Facing extinction

Climate change and the threat to Pacific Island countries

By Robert Aisi

Pacific Island countries[1] are already experiencing the effects of climate change, and represent some of the most vulnerable communities in the world.

According to the findings of the Intergovernmental Panel on Climate Change, they are facing extreme risks to their survival as nations. Many islands are not more than a few metres above sea level. As wave actions are exponentially linked to sea level, an increase of half a metre in sea level would completely inundate these island states, putting at risk the survival of their human populations.

Climate change is also expected to increase the intensity of tropical cyclones. While the evidence is not as clear in this case, the pattern of tropical storms seen in the past few years is cause for deep concern. Prior to 1985 for example, the Cook Islands were considered to be out of the main cyclone belt and could expect a serious cyclone approximately every 20 years. This has changed. Most notably, there were five cyclones within one month in February/March 2005, of which three were classified Category 5 as they passed through Cook Islands' waters.

While these recent cyclones caused damage equal to 10% of the government's annual budget, destroyed 75% of homes on the island of Pukapuka, and emotional distress, no lives were lost due to activation of warning systems and preparedness by the general public.

In 2004, the island of Niue was hit by Cyclone Heta, with the ocean rising over the 30 metre high cliffs, causing two deaths, and making 20% of the population homeless. All told, Heta caused economic damages equivalent to 200 years of exports. The country's only museum lost 90% of its collection.

The king tides that have struck Tuvalu and Kiribati in recent years are further dramatic examples of how climate change will affect our communities. Wells and agriculture poisoned by sea water, house foundations undermined and graves exposed are just some impacts that have been observed in our region. These are dramatic events and pose significant risk to peace and security in the Pacific, as the people may have to abandon their traditional lands, their homes, and possibly their nations.

Related impacts

Climate change has had several other related impacts. Vector borne diseases such as malaria and dengue fever are increasing their range upland in Papua New Guinea, and the incidence of dengue fever was especially high this year in the Pacific in general. A World Bank study on climate change and health found that a dengue epidemic in Fiji in 1998 cost the country around US$3–6 million. The World Bank also estimated that the economic costs of a dengue epidemic in Kiribati would be beyond the coping capacity of the country.

Climate change is also going to have an impact on economic activities in the region. The 1997–98 El Niño event saw a significant westward shift of major tuna stocks, making some of our economies and dinner tables suffer. This temporary warming of the western Pacific during the El Niño Southern Oscillation (ENSO) phenomenon is a harbinger of things to come, should the seas permanently rise in surface temperature. The impact of deteriorating coral reefs—the nurseries for certain fish stocks—are being severely damaged by warming waters, coral bleaching, and ocean acidification. We fear that there will be a major decline in the fish stocks as a

His Excellency Robert Aisi is the Ambassador/Permanent Representative for the Permanent Mission of Papua New Guinea to the United Nations.

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result. We also have to consider the overall issue of sovereignty of our current Exclusive Economic Zones under climate change scenarios, the right to fish in those waters and our ability to patrol and control them.

Climate change, climate variability, and sea-level rise are therefore not just environmental concerns, but also economic, social, and political issues for Pacific Island countries. They strike at the very heart of our existence. The impacts, and in particular the related economic and social shocks, pose serious political and national financial management issues for Pacific Island countries. Climate change, climate variability, and sea-level rise adversely affect gross domestic product, balance of payments, budget deficits, foreign debt, unemployment, and living standards.

Therefore, climate change is undermining the very basis for the existence of 12 independent Pacific Island countries, as well as seven Pacific Island Territories. Climate change is an overarching risk, and all of its impacts are—and will be—detrimental to us. We know and understand many of the impacts, but there is still much more knowledge that is necessary. We also need to ensure that our communities are well briefed on these impacts and that they are empowered with the capacity to plan for mitigation and adaptation. Our governments will establish overall climate change policies, but it is the communities that will have to agree to, and implement, appropriate measures.

Taking action

We in the Pacific Islands are not standing idly by. Together with our development partners some steps are being taken. For example, as a means of adapting to present climate variability and climate change, in 2006 the village of Lateu in Vanuatu was relocated further inland in order to avoid storm surges, frequent inundation, coastal erosion and flooding. The Canadian Government funded the relocation, and the new settlement has been made more resilient through improved water storage, new agricultural practices and better-constructed houses. But many Pacific communities have no higher ground to move to. Moreover, most of our economic activities—such as tourism, shipping and infrastructure—are located in the coastal zone. Even in the higher islands there are limits to what can be physically moved. There are also limits to what our governments can afford.

In some areas of the Cook Islands, such as Manihiki Atoll, where 3% of the island's population was killed by 8m high waves washing over the island during cyclone Martin in 1997, more concrete preparedness or adaptation measures are required. This is sensible from a risk management perspective, and through projects such as the GEF PACC (Global Environment Facility Pacific Adaptation to Climate Change) such things as cyclone shelters and communications equipment, as well as incorporation of 'climate proofing' where possible in infrastructure design, will be implemented in the Pacific in the coming years.

Individuals and communities should be empowered to adapt by ensuring they include a water tank to better deal with drought or floods, and allowing set backs or building on poles if homes are in coastal areas. Risk assessments to see which communities are vulnerable—and taking steps to address those risks—are essential.

Using traditional knowledge

Our Pacific ancestors living on these islands and voyaging across the Pacific dealt with a great deal of climate variability and adapted to new environments. They often did that by learning and understanding the natural system, using existing traditional knowledge, or else by sailing on to new islands.

Traditional knowledge in the region is passed on verbally, and is particularly important for increasing understanding and awareness of climate risks at the community level and in the local language. Traditional knowledge by necessity fills a gap in small islands where pure science data collection is sparse. In terms of managing climate risks, our traditional leaders have clear roles to play in our risk management programs, in mobilising community response, and in increasing ecosystem resilience through indirect methods such as defining traditional marine protected (or no-harvest) areas for reefs that are vulnerable to sea level rise, coral bleaching, and run-off sedimentation.

Many of our island communities have begun strengthening the resilience of natural systems in this manner in order to protect themselves against waves. Coral reefs and mangroves are the first line of defence against storm surges and erosion, and these are being protected through marine parks and coastal zone management. But coral reefs exist within a very narrow band of temperatures and are extremely sensitive to sea temperature increases, as

shown by the numerous bleaching events in past years. Mangroves are very sensitive to sea level changes, and their capacity for inland migration may be obstructed by the settlements they currently protect. Our best protection against extreme climatic events is thus being undermined by climate change.

Priorities

It has been said that for the Pacific Island countries, all areas affected by climate change are priority areas. In order to build a shared and sufficiently robust understanding of what needs to be done, Pacific Island countries see the need for progress in a number of mutually supportive areas.

We need to continue to build a stronger and more comprehensive international climate change regime within the Framework Convention on Climate Change that uses the best scientific knowledge and assesses its implications. The negotiations on future commitments for the international community as a whole should be based on the following priorities:

- To give equal priority to adaptation, as well as mitigation.
- To slow the rate of warming and sea level rise.
- To avoid positive climate feedbacks and their destructive consequences.
- To convince developing countries that industrialised countries are serious about addressing climate change and finding ways to reduce emissions in all countries.
- To maintain public credibility in the climate convention.
- To stop further delays in taking action.
- To minimise the economic costs to developing countries of preventing dangerous climate change.
- To stop investment by the developed world in long-lived carbon intensive capital equipment and infrastructure.
- To promote a massive worldwide expansion of renewable energy.
- To provide greater flexibility to future generations.
- To give strong signals to industry that climate change is a serious issue and that they are needed to find solutions.

Within other multi-lateral processes there is also scope for some of these issues to be addressed to increase international cooperation in finding solutions. All the impacts that have been enumerated above are considered in different forums, such as the United Nations Framework Convention on Climate Change (UNFCCC), Commission on Sustainable Development (CSD), the Intergovernmental Panel on Climate Control (IPCC), the World Meteorological Organization (WMO), the United Nations Convention on the Law of the Sea (UNCLOS), etc.

Security Council action?

Debate in the Security Council suggests that there are additional avenues for discussing one of the most critical issues for the survival of our Pacific Island Countries and communities. The Security Council and the UN General Assembly have accepted the principle of the responsibility to protect.

The dangers that the small islands and their populations face are no less serious than those nations and peoples threatened by guns and bombs. The impacts on our populations are as likely to cause massive dislocations of people as past and present wars. The impacts on social cohesion and identity are as likely to cause resentment, hate and alienation as any current refugee crisis. Pacific peoples have inhabited their islands for thousands of years, and have rich and vibrant cultures. We are likely to become the victims of a phenomenon to which we have contributed very little, and of which we can do very little to halt. We are taking actions on renewable energy, energy efficiency and seeking to avoid deforestation, but our primary focus is on adaptation and preparing for the worst. The Security Council, charged with protecting human rights, the integrity and security of States, is the paramount international forum available to us. We do not expect the Security Council to get involved in the details of UNFCCC discussions. But we do expect the Security Council to keep the matter under continuous review so as to ensure that all countries contribute to solving the climate change problem and that their efforts are commensurate with their resources and capacities. We also expect that the Security Council will review particularly sensitive issues such as implications to sovereignty, and to international legal rights from the loss of land, resources, and people.

Endnotes

1. The countries represented in the Pacific Island Forum Small Island Developing States are Fiji, Nauru, Micronesia, Marshall Islands, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu and Papua New Guinea.