



Pacific Institute  
of Public Policy

# Climate countdown: time to address the Pacific's development challenges

## Fast facts:

- » Global temperatures have risen about 0.7 °C since pre-industrial times, seemingly enough to begin melting the icecaps and glaciers over the past 10 years.
- » IPCC estimates suggest temperature rises by the end of the century in the range of 1.8 °C ('low scenario') to 4.0 °C ('high scenario') with corresponding sea level rise between 18 to 38 cm ('low scenario') and 26 to 59 cm ('high scenario'). More alarming predictions point to sea levels rising over one metre.
- » World population has tripled since 1950.
- » 20% consume 80% of the world's resources.
- » Most developing countries are responsible for less than 1 ton per person per year of CO<sub>2</sub> emissions. In the US it is 20 tons per person. Saudi Arabia and Australia are number two and three, with around 18 tons per person per year. The world average is 4 tons, which covers such nations as Brazil, India and Indonesia. Pacific island nations are responsible for 0.02% of global emissions.
- » The impact of climate change and rising seas is currently affecting thousands of people. In coming years it will likely be hundreds of thousands. In coming decades it may be hundreds of millions.

The sirens have sounded on climate change. Pacific islands are on the frontline and some are facing an existential threat to their very existence. The world will be watching what happens at the Copenhagen summit, but few are optimistic about the outcomes. This briefing paper canvases the most important aspects of the debate in a Pacific context: the human impact of climate change, and how adaptation measures should be about meeting existing and future development challenges. The peoples of the Pacific have a long history of adapting to change. This time, however, the challenge is global and there will need to be a sustained and co-operative effort by the world's leaders to tackle it.

## Its about people's lives and livelihoods

Chief Bernard Tunim confronts the issue head-on: "We did not create global warming but we are its first victims. The industrialised world must take decisive action at the Copenhagen summit before it too late for everyone".

Chief Bernard, of Piul island, points to a decaying coconut stump nearly 200 metres offshore from the beach he is standing on. "That used to be our shoreline only 10 or 15 years ago" he says. "Look how the sea is eating us away. We are only a small island, the king tides have already swamped our gardens and soon we will have to leave. The future of my island is now only for fish, not people".

Piul is one of five atolls that make up the Carteret islands group and the 3,000 islanders who live on these beautiful yet vulnerable atolls are being labelled the world's first 'climate change refugees'. As the debate continues about what is causing the flooding of the Carteret's, preparations are underway to relocate the entire population to Bougainville over the next year or two. Chief Bernard has no time to ponder whether the problem is a result of rising sea levels or subsiding islands, the effect is the same for him and his people – they will lose their homeland. Like many islanders, he worries that the debate waged by scientists and climate sceptics is delaying much needed action now.

Two or three times a year, king tides wash over the islands, destroying homes and gardens with their force and salinity. Root crops like taro and sweet potato, once the staple diet, can no longer be grown and the Carteret islanders are now living on fruit, fish and food aid, mainly rice, sent by the regional government. "We have had to rebuild our hut twice in the past few years because of flooding" says one woman on Han island. "I woke up once with water rushing in and my pots and pans floating out to sea".

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Based on conservative sea level rise estimates of the Intergovernmental Panel on Climate Change (IPCC 2007), the other small, low lying Pacific atoll states of Kiribati (population 100,000), Marshall Islands (60,000) and Tuvalu (population 10,000) also face the prospect of becoming uninhabitable over the next fifty years. Compounding the problem of rising seas and retreating land is rapid population growth, placing increasing pressures on already limited infrastructure and resources. South Tarawa, the main atoll of Kiribati already suffers severe overcrowding with over 40,000 people crammed into less than 16 square kilometres of land.

Relocation is not a simple solution. The evacuation of the Carteret islands has been planned for a number of years, but has been the subject of political and funding delays. While the Catholic Church has given over some its land for resettlement on mainland Bougainville, the autonomous Government is having trouble alienating larger tracts of land for the Carteret islanders. Pressure on land is intense throughout the region with growing populations, and most good agricultural land is already utilised. The Bougainville government is facing now what many other governments will soon face: how to relocate entire communities so they can be self-sufficient and live harmoniously with other communities, especially the traditional land owners.

President Anote Tong has proclaimed the need for alternative accommodation for the peoples of Kiribati, preferring sustainable choice migration, starting now, over wholesale relocation of a population under siege from rising seas and retreating land in 50 or 60 years. Speaking on New Zealand television, President Tong has stressed the need for the people of Kiribati to be able to move to new homes as “worthwhile citizens [and] not as refugees”. Young people may be ready to leave the atolls, but many older folk say it is too late for them to leave their homes, preferring instead to ‘go down with the ship’. The life of many Pacific islanders often revolves around the ever-present spirit world. Ancestral spirits are acknowledged and often worshipped. “The hardest thing will be to lose our sacred places, our tambu places” says Chief Paul Mika from Han island. Part of the trauma of islanders leaving their homes is the feeling that they will be abandoning their ancestors, including cemeteries.

History has demonstrated the traditional resilience and mobility of island communities. People have moved when various pressures afflicted them, from tribal war, to fresh water scarcity to the lure of Christian missions and urban life. Climate change presents just the latest challenge for islanders to make the best of a bad situation and adapt – as they always have. This time, however, the challenge is global and there will need to be a sustained and co-operative approach by the world’s leaders to tackle it.

## **In a changing climate the development challenges remain the same**

Serious adverse impacts are already being experienced elsewhere in the Pacific, including coastal erosion,

flooding, coral bleaching and more frequent and intense extreme weather events. The effects of climate change are amplifying the existing development challenges faced by most Pacific island nations, notably: water supply, sanitation, agricultural productivity, food security, urbanisation, economic development, health care and education. The latter particularly may not seem obvious climate related issues, but without healthy and well educated populations, the Pacific will not have the capacity to deal with development pressures made all the more urgent in the face of shifting weather patterns, coastal erosion and more frequent and extreme storm events. The UNDP *Human Development Report 2007/2008* notes that adaptation planning has been a fringe activity in most developing countries, and where present the focus has been on climate-proofing infrastructure (UNDP 2007, p.171). While important, adaptation is about much more than just infrastructure projects (e.g. building sea walls) and environmental measures (e.g. mangrove rehabilitation).

Adaptation measures will need to be aligned to long term development planning and approached as a whole of government consideration. Under-resourced and over-stretched government administrations require support to consider climate change adaptation in the wider public policy context. President Tong’s goal for increased choice migration for the people’s of Kiribati accords with the globalisation paradigm, based on the free flow of labour and capital across borders. But for that to be realised there will need to be a shift in prevailing attitudes towards migration. Moreover, with increasing movement of people around the world, the competition amongst emigrants for jobs and places to live will be intensified. The next generations of Pacific islanders need access to international standards of education to compete on the global stage.

As Chief Bernard of Piul rightly points out, it is time to get on with addressing the pressing development challenges of today. The inundation of his homeland has sounded a warning to all in the Pacific, magnifying the development challenges in the region. Dr Rolph Payet, a special advisor to the President of the Seychelles and lead author of the Small Islands chapter of the IPCC Fourth Assessment Report, summed it up by saying: ‘Solutions to climate change are also solutions to global poverty’.

## **The Pacific can lead the world towards clean, renewable energy**

Nowhere is the need to move towards sources of clean, renewable energy more urgent than in the Pacific islands for two obvious reasons: firstly because they are beginning to pay the price of climate change and need to set an example. The second reason is purely economic: the exorbitant price of fossil fuels, likely only to escalate, and the abundance of renewable energy sources already available (such as coconut oil, solar, wind, geothermal and hydro options) make the transition towards renewable energy sources for the islands a no-brainer. At the latest meeting of the Pacific Islands Forum (Cairns, August 2009) leaders observed that “now is the time, with appropriate

technology and expanding carbon markets, to drive the development of projects to bring to reality the promise of renewable solutions to the region's energy needs".

According to some analysts, 'peak oil' is already a reality with another major oil shock and massive price spikes not far off. Industrialised economies based on petroleum products face nothing less than a paradigm shift in the way both their energy and industrial sector are retooled to face the challenges ahead. For island states, the transition can be much smoother, if they are prepared to act now and move quickly into renewable energy power generation. Some Pacific countries are already leading the way. Tonga and Tuvalu have incorporated renewable energy targets into national energy strategies. According to the Fiji Electricity Authority, 66% of Fiji's power generation currently stems from renewables (hydro 62%, baggase 2%, biomass 1% and wind 1%) with the remaining 34% sourced from diesel fuel. The 2015 target is for 90% renewable energy to be achieved through increased use of baggase (12%) and biomass (18%) fuels. If plans by Tuvalu are implemented, it may be the world's first nation to operate on 100% renewables (solar) by 2020.

For others there will need to be energy sector reform if there is to be any significant uptake of renewables. Where most Pacific nations have a utility sector that is state-owned, Vanuatu's power has long been provided by a private French company Suez UNELCO, who have a further 40 years on their monopoly licence. UNELCO claims 16% of Vanuatu's power is currently generated by renewables (copra oil, hydro and wind) and the company plans to be just 30% reliant on renewables by 2020.

In November this year, Vanuatu hosted an international conference of legislators from the small island states in Africa, the Caribbean and the Pacific (ACP) co-organised by the e-Parliament and the World Future Council<sup>1</sup>. Addressing more than 30 MPs at the gathering, e-parliament secretary general Mr Nicholas Dunlop said "look at the fuel shipping map of the Pacific, with only two main hubs [Guam and New Caledonia], it's nuts! The Pacific is swimming in sun, waves, wind and coconuts. The only people doing well are the oil and shipping companies. We need to liberate the small energy entrepreneurs in each country". By far the most obvious solution to future power supply in the Pacific islands is solar. For those with significant unutilised coconut plantations, refined copra oil is a valuable source. For those with 'weather coasts', wave and wind generation is possible. For those with volcanoes, geothermal power is worth investigating. For those with large rivers and lakes, hydro is part of the solution.

It will be a challenge for Pacific governments and communities to get over the hump of the initial costs associated with renewable energy generation. The Australian Government has pledged at least \$25 million over four years for initiatives in clean and affordable energy in the region. It is likely that much more money will flood into the Pacific in the guise of climate change adaptation funds and could be linked to renewable energy plans.

1. For more information see [www.e-parl.net](http://www.e-parl.net) and [www.worldfuturecouncil.org](http://www.worldfuturecouncil.org)

## We are all Tuvaluans

The Tuvaluan saying '*Tatou ne Tuvalu Katoa*' (we are all Tuvaluans) is a call to work together in the collective interests of the nation. The sentiment applies to the global community in relation to the challenges posed by climate change - we are all in this together and need sustained and co-operative political action by all world leaders. At the UN meeting in Bonn in March 2009, Her Excellency Dr Dessima Williams, Chair of the Alliance of Small Island States (AOSIS)<sup>2</sup> and Permanent Representative of Grenada to the UN, was reported as saying "it's not time to give in to pessimism; it's time to be ambitious". But as the journey to Copenhagen nears its end, it is hard to remain optimistic that we can forge a binding global agreement to deal with climate change.

Nick Dunlop suggested to the ACP parliamentarians gathered in Port Vila that "island nations need to be more radical in confronting industrialised countries. US Senators are not worried about small islands, they're worried about fulfilling their obligations to the oil and gas lobby who funds them."

Closer to home, the bigger, industrialised economies of the Pacific Islands Forum - Australia (who hosted this year's annual meeting of Pacific leaders in Cairns) and New Zealand - clearly have very different domestic political climates to manage than their smaller island partners. In the days before the forum leaders' retreat in Cairns, the meeting of the Pacific Small Island States reiterated the AOSIS call for industrialised countries to reduce CO<sub>2</sub> emissions by a global average of 45% below 1990 levels by 2020 and by 95% by 2050, and that global temperature increases be kept as far below 1.5°C as possible. The much criticised final *Forum Leaders' Communiqué* included as an annexe, the *Pacific Leaders' Call to Action on Climate Change*, which endorsed limiting the increase in global average temperatures to 2 degrees Celsius or less and for all states to reduce global emissions by at least 50 per cent below 1990 levels by 2050.

The difference in positions is significant. Scientists have estimated that anything over a 1.5 degree rise in temperatures will mean the end of Tuvalu, Kiribati and other low-lying atolls throughout the region. But the story is more than just a divided Pacific Islands Forum and the sinking of a handful of small islands. More than 70 percent of the world's population lives on coastal plains, and 11 of the world's 15 largest cities are on the coast or estuaries. If we let Tuvalu go under, who is next?

## The way forward

Copenhagen was supposed to deliver a binding post-2012 agreement to set the world on a path to stem the impact of climate change. For the Pacific island states, the count down has well and truly started. For some there may be little time left. Climate change threatens the region in a way that may warrant declaring a state of emergency -

2. The fourteen Pacific island states of the Pacific Islands Forum are members of OASIS along with 25 other small island states from Africa, the Caribbean and the Indian Ocean.

even if only to send a strong message to the international community. It is time to act and global mitigation targets must be ambitious. Rapid and significant reductions in emissions and switching to renewable energy sources are presented as the best options to start tackling what could end up being the greatest challenge of our time.

Global carbon trading has been offered as a win-win solution, especially for Pacific countries. Pay land owners not to cut down trees. It seems pretty straight forward and more than welcome in a region that has suffered devastating logging of forests. But the *Clean Development Mechanism*<sup>3</sup> is anything but simple and does not include deforestation. The private schemes on offer so far only seem to benefit the fly-by-night opportunists. Dr Payet further notes that “carbon trading is just beating around the bush, it will not in itself reduce greenhouse gases. The problem is the structuring of the global financial system that rewards debt and resource exploitation. Most developing countries have energy legislation that is primitive and generally written by the corporate sector.”

Some Pacific island governments have moved to apply the technological advances that make renewable energy sources more viable. The rest of the region and the world should follow by putting in place renewable energy strategies and legislation. Regional collaboration could help with bulk purchasing to lower costs.

Harmonising donor spending - as stipulated in the *Paris Declaration* and *Accra Agenda for Action* - will be even more critical as huge sums are made available for climate change adaptation. Best intentions notwithstanding, any ad hoc application of these funds pose the risk of undermining efforts to address the wider development challenges. And the burden should not rest solely on Environment Ministries to coordinate the necessary whole of government responses required.

It's time to act and address the Pacific's development challenges, made all the more urgent by climate change.

3. For more information see <http://cdm.unfccc.int/index.html>

## References

AOSIS, 2009: *Alliance of Small Island States (AOSIS) Declaration on Climate Change 2009*, accessed online at <<http://www.sidsnet.org/aosis/documents/AOSIS%20Summit%20Declaration%20Sept%2021%20FINAL.pdf>>

IPCC, 2007: *Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Mimura, N., L. Nurse, R.F. McLean, J. Agard, L. Briguglio, P. Lefale, R. Payet and G. Sem, 2007: *Small Islands. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK,

PIFS, 2009: *Fortieth Pacific Islands Forum Cairns, Australia 5 - 6 August 2009, Forum Communiqué*, Pacific Islands Forum Secretariat, Suva.

UNDP, 2007 *Human Development Report 2007/2008, Fighting Climate Change: Human Solidarity in a Divided World*, United Nations Development Programme, New York.

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