



# Pacific challenges

## Towards sustainable futures

Pacific island countries exhibit a unique combination of geographical, biological, cultural and economic characteristics. Over thousands of years, its peoples have developed unique cultures closely connected to the land and sea. The rich diversity of the forests and oceans have provided abundant food, medicines, building materials and fibres for daily life as well as inspiration for the cultural stories, music and art. Traditionally, Pacific islanders were subsistence farmers and fisher folk, but their fragile environments are increasingly threatened by population growth, climate change and economic pressures on their natural resources. While commercial fishing, logging, mining and tourism provide valuable income for these countries as well as education and healthcare for their citizens, they need to be managed carefully.

### *Key words and concepts*

**carbon credits, carbon trading, compensation, deforestation, degradation, ecotourism, environmental refugees, exclusive economic zones, matrilineal, Millennium Development Goals, sustainability, sustainable tourism**

## The marine environment

The culture and lifestyle of the Pacific islanders is closely connected with the ocean. The early settlers navigated the open oceans to settle and travel between the tiny islands amid the vast Pacific Ocean using their knowledge of the stars, currents and wind. The oceans provided food and other resources for their lives and formed the basis of their oral histories.

The 371 kilometres of exclusive economic zones around the outer islands of each Pacific island country provide nearly 11 square kilometres of ocean for every Pacific islander. The ocean is home to many species of marine flora and fauna, and their protection is key to preserving the culture and economic wellbeing of the islanders. Unfortunately, coral reefs and many species of marine life (for example the grey whale and leatherback turtle) are under threat due to human activity such as pollution, overfishing and global warming.

### **Coral reefs**

The coral reefs are among the Pacific Ocean's most beautiful natural wonders. They are formed by large colonies of soft coral polyps within a hard protective crust of limestone. When the polyps die, the limestone crust remains behind and gradually builds up over time to form huge coral reefs. Coral reefs are one of the most productive and species-diverse habitats in the ocean.

They protect coastal areas against storm damage and rising seas and lock up carbon dioxide from the atmosphere. Oceans are gradually increasing in temperature and becoming more acidic as a result of global warming and climate change. This, in turn, has devastating effects on coral production, resulting in coral death and loss of habitat for fish and other animals. This means the food supply for Pacific islanders is threatened.

Many Pacific island countries have set up marine conservation areas to help protect their natural resources.

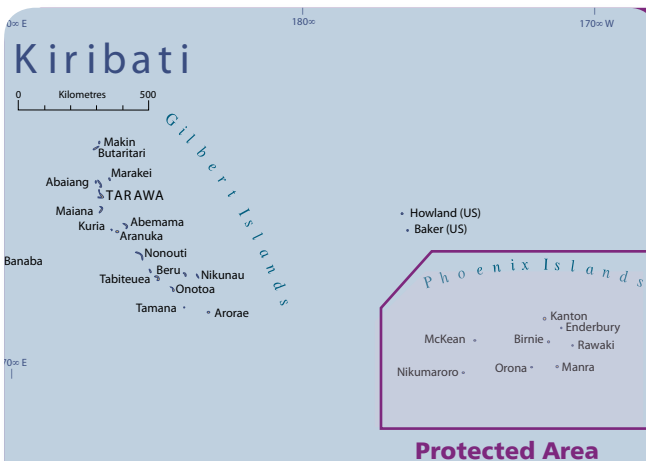


Casey Mahaney/Lonely Planet Images



## Marine turtles

Six of the seven species of sea turtles – leatherback, green, hawksbill, loggerhead, Olive Ridley and flatback turtles – are found in the Pacific. In some Pacific countries, turtle meat and eggs are a traditional food source, turtle bones are used to make tools, and turtle shells are used for decorative and ceremonial purposes. Turtles feature in myths and songs of many Pacific countries. However, the numbers of turtles are decreasing, as turtles and their eggs are over-harvested, their nesting beaches and feeding grounds are used for other purposes such as tourism development, and they are accidentally caught in fishing gear not meant for them. In 2006, the Pacific Year of the Sea Turtle, there were many programs run to help raise awareness about the need to protect turtles. Activities included monitoring the turtles' nesting beaches, tagging them and setting up marine sanctuaries.



## Kiribati marine sanctuary

Kiribati is spread over about 3.5 million square kilometres in the central Pacific Ocean. Its three major island groups – the Gilbert, Phoenix and Line islands – are too remote and inaccessible to attract much tourism. In 2006, Kiribati set aside more than one-tenth of its territory to establish the world's largest marine park. Known as the Phoenix Islands Protected Area, it includes eight atolls, two submerged reefs and 410,500 square kilometres of ocean. The atolls and reef are home to many unique and endangered sea birds, plants and animals. To make it financially sustainable, the Kiribati government will be reimbursed by the amount they would have made from selling fishing licenses from a trust fund managed by a partnership agreement between the Kiribati government and non-government conservation organisations.

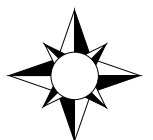
Adapted from [www.phoenixislands.org](http://www.phoenixislands.org)

## Thinking about

1. Choose either the example of the coral reefs or the marine turtles. Use a **development compass rose** to suggest questions about the example.
2. List three ways climate change is impacting on your chosen example.



development  
compass rose



# Climate change

Many of the Pacific island countries are extremely vulnerable to climate change because of a combination of factors.

- The islands are often small and not very high above sea level. For example, the highest point in the island group of Tuvalu is about five metres above sea level.
- The islands are remote and spread over a wide expanse of ocean. This makes it difficult to coordinate responses to the problems of climate change.
- The islands are prone to natural disasters such as cyclones. One of the impacts of climate change is the increasing frequency and power of tropical cyclones.
- The agricultural land, settlements, tourism and transport are often concentrated in the coastal areas that would be affected by rising sea levels.
- The islands are undergoing rapid urbanisation and the resulting increased population density magnifies the effects of events caused by climate change.
- The islands have fragile environments that may be unable to cope with the impacts of climate change. Coral polyps are very sensitive to changing temperatures, and there is a concern that many of the Pacific's coral reefs will die.
- The islands have limited natural and human resources to cope with emergencies and changing weather patterns. If climate change impacts on the Pacific fisheries, this in turn has a major impact on the economies of the Pacific region.
- Many of the islands are experiencing a loss of traditional coping mechanisms for change. Countries such as Kiribati and Tuvalu are approaching countries such as Australia and New Zealand to accept their citizens as environmental refugees from climate change.

Fatima Hakaoro, secretary of the Queensland Tuvalu Community, said her island nation was already struggling with the effects of climate change. 'When it's high tide in Tuvalu, roads are covered with sea water and people have water all through their houses up to knee height,' she said. 'Climate change is not a "future" problem – it is happening now, and I feel like Australia is not listening.'

## Marine biologist

*As temperatures increase, coral polyps get stressed and start to die.*

## Fisher folk

*The fish have started to move away from our traditional fishing areas.*

## Tuvaluan citizen

*I am scared that I will lose touch with my family and the Tuvaluan ways if I have to move from my homeland.*

## Village family

*In the last few years, some of the houses in our village have been washed away by floods.*

## Farmer

*The sea water has started coming up through the ground and is killing the taro in my garden and getting into my fresh water well.*

## Emergency aid worker

*We are preparing for more severe cyclones in the region.*

## Doctor

*Our unit has noticed many more cases of mosquito-borne diseases such as dengue fever and malaria.*

## Tourism operator

*We have fewer tourists coming to the islands after last season's severe cyclones. Our hotel was damaged and the tourists are too scared to come.*

## Tuvaluan government minister

*We are negotiating with the governments of Australia and New Zealand to accept some of our people as environmental refugees if our islands disappear under the rising sea levels.*

## Pacific island countries working together

Pacific island countries have been:

- fighting for actions that will reduce the emissions of greenhouse gases
- implementing policies to adapt to the changing climate
- relocating citizens away from the problem spots.

Tuvalu used some of the money it gained from the sale of its internet domain (dot TV – see page 21) to join the United Nations. Among other things, this has allowed the Tuvaluan government to draw attention to the impacts of climate change on the country. Tuvalu is also one of the 10 members of the South Pacific Sea Level and Climate Monitoring Project, which helps countries to collect data and develop measures to alleviate the impact of climate change (see page 23).

Through the South Pacific Regional Environment Program, Pacific islands have also formed the Pacific Islands Framework for Action on Climate Change 2006–2015. Under this framework, countries such as Samoa have introduced a series of actions to adapt to climate change, including:

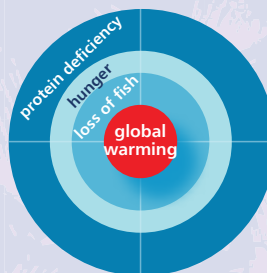
- planting mangroves to protect the coastline
- building seawalls where necessary
- protecting natural resources such as reefs and forests
- introducing better urban management and planning, and
- designing and placement of infrastructure.

### Thinking about

In pairs, take one of the roles indicated in the speech bubbles on page 52. Talk about how you feel about climate change in this role and what you would like to see done about the issues that are affecting your life. As a class, act out the roles and discuss the proposed solutions. Try to reach consensus about the way forward.

### Thinking more deeply

1. *The Pacific Ecologist* calls the Pacific islands the 'canaries in the coalmine'. Explain what you think this term means. Relate this statement to the quote by Fatima Hakaoro, secretary of the Queensland Tuvalu Community. A report by Australian government scientists in 2006 warned of a flood of environmental refugees across the Asia-Pacific region. New Zealand is already experiencing significantly increased levels of migration from affected countries. Do you think Australia and other developed nations should accept citizens who are deemed 'environmental refugees'? Justify your view.
2. According to the Intergovernmental Panel on Climate Change (IPCC), 'small island states account for less than one per cent of global greenhouse gas emissions but are among the most vulnerable of all locations to the potential adverse effects of climate change and sea level rise'. Consider your response to this statement. What role might Australia play in supporting strategies to reduce greenhouse gas emissions? What is the Australian government's current policy on this issue? Write a letter to the editor of a newspaper to express your views on this matter. Your letter should cover the effects of global warming on the small island states and the responsibilities of people in Australia.
3. A **futures wheel** is a diagram that shows all the future consequences of an event or trend. The direct (first-order) consequences are in the first circle and the indirect (second-order and third-order) consequences are in the outside circles. Construct a futures wheel that predicts the consequences of global warming for Pacific islands.
4. Examine the information on **sustainable tourism** and **forestry**. In small groups, discuss the impact of these kinds of activities on the culture, environment and economy.



futures wheel



Sustainable  
tourism in  
Palau

Papua New  
Guinea's forests



# The Millennium Development Goals

In 2000, world leaders came together to agree on a blueprint for action on sustainable development. To build sustainable futures, people and governments across the Pacific are working towards addressing these Millennium Development Goals:

- eradicate extreme poverty and hunger
- achieve universal primary education
- promote gender equality and empower women
- reduce child mortality
- improve maternal health
- combat HIV/AIDS, malaria, and other diseases
- ensure environmental sustainability
- develop a global partnership for development.

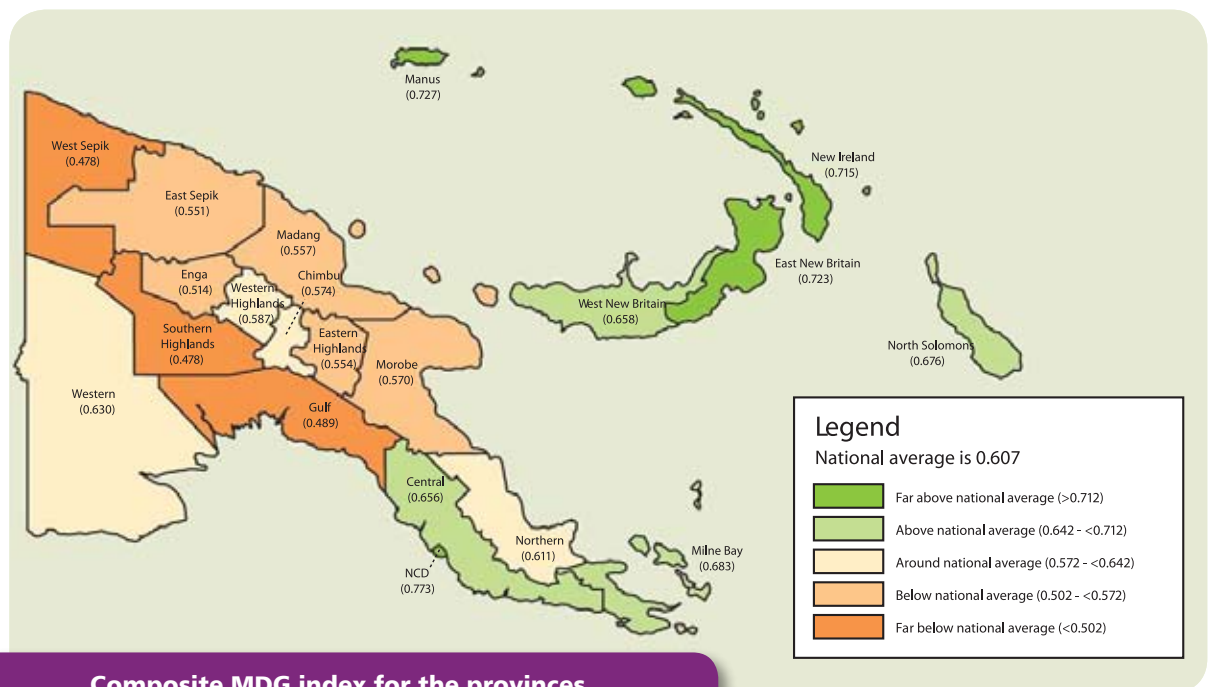
Some of the Pacific island nations have built the goals into their national development plans.

## Papua New Guinea

Papua New Guinea is socioeconomically, culturally and environmentally an extremely diverse country. Therefore, its ability to meet the Millennium Development Goals will vary according to such regional variations.

The 2004 Papua New Guinea report into progress identified the following challenges to achieve the goals:

- the HIV/AIDS epidemic
- continuing high population growth rate, which has been significantly above the economic growth rate for the majority of the period 1990 to 2004
- problems of implementation of policies due to a very large variety of natural, socioeconomic, cultural, political, geographic, language barriers and other factors including external aid dependency
- political instability and law and order problems
- a gender culture that places women in a disadvantaged position.



### Composite MDG index for the provinces of Papua New Guinea

The rugged mountainous terrain and over 800 language groups contribute to the Papua New Guinean government's difficulty in delivering quality health services and education. Over 87 per cent of the population are living in villages as subsistence farmers.

## Thinking about

1. Why are the Millennium Development Goals important?
2. Why do countries need to work together to achieve the Millennium Development Goals?
3. Compare a physical map of Papua New Guinea to the map on page 54 and outline the physical barriers and other factors that contribute to the regional variations.

## Chapter activities

### Collecting your thoughts

1. In a small group, choose a Pacific island country and collect a variety of images of the environment and living conditions in the country. Sort the images into two groups so that you can present two contrasting views – one that shows the benefits of living in the country and one that shows the drawbacks of living in the country. Which group of images do you think is the most realistic? Find out if progress can be made to address the negative features depicted in the second group of images without threatening the positive features depicted in the first group of images.
2. Choose one of the environment/development issues in the Pacific and write a poem or song to express your feelings about the issue. Suggest some ways that young people in Australia can support positive change.
3. In small groups select a particular sustainability issue in one of the Pacific island countries. Develop a probable and preferred **futures line** for it. On the probable futures line, write a description of what you think might happen. On the preferred futures line, write a description of what you would like to see happen.
4. As a class, use the above information to put together a special newspaper edition of Future Times for the year 2050. The focus of this special edition is 'Pacific environments' and the main issues should be covered through reports, editorials and illustrations. The newspaper should also contain a retrospective column 'Life in (current year)'.

### Taking action

Select an issue affecting a Pacific island country, such as biodiversity, climate change, fishing, logging, tourism or development, and consider how the lifestyle of people in Australia might contribute to this issue. Find out how people in Australia could change their behaviour to contribute to achieving better outcomes for Pacific islanders. Create a fact sheet that you can circulate by email to family, friends and others in your community or place online to educate them about these issues.



**futures line**

