



Waters of life, oceans of mercy

CARITAS STATE OF THE ENVIRONMENT FOR OCEANIA 2018 REPORT

Praised be You my Lord through Sister Water, So useful, humble, precious and pure.

ST FRANCIS OF ASSISI

He puna iti i te ao mārama A little spring in the world of light PĀ HENARE TATE, AOTEAROA NEW ZEALAND

Tutū ana te puehu Stirring up the

Published by Caritas Aotearoa New Zealand on behalf of Caritas Oceania members and the peoples of Oceania.



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Disclaimer: In a spirit of talatalanoa reflecting the region, this report includes a diversity of opinion, perspectives and world views. Views expressed by sources in the environment report do not necessarily reflect the views of Caritas Oceania or its individual members.

Earlier editions of the Caritas State of the Environment for Oceania report and other stories and information relating to the series are available at: www.caritas.org.nz/state-environment

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Prelude

The cover of this year's Caritas State of the Environment for Oceania report shows the Whanganui River in the central North Island of Aotearoa New Zealand. The idyllic scene belies the impact on the river and its people, of changes in land and water use over time.

Our 2014 and 2017 reports showed how poisons from farming, logging and industries were polluting the river, affecting drinking water and traditional food sources such as eels. In 2015, it was the scene of massive flooding that cut off some communities for weeks, and severely impacted the provincial town of Whanganui on the coast.

This year, we also learnt how the mana (status) of the Awa (river) in Māori experience has been diminished in other ways, such as diversion of the headwaters to another major river (the Waikato) to generate more hydroelectric power on power schemes there. This has resulted in loss of native species and food sources, and decline in the general health and well-being of both the Awa and its people.

Similar issues have affected people elsewhere in Oceania, such as Papua New Guinea and Fiji, and been documented through our environmental series. However, in this report you will also read how the Tutu Rural Training Centre in Fiji diverted water for hydroelectric power and water supply, but at a smaller scale and serving the local community as well as the Centre itself.

As stated in our 2017 report, the Whanganui river has now been recognised as a 'person' in New Zealand law and a partnership of care established between local iwi (tribes) and the New Zealand government. Sister of St Joseph Sr Makareta Tawaroa of Ngā Paerangi on the Whanganui River said she was 'cautiously hopeful' the river could become a source of life again.

In June 2018, Caritas met Rāwiri Tinirau, Deputy Chairperson of Ngā Tāngata Tiaki o Whanganui, the post-settlement governance entity responsible for the Whanganui River settlement. He said there had been a lot of enquiry from around the world on what it means to give a river legal personality. "With regard to Te Pou Tupua, the human voice for the Awa, people are certainly interested in this function. There are many elements that comprise the framework of Te Awa Tupua, which recognises that our Awa is an indivisible whole."

It is an innovative and refreshing approach to environmental care, recognising Indigenous people's deep and long-lasting connection to the land, waterways and oceans that sustain them. The story of the Whanganui River, and the other waterways and oceans of our region, also show how much work is to be done to restore our relationship with creation, to share our common home, as God intended it.

And wherever the river goes, every living creature that swarms will live, and there will be very many fish. For this water goes there, that the waters of the sea may become fresh; so everything will live where the river goes. (Ezekiel 47:9 ESV)

Acknowledgements

Caritas expresses sincere appreciation to the people and communities who feature in this year's report, and to others who have contributed to its production in any way. We are extremely grateful to all who have assisted, including but not limited to those listed below:

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Rāwiri Tinirau, Aotearoa

Staff and students of Tutu Rural Training Centre, Fiji

Katalina and Koli Vea, Tonga

Harry Woersok, Papua Province, Indonesia

The whakataukī on the title page "He puna iti i te ao mārama" is taken from the title of a book by Māori theologian Pā Henare Tate, used with permission from the book's publishers Kawei Ltd. The title itself draws from a phrase credited to the Polynesian explorer Kupe before returning from Aotearoa to Hawaiki – an ancestral home common to most Polynesian peoples. The whakataukī reflects our prayer that this report and its stories be 'a little spring in the world of light', giving hope to all the peoples of Oceania and the world.

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.

Caritas Aotearoa New Zealand acknowledges the mana whenua of Te Ātiawa ki Te Whanganui-a-Tara where our main office is based. Caritas Aotearoa New Zealand pays its respects to all tangata whenua of Aotearoa.

Corrections to previous reports

Caritas State of the Environment for Oceania 2015:

p 64: the "Strategy for Disaster and Climate Resilient Development in the Pacific" was actually adopted later by the Pacific Forum, in September 2016, as the "Framework for Resilient Development in the Pacific (FRDP)".

Caritas State of the Environment for Oceania 2017:

p 7: the photo indicated as Aso loapo from Tuvalu is actually Erietera Aram from Kiribati. We apologise for any confusion or embarrassment.

p 9: Under "Coastal erosion, flooding and rising seas", it says the Caritas assessment moved from high to severe in 2016 and remains there in 2017. In fact, our assessment was high in 2016, and moved to severe in 2017.

pp 13 and 45: References to the "Strategy for Resilient Development in the Pacific (SRDP)" should be to the "Framework for Resilient Development in the Pacific (FRDP)".

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Voices from Oceania for 2017/2018



Hawaii



REVEREND TAFUE LUSAMA, TUVALU: Our work is about healing the broken body: of tending and mending our sea of islands. our shores.

Kiritimati



Tahiti

AUIMATAGI JOSEPH SAPATI MOEONO-KOLIO, SAMOA: O le fogāva'a e tasi – We are in the same canoe.

French Polynesia

Tuvalu ⁶ Funafuti •

Tokelau



MALIA MASOE, APIA, SAMOA: We used to have a garden, but the floods happen so often that everything has been lost.

Northern Cook Islands®

Wallis and Futuna



Fiji

Samoa American Samoa Apia •

Kiribati

Pago Pago

Niue ...

Tonga

Nuku'alofa

Southern Cook Islands

Cook Islands

Avarua Rarotonga

AMELIA MA'AFU, TONGA: To be Oceanian is to recognise that we are different members journeying together.

Kermadec Islands



ANA BERCICH, MITIMITI, AOTEAROA NEW ZEALAND: We must act and respond to the changes happening in our environment.

Wellington Kaikōura

Christchurch

Chatham Islands

About the Oceania environmental report series

The *Caritas State of the Environment for Oceania* report series shares voices from Oceania and highlights what is happening to our common home in this region. The series also promotes actions required to protect and enhance the environment so life and people can flourish as God intended.

The report series grew out of increasing concern by Caritas Oceania members about changes in our environment impacting poor and marginalised people. From a foundational report, *Small yet strong: voices from Oceania on the environment*, launched in 2014, five key environmental issues affecting people were identified and tracked in subsequent years. These five key issues are:

- coastal erosion, flooding and sea level rise;
- environmental impacts on local food and water sources;
- · extreme weather;
- · offshore mining and drilling; and
- climate finance to support activities cutting carbon emissions and adapting to climate change.

The impact of changes in these five areas continues to be told through the eyes and ears of Caritas partners and associates experiencing change at the grassroots and coastal edges of Oceania, in a rapidly changing regional and global context. Our goal in doing so is best expressed by Pope Francis in *Laudato Si'*, his groundbreaking letter on ecology in 2015 addressed to 'every person living on this planet'. In that letter, the Pope asked us "to become painfully aware, to dare to turn what is happening to the world into our own personal suffering and thus to discover what each of us can do about it" (para 19). On the 3rd anniversary this year of *Laudato Si'*, Pope Francis called on people to listen with their hearts to "the increasingly desperate cries of the earth and its poor, who look for our help and concern."

Caritas, along with the wider Catholic Church in Oceania, seeks to answer that call. This report is a vessel to take the 'desperate cries' from our region to relevant governments, institutions and people. Together, out of common concern for our home, may we exercise greater stewardship of Te Moana-nui-a-Kiwa, the Pacific Ocean. And not only for our own sake, but for the world and for future generations. As Pope John Paul II said at the dawn of this millennium, it is the "special responsibility" of the governments and peoples of Oceania to protect our precious environment here, and "assume on behalf of all humanity stewardship of the Pacific Ocean", containing over one half of the earth's total supply of water and covering one third of the earth's surface.²

The *Caritas State of the Environment for Oceania* report is launched each 4 October on the Feast Day of St Francis of Assisi, the patron saint of ecology. It bears witness to what is happening in our region – and what each of us can do about it.

¹ Pope Francis: Address to International Conference Marking the 3rd Anniversary of the Encyclical "Laudato Si", 6 July 2018.

² Pope John Paul II, Ecclesia in Oceania, 2001.

Introduction

Over the last five years, the *Caritas State of the Environment for Oceania* report series has woven together three significant and important strands:

- Care of creation, or care for our common home as Pope Francis put it in *Laudato Si'*, his 2015 encyclical on ecology and climate
- Traditional knowledge and Indigenous ways of understanding the world and our relationship to the land, waterways, ocean, plants and animals that we share it with.
- Scientific understanding of the changes happening to the planet and technology to assist
 us in living more wisely, ensuring the goods of the earth are shared with all.

In *Laudato Si'* (para 146), Pope Francis acknowledged "it is essential to show special care for indigenous communities and their cultural traditions".

Traditional knowledge and Indigenous ways of understanding the world have been an integral part of the environment report series from the beginning, as they, coupled with new technology, have much to teach us about relating to and caring for this earth in a healthy way. On the third anniversary of *Laudato Si'* this year, Pope Francis said, "dialogue and commitment to our common home must make special room for two groups of people at the forefront of efforts to foster an integral ecology: young people and indigenous peoples ..."

"To be Oceanian is to recognise that we are different members journeying together."

AMELIA MA'AFU, CARITAS TONGA

In the light of the gifts Indigenous perspectives offer, it was heartening to hear Pirmin Spiegel, Director General of Misereor (German Catholic Bishops' Organisation for Development Cooperation), at a gathering of Oceanian Bishops in Papua New Guinea in April, refer to the very first Caritas environment report in the following way:

... both the Genesis Creation story and the Māori tradition see human beings as the youngest members of our world. And that this entails the duty to take care of our oldest ancestors: the mountains, the oceans, the rivers, plants and animals. In Europe, when we talk about the impacts of climate change and other environmental changes we tend to speak of responsibility for future generations. The idea that we also bear responsibility towards our ancestors in Creation broadens this perspective, which at present remains fixed on humankind and its future.

Through its environmental reports and research, Caritas seeks to use a talatalanoa approach of inclusive discussion to research and share our stories. We aim to listen carefully, to understand, to learn, to acknowledge our sources and seek ongoing feedback to support the common good of the region. We are continually evolving and developing how we do this.

Talatalanoa' and the related word 'talanoa' are used in various parts of the Pacific. While there can be variations in meaning, the essence is a process of mutual sharing and honest talk with a view to building better relationships and better understanding. As Amelia Ma'afu of Caritas Tonga says, "To be Oceanian is to recognise that we are different members journeying together."

Tonga has the phrase: Fofola e fala kae talatalanoa e Kainga: "Roll out the mats so the family or community can talk." People bring their experience, whether good or bad, strong or weak to the fala (mat or platform), where the talanoa (real honest talk) begins. It is not about right and wrong or finding who's at fault. The desired outcome from the talatalanoa (discussion) is the well-being of everyone, and agreement on focus, goals and objectives.

The fala or mat signifies family, grounding and safety. It is made up of feunu (strands), that could represent qualities such as respect, humility, forging good and successful relationships, and the passion for ensuring completion. It is an acknowledgement of our strengths and expertise and, more importantly, our weaknesses and needs. In the communal dialogue, everyone is treated as equal, and all voices are heard.

The report series has gathered a basket of stories and perspectives from around the region. We have listened to people 'sitting on the mat' (or dirt or wooden floors) in various meeting places around Oceania, on marae in Aotearoa, in maneaba in Kiribati, over kava ceremonies in Fiji, at haus win in Papua New Guinea. We have had conversations in people's homes, at conferences and regional fora, international gatherings, in airport lounges. Discussion has also taken place over the phone, by Skype, through emails, and through social media.

In light of the Pacific way of talatalanoa/talanoa, we welcomed the 'Talanoa Dialogue' that Fiji launched at last year's United Nations climate change conference in Bonn (COP23), a Pacificbased framework to provide more inclusive and constructive discussion leading up to COP24 in Katowice, Poland. This year's COP will set out the Rulebook for fully implementing the Paris Agreement on climate change. It is a critical year to ensure the Paris Agreement is implemented with the best interests of Oceania – and the world – at heart. Our stories for 2018 show why, as many Oceanians continue to live on the edge of existence.

This year we have sought to show how large-scale extraction, overexploitation and misuse of resources are damaging or threaten to further damage our common home in the region. But there are also signs of hope, and we contrast unsustainable practices with examples of sustainable use and efforts to protect or restore the environment.

When the Federation of Catholic Bishops Conferences of Oceania met in Port Moresby, Papua New Guinea in April 2018 they acknowledged our common ocean. The sea is "a vital source of life and well-being for our people" they said. But they also felt "at times battered by climatic events and vulnerable to the winds of multinational businesses and political intrigue." They questioned why their people's cry for change is "drowned out by the din of commercial lobbying and greed?"3

The Oceanian Bishops also recognised the positive role business can play, and offered their support to businesses that had a strong ethic of care for workers and the environment. Young people at the conference gave them hope. "We echo their conviction that the oceans offer life to us and a sea of opportunities for worthwhile long-term satisfying employment." We share that hope and conviction and join with all in our region who are striving to provide waters of life and oceans of mercy to those around them.

Federation of Catholic Bishops Conferences of Oceania, 16 April 2018.

Who is Caritas?

Through mercy, love and compassion Caritas puts practical works of advocacy, education and programmes 'into action', and thereby strives to uphold the human dignity of all people and all creation.

Caritas Oceania comprises six members, who have supported and contributed to this report in different ways, according to their ability: Caritas Aotearoa New Zealand, Caritas Australia, Caritas Papua New Guinea, Caritas Samoa, Caritas Tonga and the Episcopal Conference of the Pacific (covering Pacific Islands apart from Aotearoa New Zealand, Papua New Guinea, Solomon Islands and Hawai'i). Each Caritas member is responsible to its respective local Catholic church in the region or country where it is based. They come together as Caritas Oceania to work side by side on common issues, strengthen and support each other, and provide a regional voice to the international Caritas network for global action.

Caritas Internationalis is a confederation of more than 160 members working to end poverty, promote justice and restore dignity in almost every country in the world. Caritas works in all regions of the world (Africa, Asia, Europe, Latin America, Middle East and North Africa, North America and Oceania).

Caritas Oceania may be the smallest in the number of members, but it covers a vast part of the world, including the southern and central Pacific Ocean.



Stream that feeds into Tutu Rural Training Centre reservoir, Fiji (see pages 30, 38 and 52)

Caritas assessment of environmental impacts

Below is the Caritas assessment of the impact on people and communities on the five issues Caritas is monitoring through our State of the Environment for Oceania reports. Our assessment takes into account data and official reports where these are available and known, but is primarily based on the experiences and observations of people in the field (our staff, partners, the communities we work with, and Caritas associates across the region).

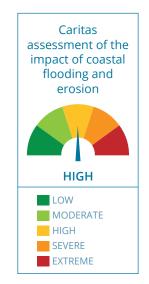
The scoring represents Caritas' judgement on how severe the impacts of the particular issue have been on people within Oceania,⁴ particularly the poorest and most vulnerable, in the time period from July 2017 to June 2018 (2017/2018). For most of our issues, the range runs from Low to Extreme. For climate finance, however, the range represents the adequacy (both quantity and quality) of climate finance for people most vulnerable to climate change in our region.

Coastal erosion, coastal flooding and rising seas

This is 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. Our assessment is based on Caritas and partners' experience during the year, taking into account:

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

The Caritas assessment for coastal issues for 2017/2018 is high. We are seeing a continuation of issues from previous years – of long-term gradual encroachment or erosion of coastal lands in a number of places, and more frequent or more destructive king tides⁵ and storm surges. However, there were no large-scale extreme events that exacerbated current levels of coastal flooding impacts. For example, Cyclone Gita did not have large coastal impacts.



Caritas

assessment of the

impact of extreme weather

MODERATE

MODERATE

IOW

HIGH

SEVERE

EXTREME

Extreme weather

This is the Caritas assessment of the overall impact on people of extreme weather events (for example: drought, heavy rain, floods, extreme winds, frosts). Our assessment, based on Caritas' and partners' experience during the year, takes into account:

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

The Caritas assessment of the overall impact of extreme weather events for 2017/2018 is **moderate**. We saw relatively few large-scale events. Though Tonga had a severe cyclone, the impact was less than it would have been without strong disaster preparedness and co-ordination. Resilience measures

minimised human harm. A series of unusually intense storms caused flooding and damage in Aotearoa New Zealand, and Australia had a string of bushfires; but most places in these countries are currently able to cope due to housing construction and insurance provisions.



Colloquial term for an especially high tide.

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

This is the Caritas assessment of the overall impact on people of environmental factors affecting access to safe and healthy, locally sourced food and water. Our assessment, based on Caritas' and partners' experience during the year, takes into account:

- 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; and
- Severity and length of time for ongoing impacts.

The Caritas assessment of the overall impact of environmental factors affecting food and water sources for 2017/2018 is **high**. Extractive or intensive land uses such as forestry, oil palm and mining are impacting local food sources in places such as West Papua, Papua New Guinea and Fiji.

Major disasters such as Cyclone Gita on Tonga and Samoa highlight the vulnerability

of many Pacific Islands' food and water sources and the need to provide a range of options as well as emergency supplies. The Carteret Islanders story is showing the stresses of climate change, while Tutu Rural Training Centre in Fiji shows how an integrated ecological approach, using technology in an appropriate way, can benefit not just the centre, but the surrounding community – and build resilience to disasters.

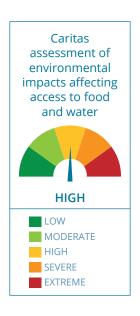
Offshore mining and drilling

This is the Caritas assessment for the overall impact on people of offshore prospecting, exploration, and commercial exploitation of oil, gas and minerals. Our assessment, based on Caritas' and partners' experience during the year, takes into account:

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

The Caritas assessment for the overall impact of offshore prospecting, exploration, and commercial exploitation of oil, gas and minerals for 2017/2018 remains at **moderate**. Actual physical impacts are low; but the threat posed, especially by seabed mining in Papua New Guinea, is deeply concerning to many Indigenous people. While there is increasingly stronger community and Church opposition, legal challenges are struggling to make

headway. In Aotearoa New Zealand, Caritas welcomed a government move to stop new offshore prospecting licences for oil and gas; but prospecting licences for seabed minerals continue to be issued.





Climate finance

Caritas has revised its climate finance assessment approach to focus on just one issue: the adequacy of support for the most vulnerable people. Previously, we had additional assessments of overall quantity and quality of climate finance. However, given the challenge of reflecting comparative figures fairly, and that our concern and priority is with the poorest and most vulnerable, we have focused our attention here. We have based our assessment on the amount and quality of climate finance which offers tangible and practical support to the most vulnerable people affected by climate, including women, children, Indigenous peoples and isolated communities.

The Caritas assessment of the adequacy of climate finance support reaching the most vulnerable groups for 2017/2018 is **woefully inadequate**.

While there have been improvements in the amount and ease of access to climate finance, a lot more progress is needed, especially for the poorest. Finding ways to measure the success of adaptation and mitigation plans will be critical to the future of climate finance, which depends on trust and transparency from both donors and recipients. We are concerned that a short-term "return on investment approach" may not take sufficient account of the long-term environmental impacts of investment decisions and would therefore fail to address immediate needs and the ecological debt owed to our children.





Graduates from Tutu Rural Training Centre in Fiji. The Tutu story features throughout this report, bearing witness to an integrated ecology approach that cares for land and people.

Summary of key recommendations

Full recommendations are at the end of each chapter.

Coastal erosion, coastal flooding and sea level rise

- The global community must create legal protections for people who are forced to relocate internally or across borders because of climate change or other environmental degradation.
- Oceania governments at all levels, in a co-ordinated way, need to identify populations most at risk from sea level rise, then identify options, strategies and solutions with local communities.
- Oceania governments at all levels must provide increased adaptation action such as disaster
 preparedness for king tides; community based tidal measuring; and protective measures, such as
 sea-walls, rock gabion, mangrove planting, etc.

Extreme weather

- Oceania governments must fully implement the Framework for Resilient Development in the Pacific (FRDP), and monitor and evaluate its progress.
- **Government and non-government agencies** need to build resilience for extreme weather events through programmes for food security, income generation, mapping areas most risk, improved construction techniques, water management, and other preparedness measures.
- Local, regional and central government need to support local, village and community-level groups able to provide immediate practical assistance in case of emergency.

Food and water

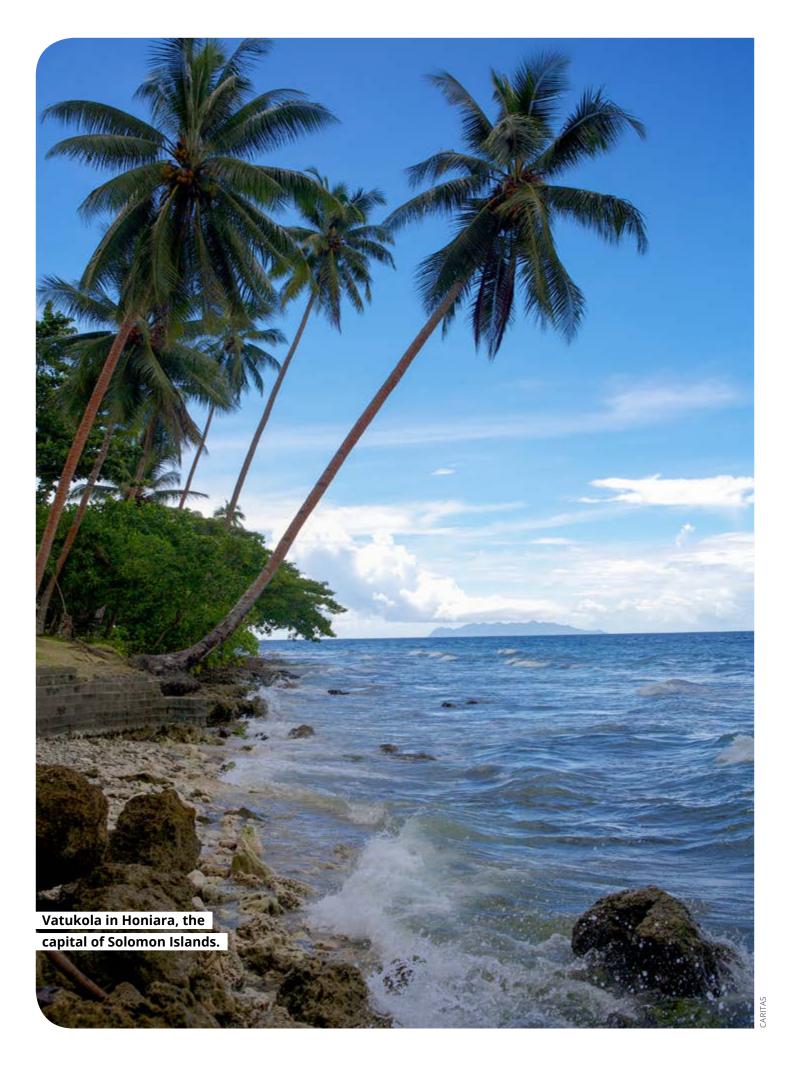
- Oceania governments must prioritise activities, policy and budget to meet the United Nations' Sustainable Development Goals.
- Oceania governments and community organisations must continue to enhance food and water security for the most vulnerable, including agricultural practices and crops resilient to extreme weather; forward planning; and distribution of emergency food and water in environmentally sustainable ways.
- All Pacific Island governments should prioritise development projects that ensure food and water security for vulnerable communities.

Offshore mining and drilling

- The International Seabed Authority and national governments must stop issuing both mining and exploration licences for seabed mining until more is known about the impacts.
- Oceania governments and others implementing legislative frameworks for seabed mining need to ensure they give proper recognition to human and environmental rights. This should include free, prior and informed consent by affected communities; effective environmental impact statements; and appropriate remedies for any damage done.

Climate finance

- The global community, through the United Nations Framework Convention on Climate Change to:
 - increase nationally determined contributions and climate finance contributions to keep global warming below 1.5°C;
 - ensure sufficient financial and other resources to support adaptation and resilience-building for small island states and other vulnerable countries,
 - deliver concrete action on loss and damage, including compensation for losses.
- Australia and New Zealand to increase their climate ambition: the Australian government to resume funding a community-based climate change grants scheme, first introduced in 2010-11.
 New Zealand must strengthen policies for mitigation, adaptation and climate finance.





CARITAS INDICATOR

Our assessment of the impact of coastal flooding and erosion in Oceania Read more on page 23

1 Coastal erosion, coastal flooding and sea level rise

Bring healing to our lives, that we may protect the world and not prey on it, that we may sow beauty, not pollution and destruction. - Pope Francis, *Laudato Si'*, para 246

King tides continue to affect small islands round Papua New Guinea, but the experience of Nawi village in Fiji shows coastal impacts on large islands too. Coastal sand mining in Solosolo, Samoa has destroyed a beach and forced relocation of residents. The low-lying Popua community in Tonga faces frequent flooding during king tides and storms, but some residents are able to keep themselves above water. The small coastal community of Mitimiti in Aotearoa New Zealand is planting sand dunes and taking a flexible approach to possible future relocation of buildings.

King tides hit three islands in Tanga group

Within days of the release of *Turning the Tide*,⁶ Caritas heard of king tides⁷ forcing more than 160 people from their homes on Maledok Island, part of the Tanga Group in **Papua New Guinea**. A report shared by then Caritas Co-ordinator for Kavieng diocese Patrick Kitaun said:

Village cemeteries washed away. A dug water hole covered with sand and other debris with the coastal vegetation cover slowly wilting and dying away following the sea water bath. Tree crops such as coconut and betel nut trees now wilting and dying. Additionally, some terrestrial animals and a number of household livestock animals were reported dead. People now are in extreme risk from waterborne diseases and likewise, more vulnerable to sickness from the impact of the damages.⁸

Regional round-up

People who live on the coast in Oceania are on the front line of climate change induced sea level rise. Average sea levels globally have risen about 20 centimetres since 1900,9 and expected to rise by up to another 30 centimetres by 2050. King tides and storm surges superimposed on rising seas are therefore happening more frequently and more powerfully. People living on small islands or lowlying land near the coast are like an 'early warning system' to others of the threat of long-term sea level rise, the 'canary in the coal mine'.

In March 2018, king tides flooded five houses and damaged four gardens on the Carteret Islands, 86 kilometres offshore from the mainland of the Autonomous Region of Bougainville, **Papua New Guinea**. King tides are a regular occurrence for the 2,700 people who inhabit the atoll of six islets, threatening lives and food stocks. The tides also lead to water ponding which breeds mosquitoes, creating a health hazard. While mangroves are being planted to reduce the impact of king tides, Executive Director for community organisation Tulele Peisa, Ursula Rakova, wants to establish an early warning system for tides and undertake community-based tidal measurements.

- 6 Caritas State of the Environment for Oceania 2017 Report.
- 7 Colloquial term for an especially high tide.
- 8 Ignatius Beno, Tanir LLG Administration, Namatanai, New Ireland Province, October 2017. Report received by Caritas from Patrick Kitaun, Kavieng Diocese Caritas Co-ordinator.
- 9 Intergovernmental Panel on Climate Change, 2014.



Ursula Rakova

Caritas Aotearoa New Zealand is helping Tulele Peisa and the Catholic Church in the Autonomous Region of Bougainville with the long-term migration of Carteret islanders to the Bougainville mainland because of rising seas, but the Carteret Islanders' loss of land and identity is going unrecognised by the global community.

In addition, islanders who have already relocated to mainland Bougainville find they are still struggling with shoreline erosion there. Some are relocating further inland, while others are reclaiming land themselves: backfilling eroded areas of the shoreline with river stones.

In March 2018, Caritas visited the coastal village of Nawi on the Fiji island of Vanua Levu. We met 63-year-old Atanasio Niukala who has lived at Nawi

all his life. He is concerned over the gradual erosion of the shoreline by storm surges and ongoing sea level rise. Sitting under a 300-yearold tree that locals say has been there since the village was founded, Atanasio lamented the loss of trees being undercut and eventually succumbing to the sea's continuous advance.

The community is considering the expensive options of building concrete sea walls or rock gabions. In the meantime, a process of relocating some dwellings further inland has already begun, in anticipation of the sea gaining ground in the long term.



Nawi villagers (Atanasio Niukala second from right) enjoy the shade and protection of their 300-year-old tree that has grown up with their village. Both the tree and the village are now endangered by the sea.



Members of Okaba Catholic Parish in Merauke Archdiocese of Papua Province in Indonesia planting mangroves behind their sea wall in August 2018. Efforts by the parish to control coastal erosion were covered in Caritas' 2017 environment report Turning the Tide.

Displacement and relocation in the Pacific

Rising seas are not only affecting small islands. During the year, Catholic Archbishop of Suva Peter Loy Chong highlighted coastal challenges for Viti Levu, one of **Fiji's** two main islands. "It is about our homes," Archbishop Loy Chong told Catholic aid organisation Aid to the Church in Need, "many of them will be under water in 50 years time...in the coming years people living in 34 coastal villages in Fiji face upheavals that will force them to relocate their homes." He questioned how he was to console his people. "Their cries, their pain makes me think of the psalms of the Old Testament and of how they call on God to hear the cry of his people. ...My people are weeping; who will dry their tears?"

In May 2018, Caritas Aotearoa New Zealand spoke at a Brisbane conference *Where do we go? Displacement and relocation challenges of climate change for Pacific Islander communities*, organised by Friends of the Earth and the Pacific Islands Council of Queensland.



Reverend Tafue Lusama

In sharing stories from our environment report series, Caritas welcomed a recent New Zealand government announcement to take 'early action' and a long-term approach to Pacific climate change displacement and migration. Core values underlying the government's approach indicated they were listening to Pacific voices and seeking to avert and delay climate change related displacement. However, we also said that further consideration of specific immigration options for New Zealand should happen earlier than the 2024 date indicated in the announcement.

Tuvalu (which means 'eight standing together') was at the forefront of concern at this conference. Rev Tafue Lusama, General Secretary of the

Congregational Christian Church of Tuvalu, told attendees during an ecumenical service: We live in a broken world, a world that has been pushed aside in favour of making profits. Our work is about healing the broken body: of tending and mending our sea of islands.... If you believe that you have been called by God for the healing of the world, God is always with us.



Many lowlying islands around Papua New Guinea face more frequent and severe king tides and storm surges. Immediate and severe carbon emission reductions are needed to minimise the impact, as well as strong adaptation to prepare for inevitable sea level, including relocation of communities.

Sand mining in Solosolo, Samoa

The Caritas 2014 report Small yet strong: Voices from Oceania on the environment told how soil and gravel extraction for construction was leaving "large extraction holes" all around Samoa. They were causing erosion, flooding and safety concerns, and were not always officially approved. Villages were sometimes split over the potential to earn income from extraction versus protecting the landscape.

This year, we heard that demand for concrete in construction is driving widespread sand mining in Samoa, often without government consent or the agreement of all landowners or affected villagers. Impacts include flooding, infrastructure damage, water pollution, loss of land, biodiversity and food sources, as well as loss of cultural heritage and traditional knowledge. Karen Anaya, a researcher with Caritas Samoa, reported on the impacts of 25–30 years of sand mining at Solosolo on the northeast of Upolu island:

An anonymous Solosolo resident remembers her grandfather and uncles signed a contract allowing the extraction of sand in their land. They, and many others, were blind to the consequences of the extreme extractions. Her mother, however, understood that sand wouldn't replenish their shores at the same rate it was being removed. She unsuccessfully used her body as a shield and attempted to block the road for the daily threatening trucks. The resident described the scenes, "My father had to lift her from the ground to let the trucks come through." Over the years, her family suffered from increased floods. She saw the beach disappear and her home destroyed. Her family relocated inland and overseas. The land of their ancestors is gone; no trace of the beach is left. Today, a mile-long seawall stands reminding the village of the beaches it once had.

Sand mining stopped in 2007, when the sea wall was built, but resumed in 2013. A bulldozer operates every day near the bridge over the Namo river, and at least five big truckloads are extracted every week. Some residents are concerned about the stability of the bridge as excavations continue near the bridge piers.



Sand extraction near the Namo river mouth.

Sand stabilisation in Aotearoa New Zealand

At remote Mitimiti, on the west coast of the North Island, **Aotearoa New Zealand**, Ana Bercich (Te Tao Maui/Te Hokokeha) told Caritas that more coastal inundation and storm surges were leading to erosion of coastal sand. However, a small Coast Care Group is restoring sand dunes

through plantings, and does a beach clean-up for Sea Week in early March. They are propagating eco-sourced seeds, and planting on the dunes to protect erosion-prone areas and help regenerate species, their taonga (treasures), to sustainable numbers.

Ana's local marae (meeting place), Matihetihe, is situated on a flood plain very near the coast, and is susceptible to flooding. School closures due to floods seriously impact staff and students both in Mitimiti and Panguru. There is debate among marae members as to whether they need to allow for rising seas, but Ana believes they need to future-proof the marae buildings.



Matihetihe marae on lowlyling land near the coast at Mitimiti.

Ana Bercich planting pīngao at Mitimiti.

Ana says: We have an extension being built onto our whare tupuna (ancestral meeting house). Plans for the extension would incorporate sections rather than one complete building so it can be moved to higher ground eventually. Existing buildings with

the exception of the whare kai (kitchen) and ablution block can be moved if required. Our whare kai is in dire need of a makeover and it is my hope that when this

"We must act and respond to the changes happening in our environment."

ANA BERCICH, MITIMITI, AOTEAROA NEW ZEALAND

happens that everything will be designed to be dismantled and moved....We must act and respond to the changes happening in our environment.

Raising hopes in Popua, Tonga

Caritas also found stories of hope in human endeavour in the face of coastal challenges around Oceania. We have followed the story of Katalina Vea and her family in low-lying Popua in Tonga since 2014. They have raised their land and their hopes through do-it-yourself land reclamations and a new house built through earnings from a son working on a container ship, as well as assistance from an aid agency. This has allowed them to move from their corrugated iron shack of four years ago.

Their house now sits about two metres above the sea level. They have two vegetable gardens and, after lobbying their local Member of Parliament, have a reticulated water supply, though they still need to boil the water for safety. "They're not sitting around waiting for support," said Amelia Ma'afu, Programmes Officer with Caritas Tonga.

Caritas Tonga continues to work with the women of Popua to improve livelihoods and outcomes for this community on the margins of Nuku'alofa, Tonga's capital.





Katalina with newly completed house in 2016.





Expanded and completed three-bedroom home in 2018. Katalina and her husband Koli outside the same door from 2016. Location of previous home is to the left of the new house.



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

LOW MODERATE HIGH SEVERE EXTREME

Conclusion

The Caritas assessment for coastal issues for 2018 is **high**. We are seeing a continuation of issues from previous years of long-term gradual encroachment/erosion of coastal lands in a number of places, and higher king tides or destructive storm surges. The large-scale extreme events, for example cyclone Gita in Tonga and Samoa, did not have large coastal impacts as they did not exacerbate the current level of coastal flooding. However, for many places, such as the Carteret Islands, the situation is critical and people's lives are at risk. The long-term outlook for some coastal parts of Oceania is dangerous, and there are very mixed responses around the region.

Recommendations

- The global community must create legal protections for people who are forced to relocate internally or across borders because of climate change or other environmental degradation.
- National, regional and local level governments need to identify their populations most at risk from sea level rise. From that information, they need to identify options, then develop strategies and solutions with local communities. Greater co-ordination is needed between all levels of government.
- National, regional and local level governments, supported by regional bodies, must provide for much increased adaptation action such as:
 - Further research and advice on disaster preparedness for king tides;
 - Early warning systems for tides and community based tidal measurement systems for particular vulnerable areas;
 - Assistance with adaptation measures, eg feasibility assessments for appropriate protective measures, such as sea-walls, rock gabion, mangrove planting, etc.
- National governments and external donors to provide relocation assistance for coastal dwellers who are forced to move inland or relocate to other locations.
- We can all become aware of the current impact and future threat of sea level rise on the most vulnerable communities in our localities and countries, and call for appropriate responses from local and central governments.





CARITAS INDICATOR

Our assessment of the impact of extreme weather in Oceania *Read more on page 31*

2 Extreme weather

It is the poor who suffer most from the ravages of global warming, with increasing disruption in the agricultural sector, water insecurity, and exposure to severe weather events. – Pope Francis to Meeting for Executives in the Oil and Natural Gas Sectors, and other Energy Related Businesses, 9 June 2018

A series of cyclones and other severe storm events brought flooding and destruction to Oceania, particularly Tonga, Samoa, Fiji and parts of Aotearoa New Zealand. Preparation and co-ordination proved key in minimising greater loss of life in Tonga, as did resilient housing, both recent and from 24 years ago. Learnings from past disasters is being applied at Tutu Rural Training Centre in Fiji after cyclone Winston and in the highlands of Papua New Guinea after the El Niño frosts of 2015/2016.

Dicing with death in the Carterets

"The weather is very unpredictable and irregular," said Ursula Rakova, Executive Director of Tulele Peisa, a community organisation formed to relocate the threatened Carteret Islands population to the mainland in the Autonomous Region of Bougainville, **Papua New Guinea**. "There are more storms, and they are happening almost all year round. This makes travelling between the islands and mainland more dangerous. Last year, we lost a boat with 10 people and electrical equipment on board. We have lost four boats in recent years."

There has been a mutual exchange of food between islands and mainland, with the mainland farmers keeping the islands supplied with root crops and vegetables. But the combined effects of weather and food shortages on the islands creates a double bind: people travel more frequently to bring in food and other supplies to the island, but these trips are becoming more hazardous because of more frequent and unpredictable storms.

"The weather is very unpredictable and irregular."

Regional round-up

Several tropical cyclones had significant impact on the Pacific in the 2017-2018 Tropical Cyclone Season. Gita, Hola and Keni were particularly severe. Cyclone Gita impacted the Pacific as a whole with Samoa and Tonga most devasted, but it also caused large-scale flooding in Fiji. Josie and Keni caused massive flooding in Fiji, and coupled with other extreme weather events in April caused eight deaths. Ocyclone Hola in Vanuatu was reported to have caused one death on Pentecost Island and damaged many buildings and crops. Hola also severely impacted New Caledonia and Aotearoa New Zealand.

A series of post-cyclone storms and intense rain events caused a range of flooding issues in New Zealand, including forestry slash (cuttings from production forest pine trees) in swollen rivers damaging bridges and farmland.¹²

¹⁰ http://floodlist.com/australia/fiji-tropical-cyclone-keni-april-2018

¹¹ https://www.radionz.co.nz/international/pacific-news/352168/one-killed-and-two-injured-by-hola-in-vanuatu

¹² https://www.stuff.co.nz/national/104486938/Tolaga-Bay-cleanup-could-cost-10m-but-who-should-pay

Table: Impact of severe weather in Oceania July 2017 - June 2018

Date	Event	Location	Deaths	People affected	Other impacts
July 2017 ¹	Storms and flooding	New Zealand – widespread	0	183	Est US \$20m damage
February 2018 ¹	Cyclone Gita	Samoa	0	0	
March 2018 ²	Cyclone Hola	Vanuatu	2	2 injuries	
February 2018 ¹	Cyclone Gita	Tonga	1	87,000	
April 2018 ³	Cyclone Josie	Fiji	6	2300 displaced	
April 2018 ⁴	Heavy rain and flooding (depression)	Fiji	2		
April 2018 ⁴	Cyclone Keni	Fiji		8,935 displaced	208 buildings destroyed
May 2018 ⁵	Heavy rain and flooding	Tasmania & Victoria, Australia		4 rescued;	14,000 homes without power
June 2018 ⁶	Storm and flooding	Gisborne & Hawkes Bay, New Zealand		100 displaced	

Sources: Caritas has prepared this table from various sources as accurately as possible. The main source of data for each event is listed below.

- 1 EM-DAT: The Emergency Events Database Universite catholique de Louvain (UCL) CRED, D. Guha-Sapir www.emdat.be, Brussels, Belgium.
- 2 https://www.radionz.co.nz/international/pacific-news/352168/one-killed-and-two-injured-by-hola-in-vanuatu
- 3 http://floodlist.com/australia/fiji-pm-warns-of-constant-threat-extreme-weather-events-storm-josie-april-2018
- 4 http://floodlist.com/australia/fiji-tropical-cyclone-keni-april-2018
- 5 http://floodlist.com/australia/australia-flash-floods-in-hobart-after-129-mm-of-rain-in-24-hours
- http://floodlist.com/australia/new-zealand-floods-hit-gisborne-and-hawkes-bay-june-2018

Framework for Resilient Development in the Pacific (FRDP)

The guiding light for developing resilience to climate change and disasters in the Pacific is the Framework for Resilient Development in the Pacific, which was approved by the Pacific Islands Forum in September 2016. It aims to ensure all development takes place with climate change and resilience to disasters in mind. Priority actions have been identified to address vulnerability to climate change and disasters and promote resilience. It provides guidance to national governments, the private sector, civil society, Pacific communities, regional organisations, and development agencies.

As content was being finalised for this report, in Australia, all of the state of New South Wales was officially in drought or drought affected, and about 60 percent of Queensland was in drought.¹³ One quarter of New South Wales was classed as being in "intense drought", while the state government had increased drought assistance funding to more than AUD1 billion.

Flooding vulnerabilities in Apia, Samoa

When Cyclone Gita hit **Samoa** in February 2018, it damaged more than 200 hectares of vegetation, mostly along the Vaisigano River. The current drainage system is not capable of draining high volumes of water without flooding populated areas. Recent vegetative losses around Apia from urban development have also added to the flooding danger. Data from Samoa's Ministry of Natural Resources and the Environment (MNRE) shows a 17 percent decrease in vegetation around the Vaisigano catchment between 2015 and 2018, and a 27 percent decrease of vegetation areas in Apia due to town developments.

Work has begun on flood protection and early warning systems for the Vaisigano River catchment of Apia, Samoa, under funding from the Green Climate Fund, as reported in *Turning the tide*¹⁴ last year.

Malia Masoe and her family are among the 27,000 people who live in the catchment and are highly vulnerable to floods. "When it rains for just one hour, water will come into the house and it damages our floor, furniture, and belongings," she told Caritas. "It is dirty water that brings diseases and smells to our house.... We used to have a garden, but the floods happen so often that everything has been lost...when the water leaves and the water dries, there are heaps of rubbish in our compound."

Debris such as rocks and logs also come with the floods, which compromise the food security, health, income generation, property, and safety of people who have populated the area for generations and who have no alternatives or resources for relocation.

"We used to have a garden, but the floods happen so often that everything has been lost."

MALIA MASOE, APIA, SAMOA



Malia with her son, daughter in law, and granddaughter.



Flood protection near Malia's home. The Green Climate Fund is supporting work to benefit 27,000 people living in the flood-prone Vaisigano river catchment in Apia, Samoa.

¹³ http://www.abc.net.au/news/2018-08-08/nsw-government-says-entire-state-is-now-in-drought/10088628

¹⁴ Caritas State of the Environment for Oceania 2017, p 50.

Building resilience in Tonga pays off

Gita, the most powerful cyclone in **Tonga**'s recorded memory, hit the main island of Tongatapu on 12-13 February 2018. It destroyed homes and severely damaged infrastructure. One person died and 80 percent of the population was affected with over 4,500 houses damaged or destroyed. By mid-March, 271 houses were assessed as totally destroyed, and more than a thousand badly damaged.¹⁵

A co-ordinated response by government, civil society and humanitarian agencies ensured that more lives were not lost. It also showed the value of emergency preparedness, training and coordination, and a nationally led response supported by external agencies.

Prepositioned supplies ensured a quick response. "We were able to very quickly mobilise to distribute urgently needed supplies," said Amelia Ma'afu of Caritas Tonga. "Things like tarpaulins,

water containers and hygiene kits in store ready for an emergency. We were able to get these out to those most in need in a short time."

Caritas and Habitat for Humanity, with support from the Tongan and New Zealand governments, implemented a 'Support to Self-Recovery Programme' to provide timber, tools, equipment and training so people can restore their own houses to better withstand stronger cyclones. The South Pacific is expecting to see fewer but stronger cyclones overall with climate change.16



Caritas Tonga worked with the Tongan National Youth Council to distribute food, water, and other supplies immediately after Cyclone Gita.

Flexible solar at Nawi, Fiji

Adaptability is reflected at Mabuco School in Nawi, Fiji. Solar panels have been installed that are separate from the building. If a storm threatens, they can be guickly unplugged, unclipped and stored away. They were installed as part of rehabilitation of the school after Cyclone Winston in 2016. The panels provide electricity for the school, and also for outside lights for the community.



Left to right: Murray Shearer (Caritas Aotearoa New Zealand), Mrs Koroi (Mabuco school principal), Fr Petero Matairatu (Tutu Rural Training Centre).

¹⁵ National Disaster Management Office – visit 9 March 2018.

¹⁶ NIWA, "Intensity of cyclones predicted to increase", 5 October 2017, at www.niwa.co.nz/news/intensity-of-cyclones-predicted-to-increase

Sturdy homes provide shelter from storm

In 2017, Caritas and Habitat for Humanity built eight pilot homes for families in different parts of the lowlying Popua area of Nuku'alofa, **Tonga**. Moana and Uatesoni Lavemai were among them, and felt confident enough about it to stay in the house during the storm. They invited other family members to join them. Only their eldest daughter and her family did so, while the others took refuge in the local emergency shelter. But the Lavemais house came through unscathed. "You should listen to mother," Moana said about her children.



When the wind was strongest, the house shook, but they always felt that structurally it was "very strong", resting on treated timber piles. Vaesoni had built their previous house himself in 1994, following building advice at the time for cyclone-strength houses, and that house also survived Gita well. It was just next door and home to one of his sons now. The Lavemais were also a model of preparedness with a lantern, battery-powered radio and emergency water rations.



Moana and Uatesoni Lavemai (above), safe inside their new home (top).

Growing resilience in Fiji and Papua New Guinea

In Fiji, the Tutu Rural Training Centre is well-prepared for extreme weather – having been tested in Tropical Cyclone Winston in 2016. Their disaster-preparedness plan includes large quantities of stored drinking water, as well as shipping containers to accommodate vital roots, seeds, and shoots

and seedlings of commonly used food crop varieties. This enables rapid replanting of crops in the wake of disasters such as cyclones or storms.

Tutu's organisational preparedness flows into the lives and homes of the individuals and couples they train in organic and resilient agricultural techniques. Tutu has a truly integral ecology approach to its work, emphasising human development as well as technical skills, and the ripples go far beyond Tutu.

Ma (Margaret) and Eric completed Tutu's married couples course in 1993. They highlight the importance of quality communication following a natural disaster, and the need to be better prepared than before Winston, such as with stored water, food and batteries.

"We try our best to make the people self-reliant in future disasters."

SR JOHN MARY, WABAG DIOCESE, PAPUA NEW GUINEA

Ma and Eric's place became somewhat of a hub for other locals following Winston, as it was made of concrete. The couple also experienced the resilience of a close-knit community that is made up of diverse ethnic backgrounds and religions (Christian, Hindu and Muslim are all represented in their area) - and the importance of social bridges. Such bridges have enabled residents to keep each other safe, and the community intact through times of trauma.



Distributing seed potatoes to frost-affected people in Kandep district, Mang parish, Wabag Diocese.

Long-term resilience is also proving effective in Wabag Diocese, Enga Province, Papua New Guinea, where the severe El Niño of 2015/2016¹⁷ affected food and water supplies for more than 70,000 people.

Since then, with help from Caritas Australia and other agencies, the diocese has distributed 253 tanks to gather rainwater for drinking. "Now people have pure drinking water in the frost-affected and non-affected areas in Enga," said Sr John Mary, FIHM, Office secretary and project in charge, Catholic Diocese of Wabag, "water prone diseases are reduced among the people."

They are also preparing the people for the future, through distribution of frost-resistant seeds for sweet potato vine, Irish potato and

corn seeds to the frost-affected people. "Every time people harvest, they share the seeds with other communities and families within their districts," she said. "In future we will be giving more trainings to the people in preparedness, capacity building. We try our best to make the people self-reliant in future disasters."

¹⁷ See Caritas State of the Environment for Oceania reports 2015, 2016.



Our assessment of the impact of extreme weather in Oceania

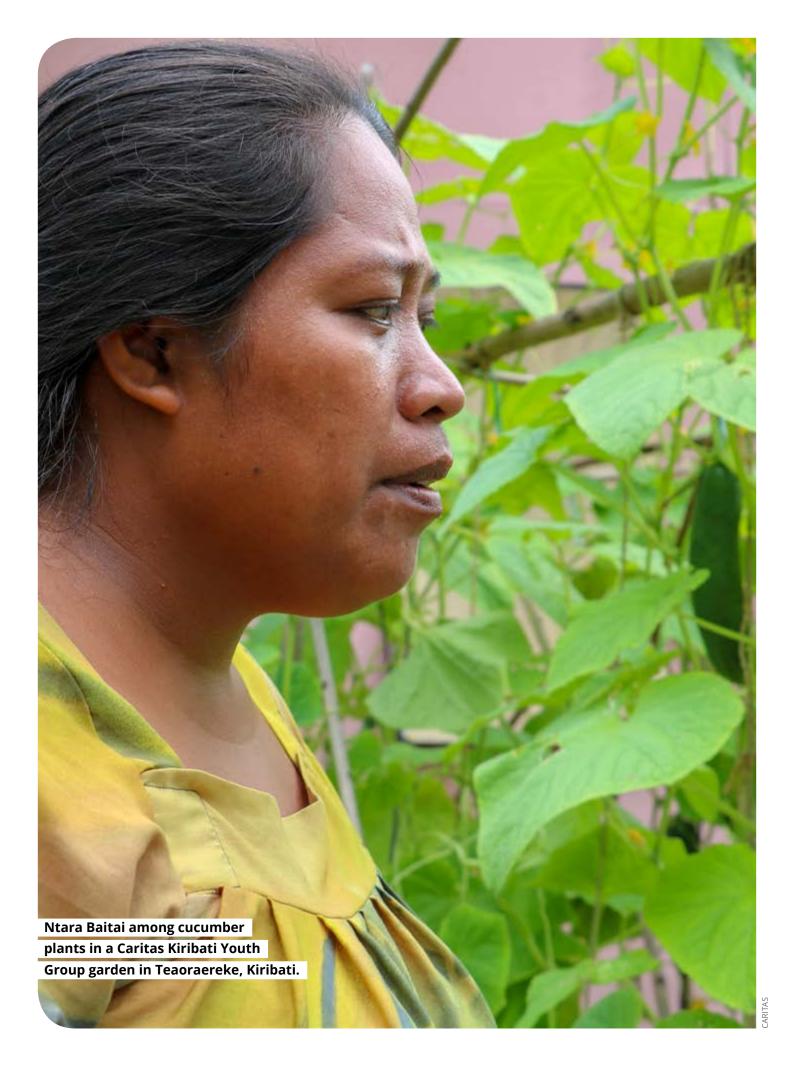
LOW MODERATE HIGH SEVERE EXTREME

Conclusion

The Caritas assessment of the overall impact on people of extreme weather events (for example: drought, heavy rain, floods, extreme winds, frosts) for 2017/2018 is moderate. We saw cyclones severely affecting Tonga, Fiji, and Samoa, and a string of severe storms in Aotearoa New Zealand. However, the impact on people in Tonga was less than it would have been without strong disaster preparedness and co-ordination. Our assessment is based on impact on people, so it reflects that resilience measures minimised human harm. Increasing numbers of severe storms in New Zealand are causing more impact; but most places in New Zealand are more able to cope.

Recommendations

- Oceania governments need to all endorse and fully implement the Framework for Resilient Development in the Pacific (FRDP), and monitor and evaluate its progress in preparing communities for greater impacts of climate change.
- Oceania governments and regional bodies should strengthen regional co-ordination mechanisms for humanitarian response (such as the Pacific Humanitarian Partnership and sector cluster groups) to maximise regional support, and also improve the integration of communitybased groups into both planning and response.
- Government and non-government agencies need to build resilience and preparedness for extreme weather events through programmes focusing on food security and small income generating projects.
- Local, regional and central government need to support formation of appropriate local, village and community-level groups that are equipped and resourced to provide immediate practical assistance in case of emergency, reflecting the principle of subsidiarity - that decisions are made at the most appropriate level.





CARITAS INDICATOR

Caritas assessment of environmental impacts affecting access to food and water Read more on page 39

3 Food and water

It is not right to sate that 'thirst' [for energy] by adding to other people's physical thirst for water, their poverty or their social exclusion.... The need to expand spaces for human activities cannot be met in ways that would seriously endanger our own existence or that of other living species on earth. – Pope Francis to Meeting for Executives in the Oil and Natural Gas Sectors, and other Energy Related Businesses, 9 June 2018

Sea level rise is impacting seafood sources on the Carteret Islands and mainland Australia, while coastal sandmining in Samoa impacts local fish supplies. Logging and land grabs are impacting food and water sources in Papua New Guinea, but legal challenges have made some advances. In West Papua in Indonesia, the Catholic Church is monitoring and challenging concession areas for mining and palm oil plantations. In Aotearoa New Zealand chemicals and climate combine to choke off a local eel supply; while in Fiji, the Tutu Agricultural Training Centre is using an integrated approach to water and farming practices.

Coastal changes affecting food supplies

Two elderly people died from lack of nutrition during the year on the Carteret Islands offshore from the Autonomous Region of Bougainville in **Papua New Guinea**, according to Ursula Rakova. She is Executive Director for Caritas partner Tulele Peisa which is managing the long-term migration of Carteret Islanders from their home atolls to mainland Bougainville. People on the islands rely on fish and other seafood; there is no starch available, as traditional root crops no longer grow in land that has become too salty through sea level rise. However, food supplies are good for those who have relocated to the mainland, and each home has a 9,000-litre rainwater tank. Stored water carried them through a longer-than-normal two-month dry season.

Coastal changes from sea level rise are also affecting food supplies in **Australia**, where Lauren Bowyer is a Community Development Officer with Caritas partner the Aboriginal Carbon Fund in northern Queensland. Raine Island, offshore from the northern tip of Queensland (Cape York), is the world's largest green turtle rookery, but sea level rise means fewer turtles are nesting on the declining beach space. It's affecting much of the eastern side of the Cape York Peninsula, including Lauren's own local area. "Turtles are a food source for traditional owners up here," Lauren told Caritas, "so if there's not enough breeding, there's not enough there for those purposes, and it's not only a food source, but in some areas the

"When the fish were gone I knew nothing else to do or where to go"

SAUTUPE IOSUA, SOLOSOLO, SAMOA

act of hunting is a rite of passage into manhood for the young boys, to be taught to hunt properly and to do it in the correct way that respects the animal. So that's another part of the culture that could be potentially lost, due to climate change."

Sandmining at Solosolo, **Samoa** is impacting fish supplies as well as altering coastlines (see page 20). Sautupe Alailefue Iosua is a 54-year-old fisherman who has seen sand mining going on at Solosolo for the last 30 years. He belongs to a family of fishermen whose sustenance completely depended on the fish they caught. He remembers going spearfishing with his father almost every morning and selling the day's

catch on the road and in the capital, Apia. They would eat what was left and lived comfortably with what they had.

Over time, they started to notice a substantial decline in fish population. Sautupe recognised a link between the sand mining activities and the lack of fish. About the changes he said, "In that time we had enough sand...and a lot of fish...now the numbers are short." This decline continued, and has been a challenge for rural families to this day.

"Fishing was the only source of my earnings. Companies and people take out the sand for many other purposes and they do not care about how it is affecting our natural environment," he said. "When the fish were gone I knew nothing else to do or where to go; so now I just work in the plantation for eating and sometimes get small fish."

Iosua now fears for the small amount of fish left in the area.



Women from the Yei tribe in Po Village, Merauke in Indonesia prepare sago and barramundi for a feast. Traditional foods of sago and fish caught in streams are threatened by industrialised agriculture through the MIFEE project.

Extractions damaging land and people

Since the first Caritas environment report, 18 we have reported on the damaging effects of logging of indigenous forests - often to be replaced by oil palm, in both Papua New Guinea and across the border in the West Papua region of Indonesia. Traditional local food sources are often lost, and local rivers degraded through increased sediment, chemical pollutants and human waste. Stories from Merauke in West Papua and Pomio in Papua New Guinea illustrate the issues, and show how the Catholic Church is standing with local communities.

Energy takes priority over food

Crops to feed energy rather than people have taken priority at the Merauke Integrated Food and Energy Estate (MIFEE) in the Papua Province of Indonesia (one of two Indonesian provinces on the New Guinea island). Indigenous Papuans have lost access to local food sources and clean water. "No actual food has been planted as part of MIFEE," said Caritas Merauke worker Harry Woersok. Palm oil and sugar cane for biofuels are easier to grow than rice which has a higher chance of crop failure.

Members of the Malind Duf tribe sold land to MIFEE investors, and now have to rent land they once owned if they want to grow their own food. "The local people used to be the owner of the land, now they are borrowers," said Recky Samkakai of Wambi village. Some are making alternative income through digging and selling sand from the coastal areas to the construction companies that are building houses for migrants from other parts of Indonesia.

"The local people used to be the owner of the land, now they are borrowers"

RECKY SAMKAKAI, WAMBI VILLAGE, **WEST PAPUA**

¹⁸ Caritas Aotearoa New Zealand, 2014: Small yet strong: Voices from Oceania on the Environment.

To monitor the land acquisitions, in February 2018, the Catholic Church in Papua Province joined human rights groups to launch the matapapua.org website.¹⁹ This site maps territories and locations that have become concession areas for mining and palm plantations.

Father Anselmus Amo, head of Merauke Archdiocese's Justice, Peace and Integrity of Creation Commission, said they want the government to recognise Indigenous people's land. "Their food and medicinal plants, as well as animals and plants that they normally consume, are...threatened," he said. "Water is also polluted. The big floods are now threatening because the forest is gone."

Mining concessions occupy an area of 9 million hectares in the Province, followed by logging concessions at 7 million hectares and plantations at 2.1 million hectares. The total area of Papua Province is 31.9 million hectares.

Making headway against logging destruction in Papua New Guinea

In **Papua New Guinea**, Caritas has been following efforts by the Rabaul Archdiocese, assisted by Caritas volunteer Doug Tennent, to help the people of Pomio regain access to land and water resources on their own lands. Unjust land leases for forestry or oil palm plantations are common throughout Papua New Guinea. In Pomio, the Archdiocese is seeking justice for the people against forestry company Gilford Ltd, a wholly owned subsidiary of Malaysian-based Rimbunan Hijau – the largest logging company in Papua New Guinea. The Archdiocese eventually obtained mediation in March 2018 between Gilford and four landowner companies (representing local landowners). The mediation result on 15 May provided for a new agreement to be negotiated on one of the sites where no development has yet occurred, but this time the landowner company will lead development proposals. The other landowner companies will renegotiate current agreements with Gilford in 2020. This gives them time to address governance issues, such as fair and proper representation of family groups, and issues of management and transparency.

The illegal trade in PNG timber

Since 2011, management of more than 12 percent of customary-owned land in Papua New Guinea has effectively been given over to transnational companies for logging and oil palm production under Special Agriculture and Business Leases (SABLs). The leases have often been associated with human rights and environmental abuses.²⁰

Despite a government inquiry in 2013 finding that most SABLs violated land rights laws; and the government saying in recent years that it would review and cancel illegal leases,²¹ logs continue to be cut down and exported through the leases. Clearfelled land is often turned over into oil palm production. Most rainforest logs are exported to China to be turned into products for Chinese and overseas markets. Some importing countries are contravening their own laws on illegal timber.²²

¹⁹ https://www.ucanews.com/news/church-in-indonesia-maps-out-future-for-indigenous-papuans/81453

²⁰ Stained Trade, Global Witness, August 2017.

²¹ http://www.abc.net.au/news/2017-08-03/pngs-illegal-logging-exports-continue/8770756; http://www.abc.net.au/news/2017-08-31/png-to-shut-down-illegal-logging-leases/8858390.

²² Stained Trade, Global Witness, August 2017.

Emergencies highlight long-term water vulnerabilities

A 7.5 magnitude earthquake that hit central **Papua New Guinea** in March 2018 highlighted the vulnerability of that country to major events affecting basic food and drinking water supplies. According to a Caritas situation report on 28 March, the earthquake destroyed water tanks and contaminated many creeks, wells and rivers used by people in the affected region for drinking water. Members from one of the communities most affected, Levani in Hela Province, reported water from some creeks turned oily after the earthquake, and they left it to settle in containers before drinking.

However, overall, Papua New Guinea has 60 percent of people living without access to safe water.²³ A typical situation is Bitokara Catholic Parish and surrounding communities in Kimbe Diocese on New Britain Island, Papua New Guinea. Women often go four times a day to get water at freshwater springs that exit into the sea, and can wait up to 10 hours during the day for the tide to recede. The water is sometimes contaminated and it is dangerous for children and women to get water. Women in the village are desperate for a safer supply. Caritas Aotearoa New Zealand is working on a project to supply bore water pumped to tanks for 3,000 people with funding from New Zealand's Ministry of Foreign Affairs and Trade.

Caritas

Fakei Latu and her baby next to a water tank installed outside her house. The tank serves 19 people around low lying Pa Tangata near Nuku'alofa, Tonga.

Emergency provision of water in emergencies needs to be swift and adaptable - and take long-term sustainability into account. In the aftermath of Cyclone Gita, Caritas Tonga installed six 5,000-litre tanks at three water refill stations at the Ma'ufanga, Pea and Kolonga communities on Nuku'alofa to provide safe drinking water.

The tanks collect filtered rainwater from adjacent buildings. The water is safe to drink and used only for drinking and cooking. The tanks can be readily relocated to other sites for future emergencies.

Caritas also distributed 600 20-litre plastic water containers to families with damaged homes in Tonga. These plastic containers are refillable, and less likely to just be thrown away than small plastic water bottles which can contaminate the environment.

²³ World Bank, 18 November 2016, at blogs.worldbank.org/eastasiapacific/papua-new-guinea-improving-water-and-sanitation-land-unexpected

Chemicals in mountain streams in Taranaki choke life

In our first environment report,²⁴ Caritas shared how farm drainage was impacting habitat for traditional Māori food sources for the Parihaka community, a Caritas partner in Taranaki, **Aotearoa New Zealand**. This year, Tihikura Hohaia told us that dry spells followed by rain killed off tuna (eels) in the Waitekaure and other mountain streams flowing down the slopes of Taranaki – the dormant volcano that dominates the region.

"What I saw at Waitekaure," said Tihikura, "was tuna trapped in turpid pools of black oily water... you could actually see the slick, but you couldn't see through the water, it was all black." He believes tuna were choking and dying on farm chemicals which were concentrating in the pools due to low water flows. He said there was a limp response from local authorities to address the issue.

"I would like to see our rights as...freshwater farmers respected as much as those who farm anything else. It just so happens that I don't farm dairy cows."

Much of the farmland around Parihaka was confiscated by the government in the 1880s to punish the Parihaka community for its resistance to land sales.

"From that time to this, our rights as fresh water farmers have been ignored," said Tihikura. "Our rights...as farmers of tuna, piharau (lamprey), whitebait and of course the resource of harakeke, which is the very foundation of who we are."

Tihikura uses harakeke (flax) in the garden and for weaving – it connects him to his ancestors. "My father taught me to use harakeke, and my mother...all parts of harakeke are valuable, including what it does for Papatūānuku (the earth), for soaking up runoff. So coming back to the issue – those manga (streams) should have a buffer of harakeke each side, and rākau (trees) back further, because harakeke is known for its density, and it can draw down that nitrogen runoff... if farmers planted more of it – as tangata whenua we know how to work this resource – we could be consulted; we can work in with farmers in that regard, and there can be employment."



minkura monaia.

²⁴ Caritas Aotearoa New Zealand, 2014: Small yet strong: Voices from Oceania on the Environment, p 25.

Living and growing sustainably at Tutu, Fiji



The dam at Tutu Rural Training Centre, Fiji.

A new four-inch pipe from the reservoir provides sufficient pressure to irrigate large tracts of land that had become increasingly dry due to climate change. This irrigation has reduced dependency on imported plant material for if or when a major cyclone strikes.



Aerator at Tutu releases oxygen into a nutrient-rich substance to produce compost tea.

Tutu's food processing unit produces food for consumption by trainees, as well as products for sale at nearby markets, schools and at community events. All items are produced from food crops grown at Tutu, in a self-sustaining continuum to reduce reliance on imported food as well as reduce waste.

The Tutu Rural Training Centre, a Caritas partner on Taveuni Island, Fiji, uses water from a mountain stream for drinking, irrigation and hydro-electric generation. In the 1970s, a dam (left) was built at Tutu that feeds a 340,000-litre covered reservoir for water needs. The water serves both Tutu, and seven villages south of the Centre.



High-pressure irrigation guns in use at Tutu.

Tutu uses organic farming approaches, such as growing mucuna bean to fix nitrogen in the soil. Crops are also nourished with a compost tea made from seaweed, animal waste, and crop waste, combined with super-aerated water in a tightly controlled process.



Slicing banana grown at Tutu (left) in preparation for cooking.



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

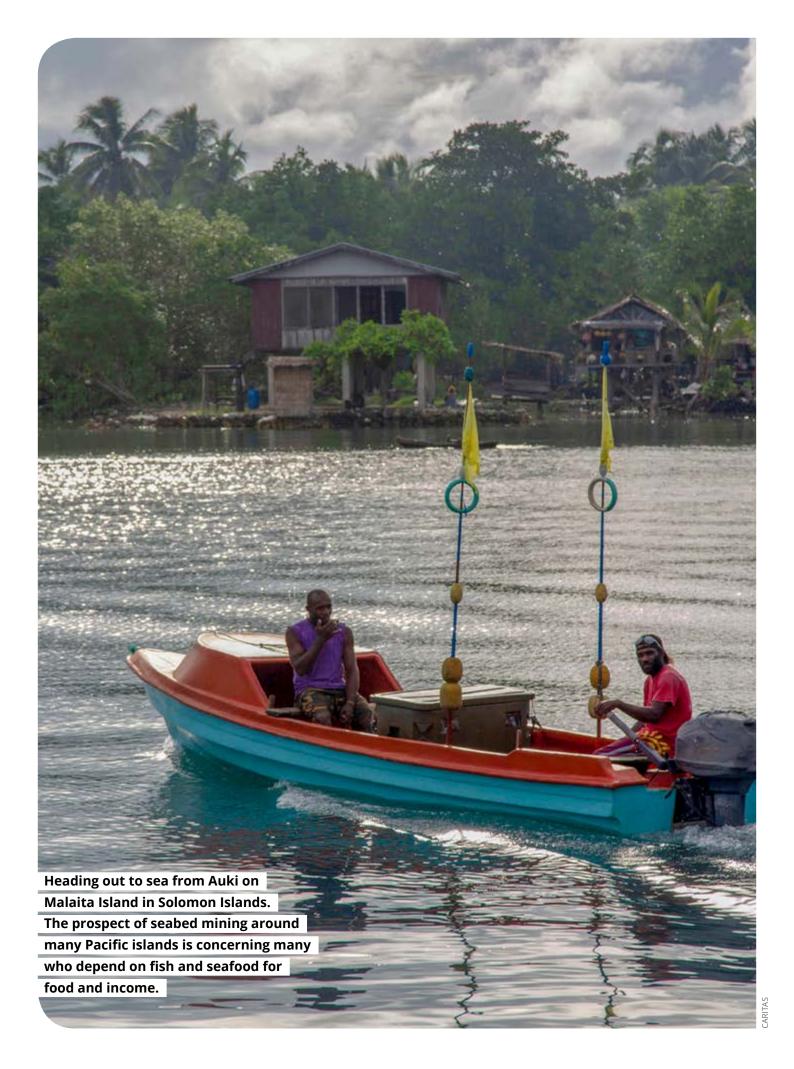
LOW MODERATE HIGH SEVERE EXTREME

Conclusion

The Caritas assessment of the overall impact on people of environmental factors affecting access to safe and healthy, locally sourced food and water for 2017/2018 is **high**. Extractive or intensive land uses such as forestry, oil palm and mining are impacting local food sources. Major disasters such as Cyclone Gita in Tonga and Samoa, and the Papua New Guinea earthquake highlight the vulnerability of many Pacific Islands' food and water sources and the need to provide a range of options as well as emergency supplies. The Carteret Islanders story is an 'early warning' to all of the threat posed to food supplies by climate change. However, the Tutu Rural Training Centre in Fiji shows how an integrated ecological approach, using technology in an appropriate way, can benefit not just the centre, but the surrounding community – and be more resilient to disasters.

Recommendations

- Oceania governments must take immediate steps to implement the United Nations' Sustainable Development Goals; in particular, Goals 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture), 6 (Ensure availability and sustainable management of water and sanitation for all), and 14 (Conserve and sustainably use the oceans, seas, and marine resources for sustainable development).
- Oceania Governments and community organisations must continue to work together
 to enhance food and water security for the most vulnerable, including encouragement of
 agricultural practices and crops that are resilient to extreme weather events; forward planning
 to preposition supplies and identify vulnerable populations; and effective distribution of food
 and water aid in times of emergency.
- 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 climateresilient investments in agriculture, fisheries and water that directly assist Pacific communities to access sustainable local sources of food and water.
- Governments, farmers, corporations and individuals should adopt practices that avoid
 or minimise the use of artificial chemicals and fertilisers that are polluting our environment
 and entering the ocean; and also adopt practices that avoid extractions that disrupt marine
 ecosystems.
- We can all become aware of where our food and water come from, and associated impacts
 of production and sourcing. We may need to take steps to grow more of our own food, and
 support locally sourced food, rather than depend on imported foods.





CARITAS INDICATOR

Our assessment of the impact on people and communities of offshore mining and drilling in Oceania Read more on page 47

4 Offshore mining and drilling

The growing 'new voices' of individuals and entire communities speaking out against deepsea mining echo something of those who have for years been expressing grave concerns in regard to deforestation when relentless exploitation of resources, with little regard for negative ecological consequences and peoples' welfare, is left unregulated or unmeasured. - Federation of Catholic Bishops Conferences of Oceania, 16 April 2018

The Nautilus deep sea mining project in Papua New Guinea is subject to further delay, while community opposition grows. Caritas welcomes the New Zealand government stopping further offshore oil exploration licences being issued. But licences to prospect for seabed minerals continue to be issued. A new seabed mining community resource is launched for the Pacific, while Caritas joins an international appeal to the International Seabed Authority to stop issuing contracts for exploration until the real need for deep sea mining is addressed.

Transnational companies are lining up to trash the ocean floor looking for precious metals, even while our 'throwaway' society is trashing used mobile phones and electronic devices at alarming rates. Up to 90 percent of the world's electronic waste is illegally traded or dumped and less than 16 percent of global e-waste volumes are estimated to be recycled in the formal sector.²⁵ Mobile phones can contain gold, silver, and rare earth metals. There is much potential to increase resource efficiency, and focus instead on activities such as "urban mining" instead of deep-sea mining, and the purpose to which we are putting electronic devices.

Regional round-up

Canadian-based Nautilus Minerals is one of various transnational companies with a keen interest in minerals on the Pacific seabed, in both international and territorial waters. Their joint venture with the Papua New Guinea government to open the world's first commercial deep seabed mine (Solwara 1) was initially intended to begin in 2011. The start date for the project in the Bismarck Sea of **Papua New Guinea** has been progressively pushed back, now to late 2019, due to financial and technical difficulties. In January 2018, a former Attorney-General and Chief Justice for Papua New Guinea, Sr Arnold Amet called on the government to pull out of the joint venture and not renew licences for Solwara 1.²⁶

In November 2017, Caritas met Papua New Guinea seabed mining activist Lucielle Paru, who told us that 'wet testing' of Nautilus Minerals' seabed mining equipment took place in a specially constructed pond on her ancestral land – itself under dispute with the Papua New Guinea government. Apart from the fact that it desecrated land where her forebears were buried, Lucielle was sceptical about how effectively shallow water could test equipment intended to be used 1,600 metres below sea level.

²⁵ Joint NGO call on the International Seabed Authority: Protect the marine environment from harm! Submission on the ISA's Draft Strategic Plan, 27 April 2018. Available at: http://www.seas-at-risk.org/images/pdf/publications/ISAstrategy-consultation-2July.pdf

²⁶ Richard Page, January 2018: An overview of Chinese policy, activity and strategic interests relating to deep sea mining in the Pacific region. Deep Sea Mining Campaign.

Elsewhere in the Pacific, the Catholic Bishop of Tarawa and Nauru, Paul Mea, has continued to lobby the Kiribati government on proposed seabed mining legislation. The Council of Churches in Kiribati has made it clear it opposes deep-sea mining for Kiribati.

In Vanuatu in October 2017, a coalition of civil society groups called on their government to ban seabed mining activities in Vanuatu waters. The call came after it was revealed that more than

145 seabed mining exploration licences from 2009 to 2013 were issued without proper procedural permission and consultation. The coalition included the Vanuatu Council of Churches, the National Council of Women, and the Vanuatu National Council of Youth.²⁷

Strong opinions for and against seabed mining in Cook Islands waters were generated when the country was visited by representatives from Ocean Minerals Limited in March 2018.²⁸ The company was visiting to seek relevant permissions to begin environmental data collection and research, after being



A fish market in Tonga. Impact on fish and seafood supplies is one of the issues that most concerns Pacific peoples about seabed mining.

granted exclusive rights in 2016 to apply for prospecting and exploration licences for an area of around 23,000 square kilometres of Cook Islands seabed. The company is particularly interested in harvesting polymetallic nodules, including cobalt and titanium deposits, and estimates that actual mining would be at least eight years away.²⁹



Sam and Filiti Pa'apa'a fishing at Solosolo, Upolu, Samoa. Fishing is a vital source of recreation, food and livelihoods for people all around Oceania.

- The National aka The Loggers Times, October 26, 2017 as reported at: https://ramumine.wordpress.com/2017/10/27/vanuatu-civil-groups-against-seabed-mining-challenge-govt/
- 28 Cook Islands News, 9 April 2018: "Strong opinions on deep-sea mining in Cook Islands", at: https://ramumine.wordpress.com/2018/04/09/strong-opinions-on-deep-sea-mining-in-cook-islands/
- Cook Islands News, 28 March, 2018: "Cook Islands one step closer to mining sea floor", at: https://ramumine.wordpress.com/2018/03/30/cook-islands-one-step-closer-to-mining-sea-floor/

Legal challenge to Solwara extension



The Solwara1 location in Papua New Guinea, bounded by the Catholic Dioceses of Kavieng (New Ireland) to the north and Rabaul (East New Britain) to the south.

MEST COAST DEVELOPMENT FOUNDATION

Caritas Co-ordinator for Rabaul Archdiocese in **Papua New Guinea**, Fr Mathias Lopa, has described the agreement between his government and Nautilus for Solwara 1 as "a premeditative act of terrorism" against the the village people he works with. "The home and source of their daily sustenance is the sea waters itself and its living organisms," he said.

In March 2018, the Catholic dioceses of Kavieng and Rabaul joined forces with the Alliance of Solwara Warriors (ASW) and coastal communities along the Bismarck Sea to challenge Nautilus Minerals' application to extend the term of an exploration licence EL1196. This is one of 12 additional

exploration licences Nautilus has in the Bismarck Sea, in addition to the Solwara 1 mining site. First granted in 1997, this was the first time the company and the Mineral Resources Authority (MRA) had visited communities to get their views.

Diocesan Caritas Co-ordinator for Kavieng, John Momori, along with Jonathan Mesulam and Jenny Jack, lodged objection papers in February,

representing communities from Manus, New Ireland, Madang, Milne Bay and the Duke of York Islanders of East New Britain. A Warden Hearing on the application in March heard strong opposition from the communities of Burau and Rasirik (on New Ireland). At time of writing, the communities were awaiting the outcome of the renewal application.

"this is not a fight for the New Irelanders alone. The fight is not over until the company leaves our shores."

JONATHAN MESULAM, NEW IRELAND

Jonathan Mesulam, Co-ordinator of West Coast Development Foundation and member of the ASW, told Caritas that viable alternative livelihoods exist such as tourism and revival of agriculture, cocoa, copra and fresh vegetables produce.

He was encouraged by the growing opposition in support from the Catholic Church, Lutheran Church, the European Union Parliament and the United Nations as well as environmental

FIFA

Chief Assistant Mining Warden Vele Gavu (left) with Diocesan Caritas Co-ordinator John Momori (centre) and Jonathan Mesulam at Burau Village.

Organisations. "Though we had no hopes but we can say that this is not a fight for the New Irelanders alone. The fight is not over until the company leaves our shores."

On 29 August 2018, the Papua New Guinea Council of Churches called for a total ban on seabed mining in Papua New Guinea, saying "seabed mining only will bring destruction to our ocean life and people". Council representatives included the Catholic Church and eight other churches active in the country.

New seabed mining resource launched

To help communities such as those in Papua New Guinea and Kiribati, Caritas Aotearoa New Zealand and the Deep Sea Mining Campaign have launched a new seabed mining resource

for distribution throughout Oceania.
The Experimental Seabed Mining Info Kit gives communities throughout the Pacific communication and other campaign tools and resources to support on-the-ground work in communicating, educating, and raising awareness around seabed mining, as well as building campaigns to oppose seabed mining projects. It includes fact sheets on types of seabed mining, the International Seabed Authority, Free Prior and Informed Consent,

and the Precautionary Principle.



Seabed mining awareness meeting at Labur primary school on New Ireland, Papua New Guinea.

Oil exploration turned back but hunt for minerals is still on in New Zealand

In April 2018, Caritas Aotearoa New Zealand welcomed the **New Zealand** government's halt to issuing more offshore oil exploration permits. This was a small but significant step away from dependency on fossil fuels. Caritas has shared concerns of Indigenous partners in Kaikōura and Taranaki that offshore oil exploration can damage marine life and pose unacceptable environmental risks in our already disrupted and fragile oceanic environment.

Despite reigning in offshore oil exploration, the New Zealand government continues to allow prospective seabed mining. Caritas was surprised to learn in June 2018 that a new exploration permit for offshore minerals had been issued to Ironsands Offshore Mining Limited for an area offshore from northern Taranaki. The exploration area included part of a marine mammal sanctuary specifically created to protect the endangered Māui dolphins – of which only 55-75 are estimated to remain.³⁰

In late August 2018, Caritas welcomed a High Court decision quashing Environmental Protection Authority (EPA) approval granted to Trans-Tasman Resources (TTR) to mine ironsands offshore of South Taranaki.³¹ The High Court referred the application back to the EPA to apply "the correct legal test" in relation to adaptive management. It said the EPA's Decision-Making Committee had narrowly interpreted adaptive management in a way inconsistent with its legal requirements to protect the environment from pollution and "that, where information available is uncertain or inadequate, a marine consent authority must favour caution and environmental protection." Caritas Aotearoa New Zealand had opposed TTR's application based on the precautionary principle and that proper consultation with tangata whenua had not taken place.

The EPA's 2017 decision had also encouraged other prospective seabed miners, with news that Chatham Rock Phosphate is expected to lodge a new application by the end of 2018. Their first proposal to mine 1.5 million tonnes of phosphate nodules every year for fertiliser was rejected by the EPA in 2015.

New Zealand Herald, 14 July 2018: "Seabed mining exploration permit approved in Taranaki Maui dolphin sanctuary, at https://www.nzherald.co.nz/the-country/news/article.cfm?c_id=16&objectid=12087884.

³¹ Reported in Turning the Tide: Caritas State of the Environment for Oceania 2017 report.



A shark calling culture group from New Ireland, Papua New Guinea. Shark callers, from small outrigger canoes, will call, trap and kill sharks by spearing and netting with a special noose. Their traditional activity has also become a tourist attraction. They are among groups whose culture and income from tourism has already been disrupted by boats associated with seabed mining exploration in the Bismarck Sea.

International Seabed Authority lobbied

The **International Seabed Authority** (ISA) is a United Nations body based in Jamaica, charged with monitoring and licensing seabed exploration and mining in international waters. Over the past year, it granted one new licence in the Pacific to the Republic of Korea: a 15-year

exploration licence for cobalt-rich ferromanganese crusts in the Western Pacific Ocean. The ISA has now granted 21 seabed mineral exploration licences in the Pacific Ocean, most of them (16) for polymetallic nodules in the Clarion-Clipperton Fracture Zone, northeast of Kiribati.³²

In May 2018, Caritas Oceania joined Seas at Risk and 43 other agencies to write to the ISA. The agencies said the ISA must address fundamental questions in its Draft Strategic Plan, such as the need for deep seabed mining, and assessment of more sustainable alternatives. The agencies said:

...recent science calls for a fundamental rethinking of the course set towards allowing commercial deep sea mining in the short term.... Deep-sea mining has no place in the world's Agenda 2030 for sustainable development...

The Sustainable Development Goals (SDGs), and in particular SDG 12 "Ensure sustainable consumption and production patterns", and SDG 14 "Conserve and sustainably use the oceans, seas and marine resources" set the global frame for rethinking our economy.

"Deep-sea mining has no place in the world's Agenda 2030 for sustainable development"

SEAS AT RISK SUBMISSION TO THE ISA

They ended by calling for the ISA to stop granting new contracts for exploration and not to issue any contracts for exploitation (none have been granted so far). "As the global steward of the world's ocean heritage the ISA must prioritise conservation of the deep sea, the rights of coastal communities and the rights of humankind as a whole."³³



A coastal scene in Kiribati. Though Kiribati is one of the sponsoring states for mineral exploration in the Clarion-Clipperton Fracture Zone, many i-Kiribati people are concerned about possible impacts on their fisheries resource.

 $^{32 \}quad https://www.isa.org.jm/deep-seabed-minerals-contractors?qt-contractors_tabs_alt=0\#qt-cont$

³³ Joint NGO call on the International Seabed Authority: Protect the marine environment from harm! Submission on the ISA's Draft Strategic Plan, 27 April 2018. Available at: http://www.seas-at-risk.org/images/pdf/publications/ISAstrategy-consultation-2July.pdf



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 overall impact on people of offshore prospecting, exploration, and commercial exploitation of oil, gas and minerals for 2017/2018 remains at moderate. Actual physical impacts are low; but the threat posed, especially by seabed mining in Papua New Guinea, is deeply concerning to Indigenous people. While there is increasingly stronger community and Church opposition, legal challenges are struggling to make headway. In Aotearoa New Zealand, Caritas welcomed a government move to stop new offshore prospecting licences for oil and gas; but prospecting licences for seabed minerals continue to be issued.

Recommendations

- The International Seabed Authority and national governments must stop issuing both mining and exploration licences for seabed mining until more is known about the impacts on ecosystems and communities.
- Oceania governments and others developing and implementing legislative frameworks for seabed mining need to ensure they give proper recognition to human and environmental rights. This should include free, prior and informed consent by affected communities; effective environmental impact statements; and appropriate remedies for any damage done.
- **Companies** undertaking offshore prospecting activities in Oceania must adhere to the principles of corporate responsibility contained in the United Nations Global Compact, and the Guiding Principles for Businesses and Human Rights.
- We can all become better informed about plans for offshore oil and gas exploration and seabed mining in our own countries and throughout our region, monitor activities, share our concerns with decision-makers, and express solidarity with communities facing the most immediate challenges.





CARITAS INDICATOR

Our assessment of the adequacy and quality of climate finance in Oceania *Read more on page 55*

5 Climate finance

I alone cannot change the world, but I can cast a stone across the waters to create many ripples. Mother Teresa

In 2018, Caritas took concerns about the poor missing out on climate-related funds to the global stage, through United Nations climate change negotiations, and the Talanoa Dialogue initiated by Fiji. Both Australia and New Zealand need to do more to cut emissions, adapt to climate change and support climate finance. In the meantime, several Caritas partners are forging on with locally developed projects for carbon storage, renewable energy and forced relocation. But when will finance be available for this? Other critical cross-cutting issues remain, such as loss and damage. In addition, women, girls and people with disabilities are still being side-lined in climate change decisions. In practical terms related to mobilising finance to address resilience, those most harmed are still being left behind.

Lack of finance reaching those on the frontline

For Caritas Oceania, climate finance includes climate financing flows (money), technology transfer and capacity building. Caritas continues to hear from local communities throughout Oceania saying that people are still struggling to access climate funds. Processes are complicated, time-consuming and not tailored to local culture. All too often, climate finance instruments do not provide for realistic support to local communities or small-scale projects. To reduce vulnerability, and for the people of Oceania to become more resilient in the face of adverse climate change impacts, stronger action is needed on climate finance.

At the same time, new multilateral funds are being developed with haste. Questions remain about their effectiveness in reaching the most vulnerable.

Much discussion happens on the global arena and local stakeholders are frequently consulted; but national agencies and authorising officers also need to make things happen on the ground. A simpler co-ordinated approach, genuine dialogue with local communities, and ensuring that funds for both adaptation and mitigation reach those most in need are all essential.

Debt finance adds extra burden on poor

Representing Caritas Aotearoa New Zealand at United Nations climate finance workshops in Bonn and Suva, Teresa Thorp said Caritas welcomed the development of new climate-related funds, but said there was a need to move with greater urgency, and with greater focus on reaching the most vulnerable.

Caritas Oceania's work through the *State of the Environment for Oceania* reports indicates that the quantity and quality of climate finance reaching those on the ground has been inadequate, and is often difficult to access. Care needs to be taken with debt financing, especially where finance is needed to combat climate change. Where Multilateral Development Banks and other multilateral institutions are active, for instance, long term loans and guarantees can impose burdensome obligations and the cost of servicing the debt may outstrip the benefit making it difficult to invest in new economic sectors. Investment in people also needs to accompany investment in infrastructure capital. Commitment to climate change equity should be reflected in debt relief.

Talanoa Dialogue: together "in the same canoe"

In May 2018, stories and learnings from the last five years of Caritas' Oceania reports were shared at intersessional United Nations climate change meetings and the Talanoa Dialogue in Bonn. These stories show the significant impact of climate change on Oceania; the urgent need for action, and the imperative of keeping global temperature rise below 1.5C for survival. Caritas' emphasis on urgency was repeated at the Regional Talanoa Dialogue in Fiji in July.

Representing Caritas Oceania in Bonn, Auimatagi Joseph Sapati Moeono-Kolio, a young Samoan, shared the story of his grandfather, the late Moeono Kolio, who moved his local school at Falefa, Upolu, **Samoa**, inland because of erosion more than 40 years ago.³⁴ It is one story of many of forced relocation played out in many parts of the Pacific.



Auimatagi Joseph Sapati Moeono-Kolio

Auimatagi Joseph addressed the Talanoa Dialogue session with two Samoan alagā'upu (proverbs): "O le fogāva'a e tasi" (in the same canoe); and "Ua usita'i fa'ava'asavili" (a canoe which obeys before the wind). "We are in the same canoe," said Auimatagi, adding that we need to have "the voices of vulnerable communities heard, their traditional knowledge and wisdom brought to the Climate Action table and their adaptation and mitigation needs to be the focal point of these discussions." Our work cannot be achieved if we don't heed the urgency of where we are now and "steer like a canoe moving into the wind" to where we want to go.

Teresa Thorp, Advocacy and Research Manager for Caritas Aotearoa New Zealand, also participated in the Talanoa Dialogue, sharing the story of wind and solar power installation in **Solomon Islands**, as pioneered by the Bishop Koete Rural Training Centre, which featured in earlier environment reports:

Over 5 years ago, Caritas was asked to help develop training programmes and support teaching training in Rural Training Centres in the Solomons. However, students could only study for a limited time. Almost 90 percent of the Solomons is not on grid access. Most energy is diesel generated, which is far too costly for a regular supply of electricity.

Caritas worked alongside the local community to set up a community-based renewable energy pilot on Neggela Island at the Bishop Koete Rural Training Centre.

Since July last year (2017), the Centre has had electricity generated by a solar panel and wind turbine. ... the community has gone from having 3 hours of diesel-generated energy per day to having a 24 hour clean energy supply. It now has lighting, pumped water, charging facilities for computers, phones, power tools and sewing machines, ...

Financing infrastructure typically requires intensive capital costs, but for smaller remote communities throughout the Pacific, micro-finance from various sources, including technology from the private sector and labour from faith based organisations, can empower action at the local level, such as with small-scale wind and solar projects.

We can draw heart from our ancestors and pioneers in the region. Though it is a challenging course to navigate, 'like the great pioneering navigators of our Oceans - we must have the courage to act decisively today, to ensure the common good for tomorrow,' said Teresa.

³⁴ Hungry for justice, thirsty for change: Caritas State of the Environment Report for Oceania 2016, p 32.

Australia and New Zealand must step up

Both Caritas Australia and Caritas Aotearoa New Zealand believe their respective governments can do more to cut emissions and support climate adaptation for developing countries.

Caritas Australia said it is unlikely that **Australia** will meet its already insufficient emission reduction targets, due to current policy settings and the lack of a credible plan to reach the targets. According to Caritas Australia, the Climate Council reports that: "If other countries were to adopt climate policies similar to Australia's then global average temperature rise could reach over 3°C and up to 4°C."

Almost three years ago, when Australia committed itself to the Paris Agreement in December 2015, Australia's Prime Minister committed to investing \$1 billion over five years for international climate action. It is a lost opportunity that no new funds were set aside in the 2018-19 Federal Budget to meet this target, nor are there climate markers within the aid programme to help track Australia's progress against its \$1 billion pledge.

Caritas Australia says local communities are also missing out since Australia's Department of Foreign Affairs and Trade stopped funding for a community-based climate change grants scheme that was introduced for four years from financial year 2010-11, to help vulnerable communities be more resilient to climate change impacts. Such community climate change grants are critical enablers because Australia's present pledge to the Green Climate Fund and Pacific countries largely sees funds to national governments and/or international non-government organisations for large scale projects, with little trickle down to civil society and local stakeholders.

With respect to **New Zealand**, Caritas Aotearoa New Zealand welcomes an apparent upswing in climate-related support through Official Development Assistance (ODA) under the New Zealand Aid Programme. New Zealand's Ministry of Foreign Affairs and Trade (MFAT) reports around \$63 million was spent in the 2017/2018 financial year, excluding contributions to multilateral agencies. Of this (\$63million), \$59.9 million was spent in the Pacific. This compares to \$44.14 million (\$33.84 million to the Pacific) last year, and reverses a downward trend in actual spending for the previous three years.

In addition, MFAT estimates that climate-related funding through core contributions to multilateral agencies (such as the multilateral development banks (MDBs) and United Nations agencies) will be about 13.8 million for the 2017/2018 year. MFAT counts 30 percent of relevant core multilateral funding as climate-related support.

In addition to climate finance through ODA, other New Zealand government agencies fund climate-related initiatives, such as the Ministry for Primary Industries' support for the Global Research Alliance on Agricultural Greenhouse gases. These initiatives, along with ODA funding, are reported through biennial updates to the UNFCCC. When reporting other agencies' climate-related funding to the UNFCCC, MFAT confirms it meets OECD DAC criteria and adheres to Rio markers.

Caritas Aotearoa New Zealand welcomed the opportunity to comment on New Zealand government's "Our Climate Your Say: Consultation on the Zero Carbon Bill Discussion Document" in July 2018. Caritas said in its submission that New Zealand should increase its ambition ahead of the 2020 target date for the next round of commitments under the Paris Agreement. The opportunity to strengthen New Zealand's laws by contributing its fair share to limiting the global average temperature increase to 1.5°C above pre-industrial levels exists here and now and must be done in the context of sustainable and cultural development and efforts to eradicate poverty.

Caritas supports the establishment of an independent Climate Change Commission in New Zealand. The terms of reference for this commission, as with any potential climate law, must, however, be appropriate to Aotearoa New Zealand – its geography, peoples and economy – and consistent with the Paris Agreement.

Both Australia and New Zealand must have meaningful engagement on climate change with local communities and their Pacific neighbours. Besides consistent and more transparent reporting, Caritas recommends that Australia and New Zealand capture financial data for climate change capacity building support and technology transfer, and welcomes the fact that a climate-change capacity building marker is part of MFAT's new aid management system introduced in September 2018.

Small is flexible, adaptable and low impact

How can official climate finance channels support low carbon, sustainable programmes at the grass roots? Effective, small-scale renewable energy that serves a wider community is demonstrated by the Tutu Rural Training Centre, a Caritas partner on Taveuni island in Fiji. Tutu has a dam and reservoir that provides for irrigation (see page 38), hydroelectric generation and drinking water reticulation for seven nearby villages. Residents no longer need to travel to obtain clean water or wait for government-supplied water trucks to visit.



Installing solar at Tutu Rural Training Centre, Fiji.

With the installation of several large solar arrays (see picture), reservoir water supply can be cut back in the dry season (ensuring enough water for Tutu and villages downstream) without limiting electricity availability to Tutu's many initiatives. With the installation of internet-capable monitoring equipment, water levels can be monitored and managed remotely by experts, currently based in Tasmania.

Over the past year, Tutu Centre in Fiji has prioritised the planting of hardwoods as a long-term, climateand weather-resilient investment into the centre's economy, and to mitigate atmospheric carbon.

To date, approximately 13,000 teak trees have been planted, with one block containing around 10,000 young trees alone. These trees require regular care such as pruning (to form straight trunks) and weeding particularly in their early years. As they mature, less human input should be required. Using current figures, these teak trees will store approximately 13,500 tonnes of carbon and remove approximately 49,500 tonnes of CO₂ from the atmosphere. Further, as the end use of these trees is expected to be for the making of high-end products such as furniture, much of the sequestered carbon will be retained within the timber structure and not released as it would if burnt or mulched.

In Papua New Guinea, Caritas partner Tulele Peisa is helping relocate families from the threatened Carteret Islands to Tinputz on mainland Bougainville, but the programme has stalled due to lack of funds for housing and to extend Tulele Peisa's food forest.

A proposal for a significant expansion of the Carteret Islands relocation was presented to New Zealand's Ministry of Foreign Affairs and Trade in June 2018, but was not successful in receiving funds in a competitive funding round. Caritas will continue advocating for Carteret Islanders and seeking funding opportunities for their relocation programme from external donors.

However, plans to install solar power for Tulele Peisa's offices and resource centre will go ahead with funding from the Australian Conservation Council and technical expertise from a Solomon Island electrical expert based in Brisbane. Young people from the community will be trained up and involved in the installation.

Savanna burning in Australia's Top End creating an Indigenous carbon economy and cutting emissions

The Aboriginal Carbon Fund is a partner of Caritas Australia and links Traditional Owners with corporate, government and international bodies to support carbon economies on Indigenous lands with environmental, social and cultural values. The Fund has also supported the Māori Carbon Foundation in Aotearoa and can link with Indigenous groups across the Pacific. Lauren Bowyer, Media and Marketing Manager/Community Development Officer for the Fund, shares how traditional land management is being integrated with sustainable carbon markets:

All traditional owners across the top of Australia have a different reason for the importance of burning country, but the one thing all Aboriginal people have in common is that we've been managing country the right way since time began. Burning country is nothing new, it's something

we've been doing forever, the only new thing about it is that we now refer to it as Savanna Burning. In our way of speaking, it's all about the right people managing country the right way. For us fire is important because it's not only managing the country in a way that it will cut down fuel loads to reduce wildfires which brings in new growth, but it also brings in more animals. Some regions are still living quite traditionally, so for them it's important for those animals to come back and feed on country because it sustains the community with traditional food.



Lauren standing with her Aunty Roslyn Serico's painting "Traditional Burning"©. This painting is located at Lauren's family gallery Kuku Bulkaway Indigenous Art Gallery in Cooktown, Queensland, Australia.

Pacific civil society calls for partnership in climate finance access

The annual meeting of Pacific Islands Forum (PIF) Economic Ministers in April 2018 met with and accepted calls from Pacific Island Civil Society Organisations' (CSOs) for greater partnership over climate finance. Reflecting recommendations from the CSOs, the Ministers:

- Endorsed partnerships with CSOs to access global climate finance;
- Recognised the cost of climate-induced migration and displacement, calling for the refinement of understanding of economic and non-economic losses arising from loss and damage;
- Called for a regional financial inclusion framework in PIF members with targeted support for vulnerable groups, including women, youth, elderly, and persons with disabilities;³⁵

³⁵ Pacific Islands Forum Secretariat, 2018 Forum Economic Ministers Meeting (26-27 April, 2018): FEMM Action Plan, p 12.

Other related issues

Loss and damage sidelined

In February 2018, in a submission on loss and damage matters, Caritas Aotearoa New Zealand urged the Warsaw International Mechanism (WIM) Executive Committee,³⁶ to be informed by face to face encounters and consultation with those most directly affected in Oceania.

Caritas also called for comprehensive research on internal displacement and the potential for cross border displacement from climate change; national climate change plans and policies to adequately address displacement of population caused by climate change; for loss and damage issues to address cultural heritage and traditional knowledge, and take special account of women, children and indigenous populations.

In the absence of strong action on loss and damage, we may need to look at other avenues. At a displacement and relocation conference in Brisbane in May 2018, Caritas met Genevieve Jiva, a volunteer for the Pacific Islands Climate Action Network. She said "one of the possible ways that we can get loss and damage finance is to set up a loss and damage fund for small island states: a fund that is partially funded by innovative sources of finance which includes things like an aviation tax, or a climate damages tax, or a vehicle tax, or even things like donations, or international organisations who would like to do projects



Genevieve Jiva

in small island countries, to give a portion of their budget to this fund, so that if and when there is loss and damage, that communities affected can get some form of support." But that doesn't mean letting developed countries off the hook. "We absolutely want them to contribute to this fund as well, and if possible to a large portion of the fund."

Despite slow progress on loss and damage at the United Nations Genevieve said, "I believe that when push comes to shove, we're not going to let whole countries disappear, whole people's culture and lifestyle become completely extinct. What also keeps me going is seeing how our leaders from the Pacific conduct themselves, are able to speak in the international negotiations, they're able to make decisions and influence decisions, ... we

still have power in international negotiations, and when we speak with one voice, we speak very clearly and very powerfully ... it's not just the developed countries, it's not just the richest and most powerful countries who are making all the decisions."

Women and girls and people with disabilities frequently left behind

At the Climate Action Pacific Partnership Conference in July 2018 in Suva, Fiji, Caritas heard that people with disabilities often enjoy less human rights than others, are often left out of any advocacy around climate change and that their families need support with adaptation and mitigation, access to basic necessities, and improved livelihoods. Climate action must be inclusive, accessible to all and leave no one behind.

Caritas Tonga witnessed direct experience of this following Cyclone Gita in February. Finau 'Epenisa has no legs and gets around in a wheelchair or by crawling along the ground. She and her husband Takapautolo lost half the roof of their very simple home in Popua on the edge of Nuku'alofa. But they were missed in initial assessment of needs following the cyclone until Finau took the issue up with an aid worker. A week after the cyclone, Caritas provided a tarpaulin to temporarily cover the roof while other aid agencies gave other relief supplies. Several months after the cyclone, however, Finau was still waiting for a portable toilet, even though she was sometimes crawling her way across knee-deep water to get to the outside toilet.

³⁶ The Warsaw International Mechanism for Loss and Damage promotes the implementation of approaches to address loss and damage associated with climate change impacts, in a comprehensive, integrated and coherent manner. The mechanism is established under the United Nations Framework Convention on Climate Change to assist developing countries that are particularly vulnerable to the adverse effects of climate change.



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

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Conclusion

The Caritas assessment of climate finance support for the most vulnerable for 2017/2018 is woefully inadequate. Priority must centre on how climate finance benefits those most in need and the mechanisms in place to ensure this. Debt often imposes an added burden rather than a benefit. More progress is needed to enable affected communities to access funds and build resilience. Measuring the success of adaptation and mitigation plans must focus on the extent to which finance reaches and benefits those on the ground. Caritas calls for a newly energised, multi-stakeholder and Pacific-appropriate approach to climate finance that demonstrates that appropriate finance, capacity building and technology transfer is flowing to the most excluded and vulnerable communities.

Recommendations

- The global community must ensure implementation of the Paris Agreement and climate finance measures to limit global temperature increase to 1.5°C above pre-industrial levels.
- For **COP 24 in Poland**, we recommend:
 - increasing nationally determined contributions to meet the 1.5°C target;
 - ensuring sufficient transfer of financial and other resources to small island states and other vulnerable countries for adaptation, resilience-building, and compensation for loss and damage;
 - delivering concrete action on loss and damage by further developing the Warsaw International Mechanism for Loss and Damage;
 - Financial Disclosure that shows how climate finance is consistent with the Sustainable Development Goals (SDGs) and the Sendai Framework for Disaster Risk Reduction;
 - targeted support to ensure benefits flow to women, girls and people with disabilities.
- Pacific island governments should explore further opportunities for local communities to access funds and for the private sector, civil society, faith based and philanthropic enterprise to deliver on essential projects in a co-ordinated way.
- Donor countries, churches and funders should increase climate finance for adaptation to climate change in a co-ordinated way while not threatening food production or livelihoods.
- Australia and New Zealand to increase their climate ambition, in particular: Caritas Australia calls on the **Australian Government** to:
 - adopt a 45-65 percent emissions reduction target by 2030, from 2005 levels (as recommended by the Climate Change Authority), and a post-2030 target of zero net emissions well before 2050, as well as a credible plan to reach these targets; and rule out major new fossil fuel projects or the expansion of existing ones;
 - mobilise its fair share (2.4 percent) of the global climate finance goal of USD\$100 billion per annum by 2020, from public and private funding;
 - resume funding (through the Department of Foreign Affairs and Trade) of a community-based climate change grants scheme, first introduced from financial year 2010-11, to help vulnerable communities be more resilient to climate change impacts.

Caritas Aotearoa New Zealand calls on the **New Zealand government** to significantly strengthen current policies for mitigation, adaptation and climate finance; and honour the Paris Agreement.

Conclusion

Evidence continues to flow from communities that Caritas has spoken to that climate change is here and now in the Pacific – and has been for at least two decades. We need to respond with a special focus on small and isolated communities, and marginalised peoples most susceptible to sea level rise, threats to food and water security, and changing and unpredictable weather patterns.

The most urgent response required is that climate finance and associated assistance must prioritise people on the frontline of harm. Rather than impose further foreign debt and burden on Pacific states and the people that reside within them, more needs to be done to ensure effective funding, preferably through grants rather than loans that:

- · ensure climate finance benefits the poorest and most vulnerable communities;
- · increase sustainable investment and eliminate unsustainable investment; and
- put in place a just transition that promotes capacity building and technology transfer among Pacific island nations.

In addition, in finalising the Rulebook and other measures for fully implementing the Paris Agreement, the global community must prioritise keeping global warming below 1.5°C above pre-industrial level. For many in our region, this is an imperative for survival.

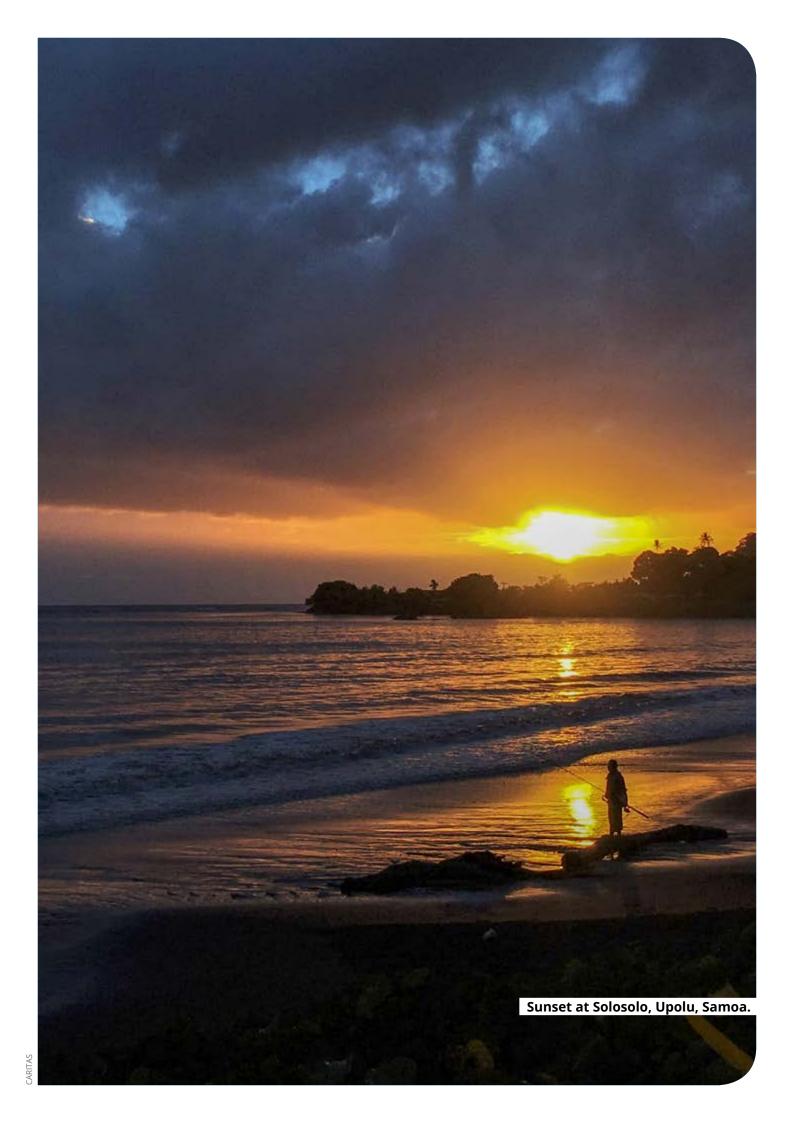
Long-term coastal issues arising from sea level rise are causing concern and uncertainty. Many people are relocating, but it is still largely undocumented and unco-ordinated, and the region needs to face up to the long-term implications and possibilities for relocation and displacement, while always seeking to avoid it as much as possible.

Cyclones are increasing in their severity, and Fiji and Tonga were hit particularly hard this year. However, stories from those same countries shows the value of preparation. Practical, organisational and community resilience measures do make a difference and are vital to save and protect lives, livelihoods and infrastructure. As weather patterns become more unpredictable the value of strong community networks is vital.

Climate change is impacting coastal and inland food and water supplies, as are some abusive extractive or intensive practices with regard to logging, forestry, agriculture and mining. This is damaging local people and the planet, even as miners are being lured offshore to minerals of the deep. Our oceans are already under pressure from climate change, over-extraction of marine resources and ecosystem changes - they do not need further challenges from seabed mining.

As people of Oceania, we look forward to a positive outcome from this year's United Nations climate conference in Poland. Decision-makers around the world need to take on board Oceania voices, such as these from the Federation of Catholic Bishops Conferences of Oceania, 16 April 2018:

We...appeal to all people, particularly those in the continents of industrial strength, to hear our voice from the south. In your hands lies the power to make sustainable, responsible, economic development.... we again implore governments to exercise responsible leadership in favour of the common good, future generations and our mother earth.





There is no time to lose: We received the earth as a garden-home from the Creator; let us not pass it on to future generations as a wilderness.

 Pope Francis to Meeting for Executives in the Oil and Natural Gas Sectors, and other Energy Related Businesses, 9 June 2018.



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