approximately \$44.6 million.

To put this in context of New Zealand government expenditure, as one example the New Zealand government is allocating about NZ\$255 million a year over the next 5½ years to the Waterview urban motorway connection in Auckland. Arguably, higher capacity roads encourages more cars, and potentially higher carbon emissions. MFAT claims that New Zealand’s climate-related assistance is an increasing part of a growing aid budget. Caritas Aotearoa New Zealand will continue to monitor this as part of our ongoing research.



Caritas Aotearoa New Zealand partners with New Zealand's Ministry of Foreign Affairs and Trade (MFAT) on climate and other development projects in the Pacific, including examples given in this report such as the Gizo water project featured on the cover of this report, and the Solomon Islands wind project (see case study page 39).

We also monitor MFAT climate spending based on both forecast and actual expenditure, as available. As noted in our 2015 report, New Zealand government climate ODA is based on definitions from the Development Assistance Committee of the Organisation for Economic Cooperation and Development. This includes projects in which climate change adaptation and mitigation outcomes are delivered as an adjunct to other purposes such as fisheries or transport development, as well as projects in which climate outcomes are the primary purpose.

We assessed MFAT's project data for the last two financial years (2014/15 and 2015/16)¹⁵, according to the Caritas criteria we first developed in our 2015 report. This considered primarily whether a project sits in three broad categories:

- **'Fixing it – repairing the damage':** largely emergency recovery programmes – though they may 'build back better' to help residents become more resilient, their primary focus is on fixing up the damage wrought by cyclones or other disasters.
- **'Maintaining infrastructure and business as usual':** includes projects such as infrastructure upgrades to roads, wharfs and airports; and economic development in fisheries, forestry and tourism; as well as electricity network upgrades, and some environmental enhancement projects where the 'climate change' component is not clear.
- **'Future focused and building the new':** includes projects such as renewable energy investments and direct support to vulnerable communities living with the impacts of climate change.

Based on this criteria, our assessment in 2015 was that around 50 percent of climate spending in 2012-2015 was future focused, which includes significant investment in energy projects across the Pacific, and around 9 percent was for emergency recovery programmes or "repairing the damage". However, we were concerned that our assessment was that around 40 percent of climate spending was on projects which we believed were primarily about maintaining existing infrastructure or a narrow focus on economic development, rather than human and community wellbeing.

Caritas Aotearoa New Zealand's assessment of climate finance spending in the 2015/16 financial year is that around half of New Zealand's climate spending continues to be on future focused projects. Over 40 percent is spent on projects we judged to be primarily about maintaining infrastructure and economic development.

While infrastructure projects such as upgrades to roads, wharfs and airports may be valid economic development projects, Caritas Aotearoa New Zealand believes there are higher priorities for climate finance spending.

Caritas Aotearoa New Zealand welcomes further discussion and debate with both government and non-government organisations and the wider community about our particular assessments and judgements. There needs to be more debate and discussion about where the priorities for government climate aid funding should be.

Our concern is that a disproportionate amount of climate aid spending is going on maintaining infrastructure and forms of economic development which are unsustainable in the rapidly changing Pacific context. This is coming at the expense of ensuring the most vulnerable communities have what they need to adapt and survive.

However, there are good examples of local communities linking with government and non-government sources of funding to support community-led change.

¹⁵ As contained in International Aid Transparency Initiative (IATA) data sheets available from the MFAT website (<https://mfat.govt.nz>).

Solomon Islands: Supporting change at the local level

It is important to localise decision-making and involve target communities for climate-related projects. Jamal Namu of the Solomon Islands Development Trust says that communities need to be part of decision-making to feel ownership. "Sometimes NGOs or donors go out and give all these things to the community without really having proper consultation or seeking the views of the community. [Community members] are the ones who really experience the impacts and give us the ways to work together."

A pioneering partnership between a Solomon Islands Rural Training Centre, Caritas Aotearoa New Zealand and New Zealand company Powerhouse Wind, backed by funding from New Zealand's Ministry of Foreign Affairs and Trade (MFAT), aims to ensure that local need is put in touch with appropriate new technology tailored to the local situation.

The pilot project provides a wind-solar hybrid energy system – replacing a diesel generator – for the Bishop Koete Rural Training Centre on Nggela Island, Solomon Islands, as well as the neighbouring community. The project grew out of Caritas' relationship, developed over the last decade, with Solomon Islands' nationwide network of 47 Rural Training Centres.

Wind-derived energy, supplemented by a solar cell, will be used for lighting, water pumping, computer and phone charging, and the operation of power tools and sewing machines.

The single-blade design for the wind-turbine is cheaper and lighter to transport than other options, and can be lowered or disengaged in high winds. This is important as the Pacific faces more high-strength cyclones. Local people will be trained in its installation, operation and maintenance, enabling them to pass on the knowledge and build turbines in other locations.

CARITAS



John Wesley.

Almost 90 percent of the Solomon Islands population does not have grid access, and all grid-connected power (and most off-grid power) in Solomon Islands is diesel generated. So the project is seen as a forerunner to similar schemes rolled out in other centres. "I personally feel that this project will give an eye opener to our leaders to also encourage this project to their communities," says Training Centre Principal John Wesley.



Australia: a dedicated climate aid strategy needed

All **Australia's** climate finance is categorised as ODA.¹⁶ In 2015/2016, Australia budgeted AU\$4.051 billion for ODA amounting to 0.25 percent of the Gross National Income (GNI), well below the internationally-agreed target of 0.7 percent.¹⁷ Papua New Guinea and the Pacific received 48 percent of all Australian bilateral aid in 2015-2016, a total of AU\$925 million.¹⁸

At the Paris climate conference in 2015, the Australian Prime Minister announced that Australia will contribute at least AU\$1 billion over the next five years to support vulnerable countries to adapt to climate change. However, this is not additional money, and does not represent an increase on Australia's previous contributions to climate finance: it continues to be taken from the aid budget. Caritas Australia says this funding should be *additional* to existing aid funding and should not be taken away from other poverty-alleviation programmes.

Despite the urgent needs of Pacific nations to address climate change, there is no dedicated climate strategy within the Australian aid programme. The majority of climate finance is allocated to building resilience to humanitarian disasters. Successful adaptation programmes, such as the Climate Change Action Grants programme, have been discontinued.

Loss and Damage in the Paris Agreement

In any deal, there are trade-offs for the negotiators, and the Paris Agreement was no different. While Pacific Islanders won the global targets for temperature rise, the trade-off was mainly in the "Loss and Damage" provisions of the Paris Agreement. Loss and damage was a key negotiating point at COP21 in Paris and it was hoped that it would provide a form of compensation for the losses experienced by small island states as a result of climate change.

"Loss" in the climate change context refers to "the complete disappearance of something such as human lives, habitats, or even species; these are gone forever and cannot be brought back. "Damage" refers to "something that can be repaired, such as a road or building or embankment."¹⁹

The United States and other key developed nations opposed any measures to include financial liability and compensation by richer nations for loss and damage suffered by developing countries. However, an article on loss and damage was retained in Paris, which embedded the Warsaw International Mechanism (first set up by the United Nations Framework Convention on Climate Change (UNFCCC) in 2013) as a permanent institution.

The Paris conference also set up a taskforce on climate change-related displacement.²⁰ Rich countries may subsidise risk or flood insurance for low-lying developing countries who can't afford premiums.²¹ These and other topics will be revisited at the next UNFCCC conference: COP22 in Marrakesh, Morocco, in November 2016.

There's been no 'loss and damage' compensation for the Carteret Islands offshore from Bougainville island in Papua New Guinea (PNG), which featured in our 2015 report. The Carteret Islanders have been among the first peoples to face the challenge of long-distance migration due to rising seas from climate change. This project has been pioneered through the community organisation Tulele Peisa spearheaded by Executive Director Ursula Rakova.

16 http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/australia_second_biennial_report.pdf p58.

17 <http://devpolicy.org/aidtracker/#menu>

18 <http://devpolicy.org/aidtracker/destinations/>

19 Huq S & De Souza RM (2016) 'Climate Compensation: How Loss and Damage Fared in the Paris Agreement' *New Security Beat* <https://www.newsecuritybeat.org/2016/01/loss-damage-fared-paris-agreement/>

20 Huq S & De Souza RM (2016), above.

21 Stabinsky D (2015) 'Rich and poor countries face off over 'loss and damage' caused by climate change' *The Conversation* December 8. At <http://theconversation.com/rich-and-poor-countries-face-off-over-loss-and-damage-caused-by-climate-change-51841>.



CARTAS



Ursula Rakova.

Ursula had mixed feelings about the Paris Agreement: “I would have been happy to see more emphasis on human rights including gender equality, because climate change affects mostly women and children. How can justice be seen to be done? The clause containing loss and damage [was] wiped out of the content and to me it continues to undermine the rights of the most vulnerable communities, who are facing the impacts of climate change.”

On behalf of her people, she wrote to the Executive Committee of the Warsaw Mechanism in May 2016, highlighting Tulele Peisa as a home-grown relocation programme operating successfully in Papua New Guinea, which could be replicated for other coastal and atoll groups. Out of concern for her neighbours – other atoll dwellers on **Nukumanu**, **Nuguria (Fead)** and **Tau’a (Mortlock)** islands offshore from Bougainville – she said similar resettlement schemes could be implemented for them. “All these atoll peoples are extremely isolated and receive little by way of government services. The question that exists today for us as islanders is: when will the governments of PNG and Bougainville start to acknowledge the fact that we have spear-headed a genuine migration program and come to our aid? We cannot continue to be ignored while governments exercise ‘their wait and see technique.’”

“We cannot continue to be ignored while governments exercise ‘their wait and see technique.’”

URSULA RAKOVA,
CARTERET ISLANDS,
PAPUA NEW GUINEA

Carbon markets

Pope Francis warns that buying and selling carbon credits can lead to a new form of speculation which may not actually reduce emissions. He warns that instead of undertaking radical changes to address the climate crisis, the use of carbon credits may become “a ploy which permits maintaining the excessive consumption of some countries and sectors” (*Laudato Si’* paragraph 171).

Article 6 of the Paris Agreement recognises the use of “internationally transferred mitigation outcomes”, such as carbon trading, to meet emissions reduction targets, providing they are used with transparency and lead to an overall reduction in global emissions. New Zealand’s indicated commitment at Paris was provisional pending confirmation of access to carbon markets with agreed, transparent rules.

New Zealand reviewed its internal Emissions Trading scheme (ETS) in 2016. Caritas Aotearoa New Zealand submitted to the review that polluters must pay their fair share, and welcomed a Budget announcement in May to phase out a two-for-one subsidy within the scheme.

Concerns have been raised about the use of discredited carbon credits from Ukraine and Russia that do not represent true emissions reductions.²² However, a Caritas Australia partner is demonstrating a genuine model of carbon credits, which enables indigenous people to stay on their land and reduce emissions created by bushfires.

22 Morgan Foundation, April 2016: *Climate Cheats: How New Zealand is cheating on our climate change commitments, and what we can do to set it right.*

North Queensland, Australia: “Fair Carbon Country”

In previous environment reports, we introduced you to the Aboriginal Carbon Fund, supported by Caritas Australia, which is pioneering a ‘fair-trade’ approach to reducing carbon emissions. General Manager of the Fund, Rowan Foley, says they follow standards that verify social, cultural and environmental co-benefits, to achieve a price premium in the Australian carbon market to benefit Traditional Land Owners. The scheme is reducing Australia’s greenhouse gas emissions, creating new economies in remote Aboriginal communities and supporting Aboriginal stewardship of their homelands – providing significant economic, social and cultural benefits.



Philip Yam, ranger team leader and traditional owner, uses a drip torch to create a fire break at Oriners Station on Kowanyama Aboriginal Lands in Cape York.

“Carbon farming is providing a sustainable economy on Aboriginal lands, through good savanna fire management which produces a carbon credit,” says Rowan. Last year, their early burning savanna project on 2,000 square kilometres of Kowanyama lands in southwestern Cape York created 20,000 carbon credits for the carbon market. That means that they prevented 20,000 tonnes of carbon from being released into the atmosphere. At the 2015 carbon auction, the Aboriginal Carbon Fund sold 12,000 tonnes/year for three years to Australia’s Emissions Reduction Fund (ERF). Under the ERF, activities like early savanna burning earn Australian carbon credit units (ACCUs) for each tonne of carbon dioxide equivalent stored or avoided by a project. These ACCUs can be sold to generate income. Determination of the savings follows an internationally agreed methodology.

The best carbon reduction programmes, like those developed by the Aboriginal Carbon Fund, cut real emissions, enhance the environment and provide co-benefits to communities who participate, such as the traditional owners of the Kowanyama lands. For the first time this year, a major bank has invested in the Aboriginal Carbon Fund.

However, Australian carbon markets have been turbulent in recent years and there is no streamlined system for selling carbon credits on the voluntary level. The ERF auctions pay the lowest price for carbon, not taking into consideration the additional environmental and social benefits of a scheme like the Aboriginal Carbon Fund. We hope the stronger commitment to reducing greenhouse gas emissions under the Paris Agreement will give certainty to markets and increase the potential for growth in the industry.



CARITAS INDICATOR

Our assessment of the adequacy and quality of climate finance in Oceania

■ VERY GOOD
 ■ GOOD
 ■ SATISFACTORY
 ■ INADEQUATE
 ■ WOEFULLY INADEQUATE

Conclusion

The world was heartened by the promise of Paris, including the stronger commitment by many countries to cut carbon emissions and raise climate finance necessary to protect the world's poorest. However, through multilateral mechanisms in particular, it seems to take a long time for money to come through – especially funds that make a practical difference at grassroots and coastal edges.

Despite some promising signs, there is still a long way to go however to reach satisfactory levels of climate finance in the Pacific. The two main funding partners in the region, Australia and New Zealand, have shown little indication of *raising* their level of climate finance. Though some very good mitigation and adaptation schemes projects are funded, other projects might be more appropriately classified as “maintaining infrastructure and business as usual”.

We recognise that effective aid from both governments and non-governmental organisations in the region reached many vulnerable communities, and lessened the impact of the drought, which otherwise may have claimed many more lives. However, the failure of the Paris Agreement to adequately address loss and damage issues, alongside the practical experience of the Carteret Islands and others on the frontline of climate change, gives little reassurance that the most vulnerable will receive the kind of climate finance they need. For these reasons, we have rated all our climate finance indicators as **inadequate**: for quantity, quality and support for the most vulnerable.

What can we do?

- The **global community** must ensure mechanisms to address loss and damage are agreed, and subsequently implemented, at the COP22 Marrakesh climate change conference in November 2016.
- **All governments in the Oceania region** should ratify the Paris Agreement by the end of 2016.
- **Australia** and **New Zealand governments** must take immediate steps to transition to a low-carbon economy, setting national emissions targets to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursuing efforts to limit to 1.5°C.
- The **Australian government** must scale up its contribution to international climate finance to \$558 million in the 2017 budget. Climate finance must be on top of Australia's existing development assistance, to prevent the diversion of funding from other poverty reduction programmes. The **Australian government** must develop and implement a climate change strategy for Australia's aid programme to ensure climate change is integrated across programmatic areas.
- **Donor countries, multilateral funders** and **non-government organisations** must ensure an appropriate balance of large scale development projects for essential infrastructure needs, and small scale community-led development projects which directly help vulnerable communities.
- **Governments of the Oceania region** should regularly and transparently report on their progress towards meeting their commitments to Sustainable Development Goal 13 (*Take urgent action to combat climate change and its impacts*).
- **We can all** reduce our carbon emissions by considering our own financial investments, superannuation funds and electricity providers, and engaging with political leaders to call for urgent national action, as an act of solidarity with all Pacific peoples.



Munda, Solomon Islands.



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Our assessment of the impact on people and communities of offshore mining and drilling in Oceania

[Read more on page 51](#)

4 Murky waters: mining and drilling the ocean floor

Concerns about potential impacts on ocean ecosystems are driving community and Catholic Church concern about deep sea mining in the Pacific – the latest threat to food supply and livelihoods in Oceania. The Catholic Church in parts of the Pacific is part of the growing movement which opposes deep sea mining until more is known about its impacts. Church leaders in both Papua New Guinea and Kiribati have expressed concern to their governments, while Caritas coastal committees in Tonga are worried about deep sea minerals explorations that have already affected fisheries resources. There has been little new offshore oil and gas exploration, but overseas oil companies are still circling Pacific shores.

The Catholic Church in **Kiribati** is opposing deep sea mining (DSM) due to unknown impacts and the effects on sea life. “The Kiribati people depend entirely on fish, therefore we are not going to accept deep sea mining to take place in our waters,” says Bishop Paul Mea of Kiribati.

The Pacific was a testing ground for nuclear tests by Britain, France and the United States. Now it has become a testing ground for DSM: countries and corporations are lining up to explore or mine the seabed for minerals, and test equipment that can potentially damage or destroy unknown organisms and entire ecosystems.

The world’s first commercial seabed mine had been scheduled to get underway by 2018 at the ‘Solwara (salt water) 1’ site in Papua New Guinea’s Bismarck Sea, west of the island of New Britain. The Government of Papua New Guinea is a 15 percent partner with Nautilus Minerals Inc. However, in August 2016, Nautilus confirmed it required “significant additional funding” to complete the build and deployment of its seafloor production system. It was reviewing all aspects of its business and was laying off staff and terminating contracts for some equipment for the venture.²³ We understand, however, that Nautilus still intends to proceed with the project. Meanwhile, Caritas heard from DSM researcher Rosa Koian that exploration for deep sea minerals by a Chinese company began in the waters east of New Britain in mid-August.

“We are not going to accept deep sea mining to take place in our waters.”

BISHOP PAUL MEA,
KIRIBATI

The past year has also seen a growing groundswell of awareness and opposition. An April 2016 conference in Madang, Papua New Guinea saw the launch of the Alliance of Solwara Warriors, a group of local organisations who want their government to ban seabed mining. Melchoir Ware said on behalf of the group: “The sea is our life. We exist because the sea exists. We will not continue to remain quiet and passive. We have a responsibility to those generations that come after us; to those yet unborn.”²⁴

The Executive Committee of the Federation of Catholic Bishops Conferences of Oceania (FCBCO) also expressed concern about the impact of DSM on coastal communities, in a media statement in August 2016. They said, “The sea is a treasure for all and should never become a ‘playground of exploitation’.”

²³ Nautilus Minerals press release, 15 August 2016: “Nautilus Minerals announces financial results for Q2 2016”.

²⁴ PNG Mine Watch, 28 April 2016: “Solwara Warriors want govt to ban experimental seabed mining” (sourced from PNG Loop).

Papua New Guinea and Kiribati: Catholic Church concerns about deep sea mining

CARITAS



Fr Victor Roche.

The Catholic Church in both **Papua New Guinea** and **Kiribati** has expressed concern about DSM, on the grounds of its impact on nature and on people living close to the seashore. "It will affect the fish that is a source of food for people; and can lead to contamination of seawater," says Fr Victor Roche, Secretary General of the Catholic Bishops Conference (CBC) of Papua New Guinea and Solomon Islands.

Fr Roche and another representative from the CBC attended the Madang conference on DSM in April 2016, and heard people's experiences of exploratory DSM in Papua New Guinea, as well as local and global concerns about the issue. He says: "At present we do not have sufficient data to say whether DSM can be done safely. The concept is not clear; the studies of damage that it could cause to the marine life is unclear, and people are not consulted adequately, which makes them spectators and not partners in the project."

Fr Roche says, "Nautilus Minerals seems to give impression that it won't affect the sea or seabed but it's quite clear that it's going to." For these reasons, he says the Papua New Guinea Catholic Church has joined in the growing concern at community level about DSM in the Pacific.

The Bishops of the Central Committee of the Bishops Conference of Papua New Guinea and the Solomon Islands met in July 2016. Among questions they raised were: "Why was Papua New Guinea chosen as the testing place of DSM, and not a developed country such as the United States or Australia?" They were also concerned about the impact of DSM on sea creatures and marine ecosystems.

The Catholic Bishop of Tarawa, Bishop Paul Mea of **Kiribati**, has expressed deep concern at the Kiribati government's intention to pursue DSM after public consultation on the issue in April/ May 2016. The Kiribati government wants to expand its revenue base to supplement its fisheries' earnings which – despite a bumper harvest in 2015/2016 – faces pressure from over-harvesting.

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Bishop Paul Mea.

Bishop Mea has voiced his concerns to the new government and is trying to persuade them not to support DSM, while the Kiribati Caritas Youth Group has also lobbied MPs against DSM.

Bishop Mea says that, from government presentations, it appeared that the seabed and reefs were under threat: "The reef is the source of all life in the sea including fish... But the Kiribati people depend entirely on fish, therefore we are not going to accept DSM to take place in our waters."

Father Peter Hou of Honiara, **Solomon Islands**, has worked on DSM issues as an executive committee member of the Pacific Conference of Churches: "What is happening in different part of the Pacific region will affect all the Pacific because of the ocean. If something happens in one part of the Pacific countries, it will also affect the neighbouring countries because we are sharing the ocean, the water."



The pressure for DSM is coming from companies eager to make a profit (though indications are that returns on DSM will take a long time to realise); European and other out-of-Pacific governments and industries who want access to minerals to fuel their economies; and Pacific governments who see the potential revenue from ocean minerals as a lucrative long-term income earner for their small economies.

In November 2015, **Nauru** became the first country to legislate solely for its engagement in seabed mineral activities within international waters. The International Seabed Minerals Act governs Nauru's sponsorship of contractors exploring seabed minerals in the Clarion-Clipperton Fracture Zone of the northeast Pacific – also known as 'the Area' – the international waters in the Pacific of greatest interest for seabed miners. The International Seabed Authority controls licenses for the Area.

Nauru, along with Tonga, Kiribati and the Cook Islands, are the four Pacific Island nations sponsoring companies exploring minerals in the Area. The Nauru Seabed Minerals Authority will be responsible for monitoring and managing Nauru's involvement with seabed mineral activities. Revenues generated will be vested into a 'Seabed Minerals Fund' to be managed for the benefit of all Nauruans.

However, Ann-Steshia Hubert of 350.org Nauru says people are concerned about the possible impact of DSM in the region, even if it takes place far from Nauru's shores in international waters. They are particularly concerned about the impact on fish and marine food sources.

"It is no secret that a break in the food chain and disruption of ecosystems will eventually affect all marine lives around the region," she says. She says the legislation "was very sudden. A lot of people hadn't heard of seabed mining before the Government announced its plans...I guess they wanted to see a more transparent process of how the revenues would be used and who would be involved in the decision-making. And most importantly, the ripple effects on sea bed mining impacts in our region especially for tuna."

"It is no secret that a break in the food chain and disruption of ecosystems will eventually affect all marine lives around the region."

ANN-STESHIA HUBERT,
350.ORG NAURU

The **Cook Islands** government failed to secure investors to explore its seabed for minerals after a five-month tender process, and the country's finance minister was looking at "a more direct approach" to secure investors, according to Radio New Zealand News (24 February 2016).²⁵

The *Resource Roulette* report (see page 48) noted that the current exploration phase of DSM has already disturbed commercial and local fishing in Tongan waters, just from the large exploration vessels. These have reportedly changed fish patterns, forcing fishermen to detour to find new fishing grounds.

Caritas representative in Ha'apai, **Tonga**, Sailosi Alofi is among those at community level concerned about the prospect of seabed mining. He has spoken to local fishermen about how DSM would affect the ecosystem in their area.

"I am worried about the rest of the people and the rest of the Ha'apai Island," says Sailosi. "This is a new thing to do in Ha'apai. The people of Ha'apai – they do not know what is DSM, and what the impact will be on their sea area and also their ecosystem."

Three independent reports in 2016 raised concerns or highlighted caution on DSM in the Pacific.

25 RNZ News, 24 February 2016: "Cooks to take more direct approach to seabed mining." At www.radionz.co.nz.

Proceed with caution – or not at all

Three reports came out in 2016 advising caution or delay on deep sea mining (DSM) in the Pacific, even as a legal framework for DSM continues to be rolled out for the Pacific by the Secretariat for the Pacific Community (SPC) and the European Union (EU).

In March, Guam-based legal firm Blue Ocean Law highlighted a lack of protection for indigenous rights, the environment, and transboundary harm among other things, in a critique of the SPC/EU framework.²⁶ Then the World Bank in April said in its report *Precautionary Management of Deep Sea Mining Potential* that Pacific countries should proceed with “a high degree of caution” to avoid irreversible damage to their ecosystems.

Another report, *Resource Roulette*²⁷ in June, indicated that of legislation underway in the Pacific, half do not include provisions for free, prior and informed consent or adequate enforcement. It recommends that further DSM should be deferred several years, or up to a decade, to find out more about undersea ecology and impacts, and ensure adequate awareness of the implications among Pacific peoples.

While DSM supporters portray it as low-impact, the science indicates possible impacts such as loss of species, and pollution of the sea at all depths, including well beyond the immediate area of activity. The impacts on local communities will especially affect indigenous groups, women and children.

Although Pacific Island nations are being predominantly lured by the promise of financial returns from DSM, *Resource Roulette* says it will likely be years before DSM operators start making a profit. It also flags concerns for other key sectors of Pacific island economies. “For nations that depend so

heavily upon fisheries, ecotourism, and marine resources for their livelihoods, these risks [of DSM] are extreme, and any activity which threatens them should trigger the utmost concern.” It also says most small island states lack the resources to adequately monitor DSM activities.

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Bismarck Sea, Papua New Guinea.

26 Blue Ocean Law, 17 March, 2016: *An Assessment of the SPC Regional Legislative and Regulatory Framework (RLRF) for Deep Sea Minerals Exploration and Exploitation*.

27 Blue Ocean Law & Pacific Network on Globalisation, June 2016: *Resource Roulette: How Deep Sea Mining and Inadequate Regulatory Frameworks Imperil the Pacific and its Peoples*.

Offshore oil and gas exploration

Despite the Paris Agreement signaling a fundamental shift away from a carbon-fuelled economy, Governments continue to support offshore oil, gas and mineral exploration, through tax breaks and use of government research vessels by oil and gas companies – highlighted by news reports in Australia and New Zealand over the year.²⁸

However, in the New Zealand government's 2015 block offer for oil and gas exploration, of six permits granted for offshore exploration, none were in deep water. This reflects a worldwide decline in such ventures due to falling oil prices.²⁹

In October 2015, the New Zealand Ministry for the Environment said more high-quality data was needed “to provide conclusive information about the effects of [offshore] oil and gas or minerals extraction” in its environmental report, *Environment Aotearoa*.

CARITAS



Kaikōura, Aotearoa New Zealand.

28 *Sydney Morning Herald*, 25 September 2015: “CSIRO marine research ship hired to oil and gas companies BP and Chevron”; [Stuff.co.nz](http://stuff.co.nz), 24 November 2015: “Greenpeace activists end their protest against Niwa ship’s oil survey role”.

29 Greenpeace, 16 December 2015 Media release: “Government’s oil permit announcement symbol of ‘massive’ failure”.

Offshore oil exploration in Kaikōura

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Jaana Kahu, Kaikōura.

Meanwhile, threats to Jaana Kahu's "supermarket of the sea" (Chapter 1) remain near Kaikōura, **Aotearoa New Zealand** as American-based oil company Chevron lingers around. They initiated discussions with Ngāti Kurī in November 2015 over exploration plans for the next few years.

Previous Caritas environment reports in 2014 and 2015 have documented disturbance and loss of marine life arising from offshore exploration for oil, gas and minerals, including during seismic testing in Kaikōura in 2013. However, the overall

mantle of protection for the area has been strengthened and reinforced by the passing of the Kaikōura (Te Tai ō Marokura) Marine Management Act which provides for whale and fur seal sanctuaries, as well as areas of restricted fishing.

The land and sea environment around Kaikōura is spectacular, unique and abundant in life. Huge mountains, snow-capped even in autumn and spring, loom out of the sea. Just 500 metres offshore, southeast of Kaikōura township, lies a submarine canyon which plunges to a depth of 1,200 metres at its deepest point. Warm northern and cold southern waters mix, creating conditions favouring over 200 species of fish, and attracting whales close inshore. This benefitted coastal whalers in the 19th and 20th centuries through to 1964, and is now a drawcard for tourists keen for close encounters with marine mammals.

Whales are both kaitiaki (guardian) and taonga (treasure) for the local tangata whenua Ngāti Kurī. When they become stranded, it is seen as gift, and symbol of abundance – all of the whale's flesh and bone are used. Ngāti Kurī continues to have protocols for recovery of whale bone in partnership with the Department of Conservation.

The body formed to protect the area, Te Korowai o Te Tai ō Marokura, takes its name from the Māori name for the seas off the coast of Kaikōura. Te Korowai o Te Tai ō Marokura has a vision for the moana (sea) of Kaikōura to be richer and healthier – to be used sustainably, providing for the needs of present and future generations. In this vision, people will interact with the sea in ways that care for its mauri (life force).

Such a vision is manifest in the Whale Watch enterprise, formed in 1987 as a response to unemployment and social stress in the community. This whanau-based non-profit has gone from inflatable dinghies to a fleet of five catamarans. Earnings from the venture are invested back into the community, including health and social services.



CARITAS INDICATOR

Our assessment of the impact on people and communities
of offshore mining and drilling in Oceania

■ LOW ■ MODERATE ■ HIGH ■ SEVERE ■ EXTREME

Conclusion

The Caritas assessment for the impact on people of offshore mining and drilling for minerals, oil and gas remains at **moderate** this year, with no new significant activity leading to increased detrimental effects. We remain concerned at the ongoing plans for commercial mining in Papua New Guinea. We join with the Bishops of Papua New Guinea, Solomon Islands and Kiribati in expressing their disquiet at the threat to food sources and well-being posed by offshore mining and drilling activities. We consider that the potential impacts of DSM, in particular, are still little known, and that more needs to be done to inform people and to consult with affected communities.

What can we do?

- The **global community** should implement a global moratorium on deep sea mining and exploration until more is known on the impacts of ecosystems and communities.
- **Governments of the Oceania region** must take immediate steps to listen to the voices of local communities and indigenous peoples who are warning of the impacts of deep sea mining exploration at the prospecting stages.
- **Pacific governments** and others implementing legislative frameworks for deep sea mining should ensure they incorporate human rights and environmental rights. This would include free, prior and informed consent by affected communities; effective environmental impact statements; and appropriate remedies for damage.
- **Businesses** undertaking offshore prospecting activities in Oceania should ensure they are implementing corporate responsibility by following the principles contained in the United Nations Global Compact, the *Guiding Principles on Businesses and Human Rights*.
- **We can all** become better informed about plans for offshore oil and gas exploration and deep sea mining in our own countries and throughout our region, and share our concerns with decision makers.



Cyclone Zena caused serious flooding in areas already impacted by Cyclone Winston, outside Tavua, Ba Province, Fiji, April 2016.



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Our assessment of the impact of extreme weather in Oceania 2015

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5 Breaking records: extreme weather

As we saw in Chapter 1, weather systems became more extreme across Oceania in 2015/2016. The trend of successive weather-related disasters compounding one another had drastic effects. One of the strongest El Niños to hit the planet brought drought, poor harvests, frosts and fires, and wiped out food and cash crops that people had been relying on for their sustenance and future. The longer term impacts of El Niño, including malnutrition, were expected to be felt into the second half of 2016. Cyclones accentuated food insecurity. Yet, Pacific peoples show a determination to do the best they can in rebuilding and restoring – and just get on with living.

Papua New Guinea: Fire shatters future dreams

In the Kimbe diocese of West New Britain, **Papua New Guinea**, the El Niño drought brought a devastating bush fire which destroyed 25,000 cocoa trees in a Caritas project at Kapo, operating since 2009.

Caritas Diocesan Coordinator Mathias Ire said the drought dried up streams, cracked soil and shrivelled coconut fruit – then the devastating bush fire hit. Some families had just started harvesting their cocoa.

Robert Kamo and his family had planted 700 trees and all of them were burnt. He had been looking forward to his family reaping the benefits of their labour: “I had a plan when cocoa was growing.

My aim was to move to the mainland and look after our cocoa, and I was already in the process of

building a house. When fire destroyed the cocoa trees, we all wept, as it was like losing a child.”

Similarly for Michael Vovola and his wife Fiona:

“We had hoped that when we started selling cocoa, we could do a lot of things...money to pay for our children, school fees, pay for medical expenses, start small businesses and go into the culture of savings with the banks. Now that our cocoa trees have been destroyed, our hopes and plans have been shattered. Our hard work has gone down the drain and it is like losing a child who has shown so much promise to face the future.”

Mathias said it will take years to restore the plantings to what they were. However, all five communities are keen to re-start, and have identified ways to minimise damage from future bush fires.

MATHIAS IRE



Daniel Kauma amid burnt cocoa trees from the bushfire.



Globally, 2015 was the hottest year on record, and the world continued to break monthly averages through the first half of 2016.³⁰ **Tonga** had its hottest-ever day on record at 35.5°C on 1 February, during a heatwave that affected the whole country in the month prior to it being hit by Cyclone Winston.³¹

In **Australia**, 2015 was the fifth-warmest year on record with annual rainfall five percent below average. Significant heatwaves across the country in March, October and December heralded a period of record-breaking warm weather. October to December were the warmest on record, followed by the warmest-ever autumn: 1.86°C above average.³² In Tasmania, the hot, dry summer dried up old-growth forests usually too wet to burn. In January, 1,000-year-old forests, remnants of Gondwanaland, were lost to fierce bushfires.³³

In **Aotearoa New Zealand**, the first half of 2016 was the warmest since records began in 1909, and every month of the year at least half a degree more than the average from 1981 to 2010. Agricultural academics in New Zealand expressed alarm at the end of June about the higher temperatures and increased pests affecting agricultural productivity and the domestic economy.³⁴

At the same time, United Nations humanitarian agency OCHA said 180,000 Papua New Guineans remained at risk of extreme food shortages arising from El Niño. **Palau, Vanuatu** and **Fiji** were still experiencing serious El Niño impacts, and states of emergencies continued in the **Marshall Islands** and **Federated States of Micronesia**. Though relatively few deaths were directly attributed to El Niño, it severely weakened people and put at risk longer-term food production. At its peak, El Niño was estimated to affect almost five million people across the Pacific with water shortages, food insecurity and disease, almost half of them in Papua New Guinea.³⁵

Table: The cost of severe weather in Aotearoa New Zealand June 2015- June 2016

Date	Event	Cost NZ\$million
2-4 June 2015	Flooding and storm – Otago	28.2
2-5 June	Flooding and storm – North and South Islands excluding Otago	3.0
18-21 June	Flooding and storm Lower North Island including Whanganui	41.5
19-22 June	Flooding and storm South Island West Coast	8.4
18-19 July	Flooding and storm – Upper North Island	6.15
21 September 2015	Flooding – Gisborne	0.81
23-24 March 2016	Flooding and wind – North and South Islands	20.8
17 April	Flooding – Coromandel and Auckland	0.87
5 May 2016	Flooding – Lower North Island	3.7

Source: Insurance Council of New Zealand. Note: This table includes the floods and storms of early June in Otago and elsewhere. They featured in last year’s report, but the figures have been revised. As an indication of additional costs to insurance costs, in a submission to the government on the Civil Defence Emergency Management Bill, the group Resilient New Zealand noted that the total insurance, economic and social costs of the Otago floods (2-4 June 2015) and the North Island floods (18-21 June) were \$138.4 million and \$203.7 million respectively.

30 *New Zealand Herald*, 20 May 2016: “Earth breaks 12th straight monthly heat record”, At www.nzherald.co.nz.

31 SPREP, March 2016: *Climate Change Matters* newsletter (Issue 43).

32 Australian Bureau of Meteorology <http://www.bom.gov.au>

33 <https://www.theguardian.com/environment/2016/jan/27/world-heritage-forests-burn-as-global-tragedy-unfolds-in-tasmania>

34 RNZ News, 30 June 2016: “NZ feeling the heat as 2016 shapes up to be record-breaker”.

35 *OCHA Update 6 June 2016*.

Building resilience

The long-awaited Strategy for Climate and Disaster Resilient Development in the Pacific (SRDP) was expected to be adopted at the Pacific Islands Forum Leaders' meeting in the Federated States of Micronesia in early September 2016. This strategy – the first of its kind in the world – brings together both climate change adaptation and disaster risk management practices in a single approach to build long-term sustainability and resilience for the Pacific.

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Claire Anterea.

Claire Anterea is a young Catholic involved in climate action in **Kiribati**, and also works on the Kiribati Adaptation Programme funded by the World Bank. Speaking at the Pacific Climate Change Conference at Victoria University of Wellington in February 2016, she said there were two kinds of resilience: one based on culture, another based on money.

She said I-Kiribati live fairly basic lives, growing their own crops and building their local houses.

“Building resiliency among our own people: we help each other,” she said. “I can’t afford a house by myself, so all the family, or all the members of the village come and we spend maybe three days building that house. And from there, when I finish my house, we go and build another person’s house. So we don’t depend on money. We depend on our own energy, our resources and our love.

“But now talking about resilience based on money: the Kiribati Adaptation Programme has half a million [Australian dollars] to build resilience among the communities. We have 33 islands and most of the islands need sea walls and they need rainwater, fresh water so their children can have good water. We provide rainwater systems: rainwater tanks and we build it at a church or a maneaba (meeting house) so everyone in the community can get fresh water. Also, our men and our families keep on building sea walls, but recently the king tide is beyond us.”

But physically resilient structures need to be complemented by a similar commitment to building community resilience and solidarity. “Our culture speaks strongly here,” Claire went on, “we need to keep on building resilience among us, and our brothers and sisters from all over the Pacific. We can all help each other, so that some people from those vulnerable islands can keep on living.”

“We need to keep on building resilience among us, and our brothers and sisters from all over the Pacific.”

CLAIRE ANTEREA,
KIRIBATI

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A sea wall recently reconstructed to protect a main road in Kiribati with Australian aid funding.

Table: Impact of severe weather-related disasters in Oceania: July 2015 – June 2016

Event	Location	Date	Deaths	Displaced	Total affected	Total Damage (US\$ million)
El Niño - drought, frosts, bushfires	Papua New Guinea	July 2015-June 2016	24		2,700,000	60
El Niño drought	Fiji	September-October 2015			67,000	
El Niño drought	Vanuatu	July 2015-June 2016			90,000	
El Niño drought	Federated States of Micronesia	July 2015-June 2016			100,000	
El Niño drought	Marshall Islands	July 2015-June 2016			21,000	
Cyclone Raquel	Solomon Islands	July 2015			400	
Cyclone Soudelor	Northern Marianas	August 2015			360	
Cyclone Ula	Vava'u, Ha'apai	January 2016			392	
Cyclone Winston – storm & floods	Fiji, Tonga	February 2016	44		350,000	470
Bushfires	South Australia, Australia	November 2015	2		135	200
Bushfires	Victoria, Australia	December 2015			348	100
Bushfires	Western Australia	January 2016	2		486	4.2
Flooding and landslides	Highlands, Oro, West New Britain – Papua New Guinea	February 2016	3		300+ households	
Flash flood	Westland, New Zealand	March 2016		180	300	

Sources: EM-DAT – the International Disaster Database run by Centre for Research on the Epidemiology of Disasters (CRED) at University of Louvain, Brussels, Belgium; UN OCHA – United Nations Office for the Coordination of Humanitarian Affairs.

Note: The El Niño weather system had severe impacts across most of the Pacific in 2015/2016, including in Samoa, Solomon Islands, Tonga (not noted above, as no specific impact figures were provided through EM-DAT and OCHA sources). OCHA estimated that, at its peak round December to February, 4.7 million people across 13 Pacific countries could have been affected by drought conditions – affecting food and water supplies and health. States of Emergency were declared in Palau, Federated States of Micronesia and Marshall Islands.



A family moved to a bus shelter in Naqia village, Tailevu province Fiji, after their house was damaged by Cyclone Winston.

Multiple disasters

Cyclone Winston in February 2016 was the largest cyclone on record to ever hit land in the southern hemisphere. It killed 44 people, affected 40 percent of **Fiji's** population and destroyed or damaged at least 31,000 houses. The total cost of the damage has been estimated at US\$1.4 billion.³⁶ Winston interrupted schooling and medical services, and destroyed livelihoods. Forestry, fisheries and agriculture were hit especially hard. Fiji had already been suffering from El Niño-induced drought prior to Winston, which was itself followed by Cyclone Zena and less intense depressions that worsened the damage. In June, in some areas, rain and floods washed away up to 80 percent of replacement seeds and seedlings planted after Winston.³⁷

This pattern of multiple events with multiple long-term impacts is seen elsewhere in Oceania. The combined effects of drought and cyclones over the past year damaged crops and led to increased malnutrition in **Vanuatu** and Fiji, with the Food and Agriculture Organisation saying in June that a shortage of fresh vegetables, fruit and fish was causing malnutrition in Fiji.³⁸ Doctors in Vanuatu reported children dying because inadequate food left them too weak to fight illnesses,³⁹ while a Caritas visit to Vanuatu in August 2016 indicated there was still a legacy of relatively few bananas and other fruits as a result of Cyclone Pam in March 2015.

Meanwhile Caritas Tonga Acting Director Amelia Ma'afu said **Tonga's** Ha'apai group was still under food security strains from Category 5 Cyclone Ian, which hit in January 2014, and was worsened by the El Niño drought. "Rehabilitation activities are not completed," said Amelia, "such as restoration of housing and the agricultural sector, so people's resilience was very much threatened."

Other health effects also followed the big-impact events. The Suva Archdiocese's Commission for Justice and Development (CJD), during emergency distributions after Cyclone Winston, visited a village that had effectively isolated itself because of a typhoid outbreak. Caritas witnessed widespread conjunctivitis (pink eye disease) in Kiribati in April/May, associated with unhealthy or inadequate water for hand-washing, while the Marshall Islands reported an outbreak of conjunctivitis linked with the El Niño-induced drought.⁴⁰

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A family among the remains of their house in Veidrala village, Ra Province. Their house was destroyed by Cyclone Winston, then an emergency tent was blown away by a tropical depression. This family, along with many others, sought temporary shelter at nearby Navunibitu Catholic Primary School, which still functioned as a school in daytime.

36 OCHA, 13 June 2016: *Tropical Cyclone Winston – Response & Flash Appeal – Final Summary*, 13 June 2016.

37 OCHA, 6 June 2016: *Asia-Pacific Region: Overview of El Niño Impact and Responses*, IASC Regional Network for Asia-Pacific.

38 RNZ News, 24 June 2016.

39 RNZ News, 21 June 2016: "Malnutrition makes Vanuatu children too weak to fight illnesses".

40 OCHA Update 6 June 2016.

Fiji: The deep end of cyclone relief

The Archdiocese of Suva's Commission for Justice and Development (CJD) had only just been established when Cyclone Winston hit **Fiji**. Unexpectedly, they were thrown into the deep-end of cyclone relief. Its team of paid and volunteer workers targeted communities that had been overlooked by other help.

"In some of the remote areas that were badly destroyed, even six weeks after the cyclone, there was still no government assistance as yet," Development Coordinator for the CJD, Petero Ratucove, told Caritas.

"We respect the existing structures of parishes and communities. We show respect for the dignity of the persons, respect for the people on the ground. We are not trying to do all the work for them. And because we engage them, they feel they have a part of Caritas."

He said there was a communal aspect to aid distribution, an attitude of, "Anything that comes, it's not yours or mine, it's ours." He's seen that played out at the local level: people accepting nine or 12 families to stay in a two-bedroom house, and families who would take only the kitchen utensils from the shelter kit, saying other families in the area needed the tarpaulins and other items.

"It's much more than just the items," he says. "This is one of the most enriching experiences that we have had. For some places that we have gone to, what we bring here is really just an instrument. There is something greater than this that we are actually taking up to them. There's something stronger than the shelter kits, and it's certainly much stronger than Winston."

"You need to create the atmosphere where the victims...feel respected, and...empowered to know that they can also contribute to this process, [that] takes some sacrifice on our part that we need to spend some time – some quality time with them.... Actually meeting the person for who they are, no matter what the situation. So you make them feel respected."

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This household at Nabutini, Ba province sheltered nine families in their home for six weeks after Cyclone Winston.

Facing an uncertain future

Fiji's experience highlights that in a changing, unpredictable climate, we all need to prepare for the unexpected. Fiji didn't expect to get Category 5 cyclones – but it got one in 2016. This highlights the need for tougher, more resilient standards and guidelines; to prepare for more extreme weather more often; and to use appropriate, clear communication when we face new challenges. In such preparation, both modern technology and traditional ways have their place.

In Nabutini, Ba province, some weeks after Winston, David Naikasowalu of the Suva Archdiocesan Commission for Justice and Development (CJD) came across a bure, a traditional Fijian house. "It was humbly standing up, but majestic," he told Caritas. Thirty metres away, a metal-framed school, built to Category 3 cyclone standards was "completely crushed to the ground". Bure are wooden-framed homes with a steep, high (7-9 metres) roof, usually built from local timbers. The CJD found this in many villages. Often, it was the traditional well-built bure that were still standing. David said those that did crumble tended to be old or not constructed properly.

"Bures either crumble – or fly, but that is only grass," David says, referring to the thatched grass that forms the roof. Unlike flying roofing iron, which cost several lives during Winston, grass won't kill anyone.

David says villages were also usually carefully laid out in a rectangular formation to provide better protection as a unit against cyclones, but now houses are built more irregularly.

Cyclone Winston caused an estimated US\$54.8 million damage to housing. Fiji's Permanent Undersecretary for Infrastructure and Transport, Paul Bayly, said most traditional buildings with a high roofing concept survived Winston. He suggested people revisit traditional techniques – as their ancestors had used high-pitched rooves for a reason: they may cushion the force of the wind.⁴¹

Whether using modern or traditional methods, buildings in Fiji will need to withstand stronger storms, as climate change is expected to generate more high-strength cyclones in the Pacific.

PETERO RATUCOVE/CJD



Still standing – a bure, with the thatch blown off; while a nearby school was flattened to the ground.

41 *Fiji Focus*, 10 April 2016: "Improvement in construction needed".

Leo Nainoka from the Social Empowerment Education Programme (SEEP – a Caritas partner organisation), also considers the lessons Winston has taught, and can teach, people about greater resilience – not just in building, but in planting.

“It toughens ourselves in rethinking of ways to be prepared for future Category 5 cyclones, to prepare our homes.... People learnt from Cyclone Winston, so that when Zena hit, people were more prepared for it.”

He also favours “re-visiting the traditional practices of our forefathers. Our ancestors were better prepared before cyclone seasons. They prepared themselves by planting crops that crawl and will not be damaged by cyclones. They did not depend on anyone after a cyclone because they had prepared well.”

“Planting of crops like sweet potatoes, wild yams and vegetables. Even before cyclones they prune cassava leaves and leave the stump to face strong winds. After cyclones they will never run out of food.”

But how far can traditional measures take us in an uncertain climatic future, where not only can we expect more big weather – but also more unpredictable weather? Closing thoughts from people Caritas spoke to in **Solomon Islands** reflect the uncertainty many of us feel.

A change in the weather

Father Peter Hou, Honiara: “Before in [Marau] area where I came from, season is always there based on what people used to know in the past. Everything has a time, just like in the Scriptures what is talked about there is time for winter there and the wind is strong, and there is a time when people will enjoy going out on the reef because of the dry season and people can go around the reef and find shell and catch fish and all this. There are a lot of big clam shells, giant clam shells, you can see that on the reef, but you can see that as time goes on, all these things have disappeared. That is one of the impact of the climate change.”

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Peter Liama

Peter Liama from West Guadalcanal: “My grandkids, I feel very sad about them, how this will be affecting them in the future. So we don’t know what to prepare for them because disaster can come any time. How to prepare them and where for them to go, we don’t have a plan. Very sad.”

Father Samuel of Dala, Malaita: “Now there is a confusion between the rain and the sun. Some days it will rain and it will sun on the same day like that. There is no constancy of rain and sun.”



CARITAS INDICATOR

Our assessment of the impact of extreme weather in Oceania 2015

■ LOW ■ MODERATE ■ HIGH ■ SEVERE ■ EXTREME

Conclusion

The Caritas assessment of the impact on people of extreme weather events remains at **severe**.

This is because of the main large-scale weather events to hit the Pacific over the past year: the prolonged El Niño bringing drought, bushfires, and unusually warm ocean temperatures that led to large-scale coral die-off. El Niño itself gave birth to Cyclone Winston, which caused so much devastation in Fiji, then Winston was followed by other lesser cyclones or tropical depressions that accentuated the impact. In addition, there were unusually intense weather events that brought localised disruption. We also gained greater insight into the long-term impacts of earlier events – such as cyclone Pam and extreme flooding in other places.

However, we consider more people could have been impacted were it not for community and national preparedness and early warning systems, as well as a generally swift response by government and non-government emergency and humanitarian agencies. There remains a strong community resilience within the Pacific peoples.

What can we do?

- **Regional and national bodies of Oceania** should fully implement the new Strategy for Climate and Disaster Resilient Development in the Pacific (SRDP), when it is adopted (see page 55).
- **Regional and national bodies throughout Oceania** should work together to ensure ongoing and sufficient support for adequate meteorological and early warning services, and appropriate, clear communications from government agencies to people about short- and long-term weather and climatic predictions.
- **Governments** throughout Oceania should pursue development that strengthens the resilience of communities to adapt to climate-related hazards and natural disasters.
- **Governments and non-governmental organisations** throughout Oceania should continue to ensure that humanitarian aid reaches the most vulnerable communities throughout our region in times of emergency.
- **We can all** ensure we are prepared for local disasters, and we can get to know our neighbours and communities, so that we can support each other during severe weather events and other emergencies.



Conclusion

The natural environment – the land we live on, the air we breathe, the water we drink – even this can become voiceless, so that the earth’s cry for justice can go unheard. Now is the time to act, so that the natural environment is able to meet human needs rather than be sacrificed to the god of the economy.

AUSTRALIAN CATHOLIC BISHOPS CONFERENCE: A VOTE FOR THE VOICELESS, 2016

The most significant trend in Oceania in 2015/2016 has been widespread hunger and thirst that is a result of severe weather events, successive emergencies, and ongoing climatic changes. These have had widespread and serious impacts on the well-being of peoples across the Pacific.

Two major weather events hit the region over the past year: the El Niño weather pattern and Cyclone Winston. In Papua New Guinea, the effects of El Niño were particularly grave, with severe frosts and droughts resulting in some deaths. Even though the El Niño cycle has now ended, it continues to impact on food and water supplies, livelihoods, and health of communities, especially in Papua New Guinea, Vanuatu, and parts of Micronesia.

Cyclone Winston, a Category 5 cyclone, was the worst-ever recorded storm to hit land in the southern hemisphere. Fiji bore the brunt of Winston and will take a long time to recover. Although relief efforts in the main were swift and extensive, some smaller and more isolated communities missed out on aid distributions for several weeks.

Vulnerable populations in places like Fiji, Vanuatu and Tonga have also suffered from the accumulated impacts of multiple extreme weather events such as cyclones, drought and intense rainfall. As a result, there are ongoing reports of malnutrition within these countries, which will have long-term impacts on health and education.

Coastal erosion, flooding, and groundwater salination continue as long-term threats to Pacific peoples. There have been more reported instances of people being forced to move as sea levels rise, yet systematic tracking and planning for these movements appear to be lacking. While many grassroots communities are continuing to take responsibility for both building sea walls and planting mangroves to protect their lands, government action does not always appear to be keeping pace.

However, the outcomes of these events could have been far worse for many communities in the Pacific. Community resilience and effective humanitarian assistance by both government and non-government organisations has reduced the impact of these disasters. This has saved lives.

Action at a global level is promising. Along with many in the international community, Caritas welcomed the Paris Agreement in December 2015. This unprecedented commitment to addressing climate change was a major milestone, which now needs to be backed up with concrete action. Australia and New Zealand, major donor countries for many Pacific nations, have not yet scaled up their financial commitment for adaptation and mitigation measures to facilitate climate-resistant development.



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Growing vegetables on Abaiang island, Kiribati.

Vulnerable communities must not get left behind. Caritas experience at grassroots level in places such as Tonga and Solomon Islands demonstrates that successful projects must involve local populations as much as possible – in assessing needs, planning and implementing projects.

Overall, the state of the environment in Oceania is deteriorating. It's time for determined, urgent, coordinated action. The global community, governments of the region, regional and national bodies, non-government organisations and businesses must work together with the peoples of the Pacific to address the current environmental challenges and prepare for a future. But all is not lost. The resilience of Pacific Islanders coupled with new global commitments to address climate change provide hope that a just and sustainable future is possible.

In this Jubilee Year of Mercy, in responding both to the immediate needs and the underlying causes of hunger and thirst among the people of our region, we respond to Christ who says: "I was hungry and you gave me something to eat; thirsty, and you gave me something to drink."



Glossary

El Niño – A periodic warming of the central and eastern equatorial Pacific Ocean, which happens every few years. It affects weather patterns around the globe. In Oceania, it generally leads to drier and warmer weather in the western Pacific including parts of Australia and New Zealand, and the risk of more and larger cyclones. Many climate scientists predict that El Niños will become more frequent and more intense with climate change.

Free, prior and informed consent – With regard to seeking consent for actions from indigenous or local communities, it consists of these components:

Free – free from force, intimidation, manipulation, coercion or pressure by governments or companies

Prior – obtained prior to government authorisations, allocation of exploration permits, operating licences, etc.

Informed – all relevant information is presented to communities and civil society accurately, and in an accessible manner independent of vested interests

Consent – communities and civil society can say “yes” or “no” to a project, at each stage of that project, with conditions if necessary; in accordance with community decision-making processes (Based on *United Nations Declaration of the Rights of Indigenous Peoples*, 2007.)

Precautionary Principle – “activities which are likely to pose a significant risk to nature shall be preceded by an exhaustive examination; their proponents shall demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed.” (*United Nations World Charter for Nature*, 1982.) The responsibility is on a developer or proponent of an action to prove that their action or development is not harmful.

King tide – colloquial term in Oceania for an especially high tide. It may refer to an exceptionally high spring tide (when the Moon, Sun and Earth align), as well as a tide made higher by weather conditions.

Storm surge – an abnormally high body of water, caused by a low-pressure system in the area, such as a storm or cyclone, and often associated with large waves or swells.



Caritas water supply project,
Malaita, Solomon Islands.



**Children in Naqali, Fiji,
following Cyclone Winston.**

We should be united in showing mercy to the earth as our common home and cherishing the world in which we live as a place for sharing and communion.

Pope Francis, *Show Mercy to our Common Home*,
1 September 2016



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