

ANGLICAN ALLIANCE HONIARA 4 – 9 SEPTEMBER 2011
CLIMATE CHANGE

Introduction

Climate Change is one of the most important challenges that we are facing because of its huge impact on the whole planet. However, some countries are suffering its effects quicker and in a more damaging way than others. This is due to different factors such as geographic location, size, level of development and capacity to response and to adapt.

In this paper we will specifically examine the situation of the small islands in the Pacific region. We will analyse how particular socio-economic characteristics are exacerbated or might exacerbate the effects of climate changes and how this is threatening the enjoyment of human rights of the inhabitants of the Pacific. Given the restraints that they have to face and the imperative of addressing the impact of climate change from an international perspective, we will set out the basics of advocacy in the run-up to 2012, and look at the track record of Anglican agencies in working with local communities in the Pacific on climate change. As Anglicans with our role in the communities and globally we have a substantial contribution to make.

1. Basic notions

Do you really know what *CLIMATE CHANGE* is?

Climate change refers to a change in the state of the climate (alteration of its properties) that persists for an extended period of time whether due to natural processes or as a result of human activity

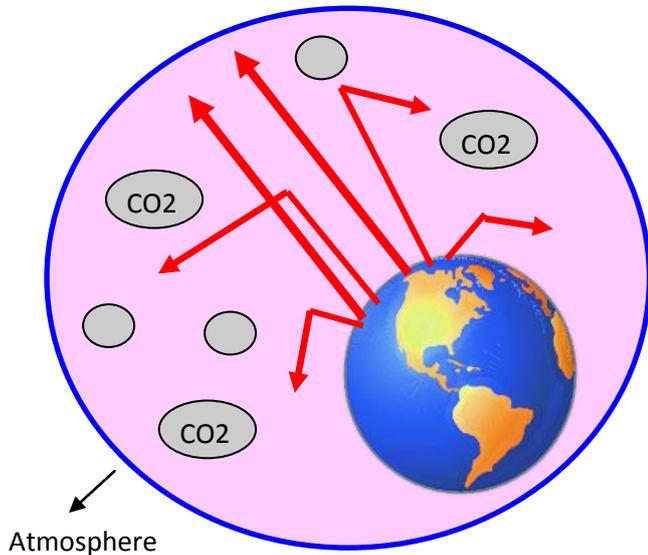
In order to understand how **CLIMATE CHANGE** works, we need to have clarity about some processes:

a. How does Earth stay warm and comfortable in the coldness of space?



The sun's radiation reaches our atmosphere, some is reflected back into space and some passes through and is absorbed by the Earth. This causes the surface of the Earth to warm up.

b. Then, there is the natural and essential process called **greenhouse effect**¹:



Heat from the Earth is radiated outward and absorbed by greenhouse gases like **CO₂** in the atmosphere. This process prevents heat from disappearing into space and keeps Earth warm enough to sustain life.

c. Then, what is the problem?

Human activity releases additional greenhouse gases into the atmosphere, which in turn trap more of the outgoing heat, intensifying the warming of the earth. There are various gases that come from varying sources.

CO₂ registers the greatest concentration in the atmosphere and remains for at least 100 years. Its annual emissions have grown between 1970 and 2004 by about 80%. This rapid growth has mainly been the result of the burning of fossil fuels (coal-oil-gas) in cars, power plants and industry. Given that plants and trees absorb CO₂, a widespread loss of forest also exacerbates its concentrations as well as intensive agricultural activity.

d. Which are the effects of climate change?

There are four broad manifestations of climate change: **temperature increase**, greatly affecting the arctic; **changes in precipitation or rainfall**, manifested in both floods and drought; **extreme weather events** like intense tropical cyclone activity and frequent heat waves; and **sea level rise**. The latter especially affecting the low-lying Pacific islands.



Global average sea level rose at an average rate of about 3.1mm per year from 1993 to 2003 (IPCC)



Despite the uncertainty and the limitations in understanding the different drivers that generate an increase in sea levels, there are some projections based on the increase of ice flow from Greenland

¹ See National geographic website

and Antarctica and the rise already registered that estimate an increase from 0.18m to 0.59m by 2100.

2. Key socio-economic characteristic

In order to understand how climate change is going to affect the small islands states in the Pacific and how this situation undermines the enjoyment of human rights, it is necessary to identify some key socio-economic issues. The reason behind is that they probably will be exacerbated by the effects of climate change or vice-versa since they can slow the process of adaptation.

Economic growth	Adult literacy	Population growth
In general it is volatile and traditionally slow, with some significant differences between the islands : Upper middle-income developing countries: Palau and Cook Lower middle-income: Fiji, Federated States of Micronesia, Republic of the Marshall Islands, Nauru, Samoa, Tonga, Tuvalu and Vanuatu Low-income countries: Papua New Guinea, Solomon Islands, Kiribati and East Timor	It is high (90 per cent or more) except in the Papua New Guinea (57 per cent), Solomon Islands (30 per cent) and Vanuatu (34 per cent) and in East Timor (43 per cent)	From 1990–2004 Solomon Islands, Vanuatu and Papua New Guinea had annual population growth rates in excess of 2.5 per cent well above the average for developing countries. It has also been high in much of Micronesia, and very high (exceeding 5 per cent) in recent years in East Timor. It has been low (1 per cent or less) in Cook Islands, Niue, Samoa, Tonga, Fiji and Nauru ²

Key income sources		
Tourism	International Aid and remittances	Fishing license fees
This a important source of income, for example it accounts for 49% of gross domestic product (GDP) in Palau, 47% in Cook, 17% in Vanuatu, 15% in Kiribati and Tonga and 13% in Fiji	Heavy dependent on these two sources of income, specially linked to former colonial powers. In states of Micronesia, Kiribati, the Marshall Islands, Nauru, Niue and Tuvalu aid accounts for at least one 33% of the GDP.	Foreign boats pay fees to operate. In Kiribati and Tuvalu these account for over 40% of the GDP ³

In the following sections we will examine the link between these socio-economic aspects and the impact of climate change.

How have you experience the following climate change-related events in your country?

² The information registered in this table was taken from Commonwealth from Australia (2006) Pacific 2020: challenges and opportunities for growth. AUSAID

³ The information of this table was taken from the book Climate change and small islands states written by Jon Barnett and John Campbell (2010)

3. The impact of climate change on the Pacific islands

Given their unique circumstances, the small islands in the Pacific are already suffering and will be further impacted by the following climatic events:

* **Rising water temperatures:** as a result of global warming, sea water temperature also increases. Coral reefs will be seriously affected since higher temperature might result in “bleaching” of coral which is a form of damage that leaves a whitened appearance. The coral will experience reduced growth and reproductive capacity and if there are multiple bleaching events without enough time for recovery this might kill them.

The Coral reefs act as food incubators from which fish and sea creatures receive nutrients. Their destruction directly threatens the physical boundaries and security of the Pacific islands, and poses serious food security risks to islands that rely on fisheries as their main food sources. Because reefs form a natural, physical barrier that protects the coastline from severe weather events, their destruction, combined with rising sea levels, causes sea water to infiltrate farmland and leads to coastal erosion.

Marine and freshwater biological systems will suffer, presenting shifts in ranges and changes in algal, plankton and fish abundance in high-latitude oceans; and range changes and earlier fish migrations in rivers.

* **Ocean acidification:** Increasing atmospheric CO₂ concentrations lead to further acidification, it is expected to have negative impacts on marine shell-forming organisms (e.g. corals) and their dependent species. However, more research needs to be done in this area

* **Loss of agricultural land and risk to food security:** Rising sea levels are salinating the water table, and making it impossible to grow traditional crops. The loss of productive farmland poses a threat to food security.

* **Extreme events:** more intense and less frequent rainfall might cause flooding and droughts. Many islands rely on regular rainfall to recharge limited groundwater resources. Less rain or too much will threaten food and water security.

Low-lying islands may be rendered uninhabitable, and they are especially vulnerable to powerful storm surges that combined with rising sea levels amplify the dangers. Flooding from heavy rainfall can also produce dangerous mudslides and spoil the infrastructure of the islands (houses, roads etc) providing little shelter. In 2006, Cyclone Heta struck Samoa and Tonga and devastated Niue. El Niño events can also be exacerbated, for example in 1997/1998 Niño events result in spread drought and food shortage

* **Water:** By mid-century, climate change is expected to reduce water resources in many small islands, to the point where they become insufficient to meet demand during low-rainfall periods. Likewise, rising sea levels will likely cause saltwater intrusion into the groundwater supply.

Additionally, higher air temperatures are leading to higher rates of water evaporation, reducing soil moisture and decreasing the rate of groundwater recharge.

* **Invasion of non-native species:** with higher temperatures might be an expansion of mosquito distribution that carries malaria, dengue fever and other diseases.

* **Deterioration of coastal zones:** erosion of beaches due to the events above mentioned will affect coastal zones where the urban areas of the Islands are mostly located, including the administrative centres.

4. Socio-economic characteristics and climate change effects

Can you identifier additional climate change-related events that take place in your island?

Climate change has already had dramatic consequences for the islands, and things will get worse quickly if action is not taken. First of all, the life itself of the islands is in danger since their future disappearance is a probability. This has enormous consequences and we will come back to this problem later. The traditional way of life of local peoples will change irrevocably. Agricultural production will be seriously impacted by the loss of coastal land, flooding, salination, cyclones and drought with consequences for exportation and the availability of food in the internal market. Likewise, fisheries will be seriously spoiled due to the transformation of fish habitats, migrating changes and the damage in related infrastructure.

Tourism, a major source of income for some islands, could also be damaged due to the loss of beaches, the damage that extreme events might cause to tourism infrastructure and the lack of water supply. If agriculture, fisheries and tourism are impacted the prospect for already weak economies is grave, even more if we take into account that the incomes from aid and remittances are neither a stable source nor a guarantee for growth. The lack of resources limits the capacity of small islands to implement adaptation plans.

Two other important elements are the growth of the population since this can generate more pressure in the provision of basic services, but also more people consume more and produce more waste. Waste disposal is already a problem for the smallest islands. According to Jon Barnett and Jhon Campbell:

The cost of effective systems for disposing of solid and liquid wastes are beyond the means of governments, and where small land areas mean even small volumes of waste cause environmental, health, and aesthetic problems. In addition, exporting waste, even for recycling and reuse, is not economically feasible given high transport costs. As a result, the non-biodegradable waste arising from consumption of imported product (...) including plastic bags and bottles, nappies and oils accumulate in island ecosystems

Finally, where there is illiteracy, this poses a huge barrier to adapting to climate change. People's daily experience, their traditional knowledge and first hand contact are all invaluable when talking about the environment. Some behaviour such as waste management can be changed, but this relies on public information systems. A lack of access to information about the drivers of climate change

can damage the well being of local people. It can also limit their ability to speak up about their predicament, and build the partnerships needed to find a way forward. Climate change is a problem that everyone in the planet is experiencing, however, in different ways, with different responsibilities.

Most countries in the world have ratified treaties to deal with climate change. The United Nations Framework Convention on Climate Change and the Kyoto Protocol constitute two important instruments. Both recognise that climate change implies common but differentiated responsibilities. However there is a disproportionate relation between those who are the most responsible for the emissions of greenhouses (developed countries) and those who are rapidly suffering the consequences. Although the islands have contributed little to the problem, they are being dramatically affected. Furthermore, to speak up about these issues, states have to have access to the international forums. This demands significant resources, for example for the annual meetings of the parties to the United Nations Framework Convention on Climate Change, each country has to send its delegates. At the meeting of the COP 14 in Poznan, Poland, out of a total 3,958 delegates, the independent islands from the Pacific had a total of only 100 delegates (ranging from 25 from Papua New Guinea to two for Fiji). For those islands that are dependent on colonial powers, the situation is more difficult since they have no representation and have to wait for the colonial government to speak for them.

Despite the restraints, small islands have been able to publicise their situation and have been heard in the international arena. However, more needs to be done in this area since the deterioration of the environment is very fast. In this respect, the provinces and churches might have a deciding role, not just in promoting a behaviour modification, but also advocating and speaking up about the islands' situation. A human rights approach can reinforce this advocacy campaign.

5. Why a human rights-based approach?

There are powerful reasons to adopt a human rights approach when claiming more action to deal with climate change:

- The most important reason is that the effects of climate change are threatening the enjoyment of many human rights such as to life, self-determination, health, food, shelter, means of subsistence, cultures, among many others.
- *Human face.* In complex scientific deliberations, a human rights approach provides the human face of the problem, asking specific questions about who will suffer, what and why and how to find a remedy
- This approach provides the moral and legal force of human rights discourse, and identifies the international responsibilities of developed nations. This is not just an environmental or scientific challenge - it is also a moral one.
- A human rights based approach provides a framework for people who feel disempowered at local level to find a remedy. All states around the world have binding commitments to ensure political, civil, economic, social and cultural rights of their citizens, and also to

implement the appropriate measures to the extent of their available resources to prevent and to respond to emergencies.

- Human rights empowers the poor and voiceless, it is the discourse of those who are excluded

The following graph, submitted by the government of Maldives to the High Commissioner of Human Rights, clearly presents the relation between climate change and human rights:

CLIMATE IMPACT	HUMAN IMPACT	RIGHTS IMPLICATED
Sea Level Rise * Flooding * Sea Surges * Erosion * Salination of land and water	* Loss of land * Drowning, injury * Lack of clean water, disease * Damage to coastal infrastructure, homes, and property * Loss of agricultural lands * Threat to tourism, lost beaches	* Self-determination [ICCPR, ICESCR, 1] * Life [ICCPR, 6] * Health [ICESCR, 12] * Water [CEDAW, 14; ICRC 24] * Means of subsistence [ICESCR, 1] * Standard of living [ICESCR, 12] * Adequate housing [ICESCR, 12] * Culture [ICCPR, 27]
Temperature Increase * Change in disease vectors * Coral bleaching * Impact on Fisheries	* Spread of disease * Changes in traditional fishing livelihood and commercial fishing * Threat to tourism, lost coral and fish diversity	* Life [ICCPR, 6] * Health [ICESCR, 12] * Means of subsistence [ICESCR, 1] * Adequate standard of living [ICESCR, 12]
Extreme Weather Events * Higher intensity storms * Sea Surges	* Dislocation of populations * Contamination of water supply * Damage to infrastructure: delays in medical treatment, food crisis * Psychological distress * Increased transmission of disease * Damage to agricultural lands * Disruption of educational services * Damage to tourism sector * Massive property damage	* Life [ICCPR, 6] * Health [ICESCR, 12] * Water [CEDAW, 14; ICRC 24] * Means of subsistence [ICESCR, 1] * Adequate standard of living [ICESCR, 12] * Adequate and secure housing [ICESCR, 12] * Education [ICESCR, 13] * Property [UDHR, 17]
Changes in Precipitation * Change in disease vectors * Erosion	* Outbreak of disease * Depletion of agricultural soils	* Life [ICCPR, 6] * Health [ICESCR, 12] * Means of subsistence [ICESCR, 1]

Abbreviations: (International treaties for the protection of human rights)

UDHR: Universal Declaration on Human Rights

ICCPR: International Covenant on Civil and Political Rights

ICESCR: International Covenant on Economic, Social and cultural Rights

CEDAW: The Convention on the Elimination of All Forms of Discrimination against Women

ICRC: International Covenant on the rights of the child

What about self-determination?

Can you identify other human rights at risk because of climate change?

As was mentioned previously the loss of land has enormous consequences for the islands. The self-determination of peoples is recognised as a fundamental right, it is **indivisible but also a pre-**

requisite for the realization of all human rights. This is included in the first article of both covenants the ICPPR and ICESCR:

1. All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.
2. All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.

People in the Pacific islands are threatened with the loss of their land as a result of rising sea levels. They will be among the world's first environmentally displaced people as they are forced to leave islands rendered uninhabitable due to climate change. Yet land is essential for development, for subsistence, for statehood and as a determinant of a people's position in the international arena. Although rising sea levels is a major challenge for the international community, it is one that many countries can ignore. Their development may be threatened – but in the Pacific it is the survival of the islands that is at stake. In addition to the search for local measures to mitigate the problems caused by rising sea levels, small islands must engage in constant advocacy to persuade the international community to adopt measures to cope with climate change.

The next meeting of the parties to the United Nations Framework Convention on Climate Change is from the 28th of November to the 9th of December in Durban, South Africa, this presents an opportunity to press the international community to step up the work to tackle climate change.

Discussion point: What steps should be taken to ensure that the Pacific region's voice is heard more clearly at global meetings?

In addition the Anglican Alliance Latin American and Caribbean consultation in Sao Paulo, Brazil, in October will also look at a global strategy on climate change. We can make sure that the Pacific dimension is clearly heard at this event, and is built into the global strategy.

How will we take this forward, and especially how what input will we make to the consultation in Sao Paulo? How can the global strength of the Anglican Communion support people who risk losing their island homes as a result of climate change?

What is already being doing by Anglicans?

Episcopal Relief and Development has been supporting programmes to combat climate change in the Pacific. In addition, two Anglican agencies in Australia have been undertaking the programmes set out below:

ANGLICORD:

The majority of rural households in Solomon Islands mostly rely on kerosene lamps for light. Kerosene is expensive, also a health hazard and environmentally unfriendly. ANGLICORD Jointly with Australian company Barefoot Power has partnered to support the Anglican Church of Melanesia (ACOM) to implement a program of training in entrepreneurial skills based on selling solar lamps.

The solar desk lamps are simple devices that, once charged, can provide up to 30 hours of light reducing dependency on Kerosene. The project had three key outcomes: a) creation of business opportunities for youth: b) the replacement of kerosene with environmentally friendly technology reducing greenhouse gas emissions: c) and the reduction of household expenditure on kerosene.

The pilot project period operated between April and September 2010, training 38 youth entrepreneurs and resulting in the sale of 624 solar units.

Anglican Board of Mission – Australia:

Jointly with the Anglican Church of Melanesia (ACOM) are implementing a Climate Change Adaptation project which focuses on vulnerable populations in Solomon Islands and Vanuatu. The aim of the project is to keep people on their home islands, with their culture intact and without deterioration of their standard of living or environment.

There are three main parts to the project:

- Preserving the reefs, coastline and land
- Ensuring an ongoing supply of drinkable water, food and fisheries
- Health and sanitation strategies to ensure people are as healthy as possible

Do you know other local adaptations projects to deal with the effects of climate change?

What priorities would you like the Anglican Alliance to pursue in relation to climate change in the Pacific and what are the outcomes from the Pacific consultation that you would like to see carried forward to Sao Paulo.