



Our drowning neighbours

Labor's Policy Discussion Paper on Climate Change in the Pacific

Bob Sercombe MP Shadow Minister for Overseas Aid and Pacific Island Affairs Anthony Albanese MP Shadow Minister for Environment and Heritage and Water The photos on the front cover, and below, show the effect of a king tide on the village of Betio, in Kiribati, a Pacific island country located on the equator.

"Even if we all... agreed to immediately begin meeting the earlier targets and timetables, it is too late for most of the Federated States of Micronesia. However, it may not be too late for slightly less vulnerable areas of the world, such as Manhattan or Calcutta. For nations such as my own, we will need the assistance of the international community in adapting to the rising seas and developing relocating strategies...

"The time for words is over. The time for action is now. If the human race has not advanced to the point where we can put aside immediate self-gratification for the larger global good and our own futures, then I fear for what the world of the next ten years and thereafter will become."

- President of the Federated States of Micronesia Leo Falcam, World Summit on Sustainable Development, 3 September 2002.



"I'll wait and hear what the leaders of the island states have to say. There is, nonetheless, quite a bit of debate about the science so far as greenhouse effects are concerned, and it's not all one way. It is not all the - how should one put it? - the apocalyptic view of the world and of life."

- Prime Minister John Howard, 7.30 Report, 22 September 1997; at the South Pacific Forum, Mr Howard insisted that small island countries remove any reference in the Forum Communiqué to the need for countries to cut greenhouse gas emissions.

Contents

Foreword		3
Executive Summar	y	4
Chapter One	The challenge	5
Chapter Two	A Pacific Climate Change Strategy	8
Chapter Three	Helping our neighbours	13
Your feedback		14
Appendix	The adaptation measures referred to in the UN Framework Convention on Climate Change and the Kyoto Protocol	15
References		16

Map of the Pacific



Foreword



Our Pacific neighbours are at the frontline of climate change. They provide a window into the future that Australia, and indeed the rest of the world, will face.

Papua New Guinean citizens on the Carteret Islands have just become the world's first climate change refugees. Tuvalu is expected to become uninhabitable because of rising seas levels over the coming decade, with its entire population having to relocate to other countries. Islands in Kiribati, the Marshall Islands and the Federated States of Micronesia are also expected to be flooded.

Although climate change refugees represent the dramatic endpoint of climate change, many Pacific island countries are already struggling with increasing vulnerability to extreme weather events, collapsing eco-systems and the contamination of their fresh water and crops with salt water.

For ten long years the Howard Government has failed to show leadership on climate change, and it has left Australia unprepared for the challenge. Most Government Ministers have now accepted that climate change is real, but rhetoric is not action. We believe a more proactive, strategic approach is necessary.

Two themes guide this policy discussion paper. Firstly, *Australia must help our Pacific neighbours meet the challenge of climate change*. This should be an important part of Australia's efforts to establish genuine partnerships with our Pacific neighbours. We need to embrace joint solutions to shared problems as part of a Pacific Community.

Secondly, *Australia must also do its part locally and globally to combat climate change*. Australia should ratify the Kyoto Protocol, cut its greenhouse emissions, prepare for the impact of climate change and promote the use of clean technology in Australia and the Pacific.

Australia has previously been a leader on climate change and other international environmental issues.

It's time to lead again.

" Set

Bob Sercombe MP Shadow Minister for Overseas Aid and Pacific Island Affairs

forthomy Albanese

Anthony Albanese MP Shadow Minister for Environment and Heritage and Water

Executive Summary

This policy discussion paper proposes a *Pacific Climate Change Strategy*. The proposals it makes are informed by two key themes:

<u>Australia must help our Pacific neighbours to meet the challenge of climate change</u> – from assisting our neighbours to adapt to the effects of climate change *now*, to taking climate change refugees when countries are finally overcome by rising sea levels.

<u>Australia must also do its part locally and globally to combat climate change</u> – Australia should be a leader on climate change issues, both domestically in promoting clean energy, and globally through the Kyoto Protocol process. Unfortunately, the Howard Government's approach has badly sullied Australia's reputation in the Pacific and more broadly.

This discussion paper builds on Labor's first discussion paper on the Pacific, *Towards a Pacific Community*. Australia needs to establish a more genuine partnership with our Pacific neighbours if we are to establish a Pacific Community – and assisting our vulnerable Pacific neighbours to deal with the impact of climate change should be part of that effort.

A Pacific Climate Change Strategy should involve seven key elements:

- 1. A Pacific Climate Centre to ensure proper measurement and monitoring of the effects of climate change.
- 2. Assistance for mitigation, adaptation and emergency response efforts, such as protecting fresh water sources from salt water contamination, and dealing with infrastructure decay caused by coastal erosion.
- 3. Assistance with intra-country evacuations when citizens have to be moved from low-lying areas to higher ground.
- 4. *Training* to help the citizens of countries that have to be fully evacuated.
- 5. *Establishing an international coalition to accept climate change refugees* when a country becomes uninhabitable because of rising seas levels.
- 6. Assistance to preserve the cultural heritage of those who are evacuated.
- 7. *Establishing a Pacific Climate Change Alliance* to add greater momentum to global efforts to deal with climate change. But for Australia to credibly be part of such an alliance, it must ratify the Kyoto Protocol and commit to cutting greenhouse gas emissions.

Labor believes Australia can and should be a leader on climate change issues locally, regionally and globally. This requires a long-term vision of what Australia and the region need to do to prepare for the impact of climate change. This discussion paper aims to set out such a vision.

Chapter One The challenge

There is scientific consensus that human activity has increased the levels of greenhouse gases in the atmosphere and that this is making our climate change. As a result, the atmosphere is warming at a rate not seen for 10,000 years. 2005 was the hottest year ever recorded in Australia and the second hottest ever recorded globally.

Climate change is real and it is hurting the planet now. Small island countries in the Pacific are particularly vulnerable to climate change, through rising sea levels and extreme weather events.

Even if we were to stop all greenhouse gas emissions right now, Pacific island countries would still be vulnerable to climate change because it is already built into our atmospheric systems.

Our Pacific neighbours are facing a monumental challenge in climate change. This section examines the four key threats to our Pacific neighbours:

- rising sea levels;
- extreme weather events;
- collapsing ecosystems; and
- the contamination of fresh water with salt water.

Rising sea levels

The Pacific has some of the smallest, and lowest-lying, countries in the world. It has been predicted that climate change will lead to a rise in sea levels of 14-32cm by 2050.¹ However, a smaller rise would still have a devastating effect on many Pacific countries. Tuvalu faces the prospect of total inundation by rising sea levels, as do islands in Vanuatu, Kiribati, the Marshall Islands, the Federated States of Micronesia and Papua New Guinea. King tides are already flooding islands across the region.¹¹

The SEAFRAME Project attempts to secure data on sea level change that is absolute (this means ignoring the role of land movement as part of sea level shifts). The early data sourced from this study shows a rise in sea levels of 5.9mm a year at the Tuvalu measuring station, 8.1mm a year at the Manus island station (in Papua New Guinea) and 15.5mm a year at the Tonga station, compared to the global average of a rise of 1-2mm a year.ⁱⁱⁱ This is an imminent catastrophe for atoll states such as Tuvalu. Some Pacific leaders are declaring that it is already 'too late' for their countries to be saved.^{iv}

Extreme weather events

The increasingly volatile weather patterns associated with climate change^v are an immediate and rising threat to our Pacific neighbours. Deaths from weather related disasters have already increased in Oceania by 21% since the mid 1970s.^{vi} Cyclone

wind speeds are predicted to increase by 10-20% over the next few years because of their complex relationship with sea temperature.^{vii} The projected *increase in the power* of tropical storms is compounded by the *increased volume* of tropical storms that has occurred over the last 30 years.^{viii}

We have recently seen the devastation that a Category 5 hurricane, such as Hurricane Katrina, wreaked on the United States. Many of our neighbours have to plan for the economic, environmental and social devastation of a natural disaster because of the increasingly violent cyclones and storm surges throughout the Pacific.

As the UN Intergovernmental Panel on Climate Change has stated, these extreme weather events pose a greater threat to atoll states, as storm surges will cause greater structural damage and have ongoing adverse effects.^{ix} Aside from the deaths, injuries and financial cost associated with storm surges, they cause widespread coastal erosion. Land space is already at a premium on the smaller Pacific islands, so they cannot sustain an ongoing loss of land.

Collapsing eco-systems

Pacific societies are highly dependent on their eco-systems, as their economies are often a mixture of formal exchange and subsistence practices. Unfortunately, Pacific island countries' eco-systems are particularly vulnerable to climate change.

One effect of climate change is the bleaching of reefs. Reefs are the foundation of atoll states, as they break the impact of violent weather on land. They protect against coastal erosion from severe weather and also generate the material that replenishes coastal areas. Reefs are a secure location for fish stocks to breed and feed. Tuvalu provides an example of this interdependence – its inner reef areas (along with the lagoon) provide most of Tuvalu's food.

Finally, reefs are a sink, or absorber, of carbon dioxide. However, increases in sea surface temperature have resulted in significant coral bleaching in the Pacific.^x The increase in sea level temperature causes reef algae to be expelled or reduced, resulting in the death of the coral building animals.^{xi}

Reefs are vital to many Pacific island eco-systems – so their bleaching is a threat to the sustainability of their entire social-eco-systems.

Contamination of fresh water with salt water

Rising sea levels have the potential to make a number of our Pacific neighbours uninhabitable long before they are completely flooded.^{xii} Rising sea levels, coupled with storm surges, contaminate fresh water with salt water. The *Sydney Morning Herald* recently profiled Tegua island, which is part of Vanuatu, and will shortly be evacuated because of the impact of climate change:

The biggest problem for Tegua islanders has been the lack of fresh water. There are no rivers or creeks, so they relied on two small freshwater springs. One has dried up and the other is covered by the sea. For the past decade or more, islanders have had to rely on rainwater they get for six months of the year... For the other six months there is only what water they have saved in small plastic containers.^{xiii}

Citizens on the Carteret islands in Papua New Guinea are also currently being moved because 'their health has been steadily deteriorating because they are losing access to fresh water, and gardens are being destroyed by advancing salt water.'^{xiv}

The UN Intergovernmental Panel on Climate Change believes salt water contamination is one of the most potentially devastating symptoms of climate change. The contamination of groundwater is a significant threat to our Pacific neighbours, reducing agricultural production and the availability of drinking water.

It has been estimated that the fresh water supplies of some Pacific island countries could drop by up to 50%.^{xv} While this reduction obviously threatens the viability of low lying states, elevated states will also have to deal with the contamination of coastal agricultural land. According to the UN Intergovernmental Panel, many tropical root plants, such as taro, have a low tolerance for salt.^{xvi}

The challenge – and why it matters for Australia

These are the four key threats – rising sea levels, extreme weather events, collapsing eco-systems and the contamination of fresh water with salt water – that our Pacific neighbours are facing. But there are others – climate change also poses significant public health risks. Pacific island countries will need to adapt to the increase in vector and water borne diseases (for example, malaria) caused by warmer temperatures. In Australia, for instance, the Australian Medical Association and the Australian Conservation Foundation have estimated temperature related deaths could double in Australia to 2,500 deaths per year by 2020.^{xvii}

These threats represent a considerable challenge to individual countries, but they also represent a challenge to regional stability and security. Climate change has the potential to destroy development gains in these countries. According to a recent Pentagon report, climate change has the potential to destroy food systems and living conditions, and lead to considerable instability, disruption and conflict.^{xviii}

This is why climate change in the Pacific is an issue for Australia for security reasons, not just for environmental or altruistic reasons. If Australia is committed to the stability and security of the Pacific as a precursor for its own security – this is, after all, why the Howard Government undertook the \$1 billion Regional Assistance Mission to Solomon Islands (RAMSI) – it is essential that Australia adopt a proactive, strategic approach to climate change in the Pacific.

Australia also has international obligations under the UN Framework Convention on Climate Change (UNFCCC) to assist Pacific island countries and other developing nations adapt to the impact of climate change. Under the UNFCCC, all Parties are required to formulate and implement national and, where appropriate, regional mitigation and adaptation programs. Developed countries like Australia are required to assist developing countries "that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects."

Chapter Two A Pacific Climate Change Strategy

A Pacific Climate Change Strategy needs to assist our Pacific neighbours to deal with the current impacts of climate change, while also preparing for the long-term effects, which include the flooding of entire nations. Labor believes an effective Pacific Climate Change Strategy must include the following elements.

1. A Pacific Climate Centre

The Fijian Director of Meteorology has said that the 'current Pacific observing and monitoring systems are among the worst in the world.'^{xix} In *Towards a Pacific Community*, Labor proposed that a Pacific Environment and Resource Agency should be created, building on the current lead regional agency for environmental issues, the South Pacific Regional Environment Programme (SPREP). Given the threat climate change poses to Pacific island countries, and given the current dire state of Pacific monitoring systems, Labor believes a dedicated Pacific Climate Centre should be created as part of the Pacific Environment and Resource Agency.

The Centre should ensure proper measurement and monitoring of the effects of climate change, and model the impacts of climate change on Pacific island countries. The Centre would coordinate and build on the work of the South Pacific Sea Level and Climate Monitoring Project (SPSLCMP) which Australia created in 1991, the Pacific Island Global Climate Observing System (PI-GCOS), the South Pacific Applied Geoscience Commission (SOPAC), SPREP, the CSIRO and other international meteorology institutions.

The Centre should also assess the vulnerability of island countries to extreme weather events, and institute an early warning system for such events. The 2005 Indian Ocean tsunami demonstrates the devastation that can occur when early warning systems are not in place. Unfortunately the Pacific currently lacks such a comprehensive early warning system, and is reliant on the few national meteorological services in the region. For the sake of all Pacific Community members, Australia included, a warning system is needed that can coordinate information and provide a complete picture of weather patterns.

Extreme weather events pose a rising threat – the cost in human lives and infrastructure from lack of preparation is too great to ignore.

2. Assistance for mitigation, adaptation and emergency efforts

Australia should assist Pacific island countries with their efforts to mitigate, or adapt to, the effects of climate change, such as protecting fresh water sources from salt water contamination, adapting to land losses and dealing with infrastructure decay caused by coastal erosion.

Labor believes Australia should work with other donors to assist each Pacific country to develop a national adaptation strategy, by providing funding and expertise and by assisting with specific adaptation measures. Canada for instance has worked with some Pacific island countries on appropriate national responses. Facilitating local community consultation will also be vital – to ensure that communities fully understand the nature of the problem, and to collaborate with them in adaptation measures.

Consideration should also be given to developing a regional plan for climate change emergency responses. This could cover issues such as capacity building for Pacific island countries to respond to climate related events such as storm surges, as well as developing a regional capacity to assist Pacific island countries prepare for, and respond to, climate related natural disasters.

Australia's development assistance must also take account of climate change considerations. For example, it would not make sense to provide funds for an infrastructure project in an area which is vulnerable to climate change related events.

3. Assistance with intra-country evacuations

Some Pacific island countries will not have to be evacuated entirely, but their citizens will have to evacuate from one part of the country to another. Labor believes Australia should assist in these efforts as needed.

4. Training

Labor believes Australia should assist the citizens of Pacific island countries that have to be fully evacuated with training initiatives. Tuvalu, for example, is expected to become uninhabitable in the next decade. Australia should invest in vocational training in Tuvalu, so that:

- Tuvalu citizens can meet the skilled migration requirements in a variety of countries, should some choose to emigrate prior to the full evacuation of Tuvalu; and
- the remaining Tuvalu citizens can successfully adapt and find work in receiving countries when the country is fully evacuated.

The Tuvalu government has previously said that it wants to establish a Tuvalu Technical Education Centre, which would provide training in particular trades.^{xx} Labor believes Australia should work with other aid donors to support this initiative.

5. An international coalition to accept environmental refugees

In time, it is likely that one or more Pacific island countries will have to be completely evacuated – that is, their citizens will not have the option of moving to a different part of the country because the whole country is being flooded, or has been made uninhabitable because of salt water contamination. On current projections, Tuvalu is likely to be the first country that is fully evacuated due to climate change, but ultimately Kiribati, the Marshall Islands and others may also have to confront this scenario.

Tuvalu has twice approached the Howard Government for assistance with climate change refugees. It has been refused both times.

Labor believes that Australia should, as part of an international coalition, do its fair share to accept climate change refugees as part of our humanitarian immigration program. Yet Australia needs to work with our Pacific neighbours to prepare for such contingencies now. Firstly, Australia should help to develop a coalition of Pacific Rim countries willing to accept climate change refugees. Secondly, Australia should be working at the UN to ensure appropriate recognition of climate change refugees in existing conventions, or through the establishment of a new convention on climate change refugees.^{xxi}

6. Assistance to preserve cultural heritage

When islands, and indeed entire countries, have to be evacuated, it is important that their cultural heritage is not lost. The Pacific should engage in a collation and recording exercise that would assist in securing the cultural heritage of those peoples that lose their homelands.

In *Towards a Pacific Community*, Labor proposed the creation of a Pacific Cultural Centre to protect and promote the cultures of the Pacific. This Centre could assist with the documentation of the cultural practices, traditional technologies and history of Pacific island countries, and areas within countries, most under threat.

7. A Pacific Climate Change Alliance

Pacific island countries have led the world in calling for strong action on climate change. At international conference after conference, they provide the clarion call for urgent action. Obviously, they have the most to lose in the short term from climate change, but Australia also has a lot to lose from worsening climate change – as our recent drought has demonstrated. Australia is also vulnerable to the extreme weather events that batter our Pacific neighbours.

Unfortunately, Australia has not developed a shared agenda for tackling climate change with our Pacific neighbours. Australia is currently not invited to preparatory meetings with our Pacific neighbours prior to major international environmental conferences, such as the recently held UN Climate Change Conference in Montreal. Australia does not lobby collectively with Pacific island countries. There is no Pacific regional negotiating strategy which includes Australia.

This is a failure of leadership by the Howard Government. The failure goes back to 1997, when the Howard Government arrogantly insisted at the Pacific Islands Forum that the Forum Communiqué should not contain any references to climate change, despite the devastating effects on our Pacific neighbours.

The Howard Government's heavy-handed approach undermines the great potential of a genuine partnership between Australia and our Pacific neighbours, if we worked together to combat climate change. The development of cooperative relationships between all Pacific island countries and others in the broader Asia Pacific region would provide greater momentum to international climate change negotiations.

Labor believes Australia should work with our Pacific neighbours to establish a Pacific Climate Change Alliance. A Labor government has previously demonstrated the effect a committed coalition of countries can have on the international system. During the Uruguay Round of trade negotiations, the Australian-led Cairns Group succeeded in opening up agricultural markets for the first time (of course, there is still work to be done).

The Pacific Climate Change Alliance should likewise lead the world in calling for effective global action on climate change. It could use the voices of Pacific Islanders to tell the story of how climate change is hurting now, and the dramatic impact it will have in the future. Such an alliance would provide an important voice for those nations that have the most to lose from climate change.

For Australia to credibly be part of such alliance, though, the Howard Government must ratify the Kyoto Protocol, commit to cutting greenhouse gas emissions and do more to provide economic incentives for the use of clean technology.

The potential impact of a Pacific Climate Change Alliance can be made clearer by considering two existing global and regional mechanisms for tackling climate change.

Firstly, an Adaptation Fund was established when the Kyoto Protocol came into force, to support the implementation of adaptation projects and programs (see the Appendix for further details). Unfortunately, because Australia has not ratified the Kyoto Protocol, it is not able to shape the rules and structure of the Adaptation Fund.

However, if Australia *did* ratify the Kyoto Protocol and also established a Pacific Climate Change Alliance, the Alliance could ensure the Fund played an important role in assisting Pacific island countries.

Secondly, the Alliance could endeavour to ensure the Asia Pacific Partnership on Clean Development and Climate also benefits the Pacific. The Partnership was recently established to exchange clean technology – a positive, but limited, approach to tackling climate change. Unfortunately, unlike the UNFCCC and the Kyoto Protocol, the Partnership does not extend to our Pacific neighbours, who are crying out for such technology. The Pacific Climate Change Alliance could work to ensure this particular weakness is corrected.

A third possible area of action for the Alliance could be in lobbying for appropriate insurance arrangements to cover Pacific island countries affected by climate change.

The Howard Government has dealt Australia out of the global debate over climate change. It has ignored the pleas of our Pacific neighbours for developed countries to act responsibly, and pursue environmental sustainability.

Labor believes it's time to re-establish Australia as an agenda-setter on environmental issues through a Pacific Climate Change Alliance.

Chapter Three Helping our neighbours

This policy discussion paper builds on Labor's first discussion paper on the Pacific, *Towards a Pacific Community*. It has proposed a *Pacific Climate Change Strategy*, to help our Pacific neighbours deal with the potentially devastating effects of climate change, now and into the future. Such a strategy should also be part of Australia's efforts to establish a more genuine partnership with our Pacific neighbours.

The proposals made in the paper have been guided by two themes:

- Australia must help our Pacific neighbours meet the challenge of climate change; and
- Australia must also do its part locally and globally to combat climate change.

Next steps

We will continue to consult with our Pacific neighbours about these proposals in coming months. A possible road-map for realising this Pacific Climate Change Strategy would involve the following steps:

- The Pacific Islands Forum could call a special Leaders meeting to discuss climate change, and the climate change issues facing each country
- Leaders could commit to the establishment of a Pacific Climate Centre
- Leaders could commit to the establishment of a Pacific Climate Change Alliance, to help set the agenda on climate change issues globally
- Australia could start working with international partners to develop an international coalition to accept climate change refugees from the Pacific
- Australia could work at the UN to ensure that climate change refugees are appropriately recognised in international conventions
- Australia must ratify the Kyoto Protocol, and commit to cutting its greenhouse gas emissions
- Australia could provide more support for clean energy projects, both domestically and through the aid program in 2004-05, only \$238,000 was devoted to renewable energy projects out of an aid budget of \$2.25 billion^{xxii}

Labor believes Australia can and should be a leader on climate change issues, locally, regionally and globally. This requires a long-term vision of what Australia and the region need to do to prepare for the impact of climate change.

It's time to begin establishing a genuine partnership with our drowning Pacific neighbours to combat climate change.

It's time for Australia to be a leader on environmental issues once again.

YOUR FEEDBACK

We welcome your feedback on the ideas presented in this policy discussion paper on climate change in the Pacific.

Please write to:

Bob Sercombe MP Shadow Minister for Overseas Aid and Pacific Island Affairs R2 110 Parliament House ACT Australia 2600

Anthony Albanese MP Shadow Minister for Environment and Heritage and Water R1 60 Parliament House ACT Australia 2600

Or email:

Bob.Sercombe.MP@aph.gov.au

A.Albanese.MP@aph.gov.au

ACKNOWLEDGMENTS

This policy discussion paper has been a collaborative effort, and we wish to thank the many people, throughout the Pacific and in Australia, who contributed their ideas and feedback. We would like to particularly acknowledge the efforts of Jay Caldwell and Dave Peebles.

PHOTO CREDITS

Greenpeace – front cover, 1, 4

Appendix

Adaptation and the UN Framework Convention on Climate Change

Australia has ratified the UN Framework Convention on Climate Change (UNFCCC).

The UNFCCC refers to adaptation in several of its articles:

<u>Article 2 – Objective</u>: "The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."

<u>Article 4.1(b)</u>: All Parties shall "Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change."

<u>Article 4.1(e)</u>: All Parties shall "Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods."

<u>Article 4.1(f):</u> All Parties shall "Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change."

<u>Article 4.4:</u> "The developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects."

Adaptation is also an important priority in the Kyoto Protocol. Australia and the United States are the only industrialised countries that have not ratified the Kyoto Protocol.

The Protocol's Adaptation Fund will be financed from a share of the proceedings from the clean development mechanism project activities and other sources. The Montreal Meeting of the Parties to the Kyoto Protocol determined that the Fund "shall finance concrete adaptation projects and programmes in developing country Parties that are Parties to the Kyoto Protocol". (Decision -/CMP.1)

REFERENCES

ⁱ See J Barnett and N Adger, *Climate Dangers and Atoll Countries*, Tyndall Centre for Climate Change Research, Norwich (2001).

ⁱⁱ Ben Bohane, 'A village flees for safer ground', *The Sydney Morning Herald*, 23-25 December 2005, 9.

ⁱⁱⁱ See R Jones, A Pittock and P Whetton, 'The Potential Impacts of Climate Change' in A Gillispie and W Burns (eds) *Climate Change in the South Pacific: Impacts and Responses in Australia, New Zealand and Small Island States*, Kluwer Academic Publishing, Dordrecht (2000) 7-32.

^{iv} L Falcam et al, *Statements by World Leaders at the World Summit on Sustainable Development* 2002 Available at <u>http://www.un.org/events/wssd/statements/</u>

^v See W Burns, 'The Impact of Climate Change on Pacific Island Developing Countries in the 21st Century' in A Gillispie and W Burns (eds) *Climate Change in the South Pacific: Impacts and Responses in Australia, New Zealand and Small Island States*, Kluwer Academic Publishing, Dordrecht (2000) 233-250.

^{vi} See M Canisbee and A Sims, *Environmental Refugees: The Case for Recognition*, NEF Pocketbooks, London (2003).

^{vii} See W Burns, 'The Impact of Climate Change on Pacific Island Developing Countries in the 21st Century' in A Gillispie and W Burns (eds) *Climate Change in the South Pacific: Impacts and Responses in Australia, New Zealand and Small Island States*, Kluwer Academic Publishing, Dordrecht (2000) 233-250, 6; M Canisbee and A Sims, *Environmental Refugees: The Case for Recognition*, NEF Pocketbooks, London (2003).

^{viii} E Spouga, Statement by Ambassador Enele S. Sopoaga, Permanent Representative to the United Nations at the 60th Session of the General Assembly (Second Committee: Agenda Item 52: Sustainable Development) New York, 2005.

^{ix} See L Nurse and G. Sem, 'Small Island States', in IPCC (ed), *Climate Change 2001: Impacts, Adaptation and Vulnerability* (2001).

^x See J Barnett and N Adger, *Climate Dangers and Atoll Countries*, Tyndall Centre for Climate Change Research, Norwich (2001)

^{xi} See W Burns, 'The Impact of Climate Change on Pacific Island Developing Countries in the 21st Century' in A Gillispie and W Burns (eds) *Climate Change in the South Pacific: Impacts and Responses in Australia, New Zealand and Small Island States*, Kluwer Academic Publishing, Dordrecht (2000) 233-250

^{xii} See L Nurse and G. Sem, 'Small Island States', in IPCC (ed), *Climate Change 2001: Impacts, Adaptation and Vulnerability* (2001).

^{xiii} Ben Bohane, 'A village flees for safer ground', *The Sydney Morning Herald*, 23-25 December 2005, 9.

^{xiv} Ben Bohane, 'A village flees for safer ground', *The Sydney Morning Herald*, 23-25 December 2005, 9.

^{xv} See W Burns, 'The Impact of Climate Change on Pacific Island Developing Countries in the 21st Century' in A Gillispie and W Burns (eds) *Climate Change in the South Pacific: Impacts and Responses in Australia, New Zealand and Small Island States*, Kluwer Academic Publishing, Dordrecht (2000) 233-250.

^{xvi} See L Nurse and G. Sem, 'Small Island States', in IPCC (ed), *Climate Change 2001: Impacts, Adaptation and Vulnerability* (2001).

^{xvii} Australian Medical Association and Australian Conservation Foundation, *Addressing the public health impacts of climate change* (September 2005).

^{xviii} See Peter Schwarz and Doug Randall, *An abrupt climate change scenario and its implications for United States' national security*, Pentagon, Washington (October 2003).

^{xix} 'Fiji Weatherman raises climatic woes for the region', *Fiji Times*, 8 November 2005, 4. ^{xx} See S Paape, *Education For All: 2000 Assessment Tuvalu Report*, UNESCO (2000). Available at <u>http://www2.unesco.org/wef/countryreports/tuvalu/contents.html</u>

^{xxi} See T Collins, As Ranks of 'Environmental Refugees' Swell Worldwide, Calls Grow for Better Definition, Recognition and Support, in UN Day for Disaster Reduction, United Nations University: Institute for Environment and Human Security (2005); D Falstrom, 'Stemming the Flow of Environmental Displacement: Creating a Convention to Protect Persons and Preserve the Environment'

(2001) 1 Colorado Journal of International Environmental Law and Policy 2-32.

^{xxii} AusAID, Answers to Questions on Notice (June 2005), 121.

