

AUSTRALIAN GOVERNMENT MAURITIUS STRATEGY OF IMPLEMENTATION CASE STUDY

Title

Australia's support for Pacific island countries - Climate change and sea level rise.

Thematic area

Climate Change and Sea Level Rise

Concrete actions taken and specific progress made in implementation

Under the International Climate Change Adaptation Initiative (ICCAI), Australia is investing AUD\$150 million over three years from 2008-09 to 2010-2011 to meet high priority climate adaptation needs in vulnerable countries in our region. The primary geographic emphasis of the program is Australia's neighbouring island countries.

The ICCAI has four interrelated components, which in combination will deliver a coordinated package of development assistance. These are:

1. Improving scientific information and understanding of climate change impacts;
2. Increasing the level of understanding of key climate vulnerabilities at the regional, national and sector levels;
3. Financing implementation of priority adaptation measures; and
4. Contributing to multilateral financial mechanisms for climate change adaptation.

Implementation of the ICCAI is ongoing. Australia also supports several projects addressing the needs of Pacific countries for information on sea level rise and climate change.

The *South Pacific Sea Level and Climate Monitoring Project* has recorded accurate measurements of sea levels since 1991 from tide gauges in 12 countries in the Pacific region to provide information to Pacific governments and the international scientific community.

The *Pacific Islands Climate Prediction Project* (PI-CPP) helps the meteorological services of ten Pacific island countries advise clients on the prudent use of seasonal climate forecasts, particularly rainfall. The project has been implemented by the Australian Bureau of Meteorology since 2005 and enables Pacific meteorological services to contribute climate information, including predictions, to help decision-making in climate sensitive industries and public sector agencies of participating countries. The value of these services has been demonstrated through a number of pilot projects and an increased demand for customised sector specific climate information.

The *Pacific Vulnerability and Adaptation Initiative* aims to enable Pacific Island countries to adapt to the future impact of climate change, climate variability and sea-level rise. Consistent with the objectives of the *Pacific Island*

Framework for Action on Climate Change, the initiative supports community-generated practical activities such as the replanting of coastal mangroves to protect shorelines, the construction of rain water tanks in islands affected by seasonal drought, the trialling of versatile crop varieties and the recording of traditional knowledge about disaster preparation in Fiji, Samoa, Solomon Islands, Tonga, Vanuatu and Tuvalu.

Lessons learned and good practices

Partner agencies in Pacific countries have limited resources to implement activities. In addition most Pacific meteorological services have very small staff numbers, often with high turnover. Projects need flexibility to address basic training needs and equipment requirements before advancing to project implementation. These approaches have to be taken into account in planning activities.

Challenges in communicating technical information on weather and climate to Pacific country media, governments and communities have been underestimated in the South Pacific Sea Level and Climate Monitoring Project, and this has affected the level of engagement of Pacific partners. Further work is planned to improve this component, using lessons from the *Pacific Islands Climate Prediction Project*.

The *Pacific Vulnerability and Adaptation Initiative* demonstrates the value of capacity building, use of adult learning techniques and institutional strengthening in building community resilience to climate change. Working at community level in accordance with the stated priorities of Pacific leaders creates commitment to the funded activities. Building community skills in analysing problems and developing solutions to the expected impacts of climate change has given the project value beyond its lifetime.

Effectiveness of implementation support and mechanisms, including monitoring systems

A long term and cooperative approach to the relationship between Australian and Pacific meteorological services and regional technical agencies, ensures effective implementation of the sea level monitoring and climate prediction projects. The use of adequately resourced local NGOs with a strong environmental focus has improved the delivery of grants through the *Pacific Vulnerability and Adaptation Initiative*, including the capacity of communities to monitor and report on implementation.

Special constraints and challenges faced

The lack of long term datasets and high resolution elevation data on all Pacific Islands is a fundamental barrier to improving and quantifying the climate change impacts, particularly those related to sea-level rise. This reinforces the need for a concerted regional investment in high-resolution topographic data to facilitate detailed mapping of local areas, the extension of existing observational and sea-level monitoring programs, and efforts to improve understanding of wind and wave climate in the Pacific. High travel and transaction costs are also barriers to effective program implementation.

Recent trends and emerging issues

With a significant number of multilateral and bilateral partnerships already established, support for climate change measures in the Pacific region is an increasing priority for international donor assistance. As this support and associated funding increases, effective donor coordination, including through the measures detailed in the *Cairns Compact for Strengthening Development Coordination in the Pacific*, will be critical for achieving sustainable progress that recognises the cross-sectoral nature of climate change impacts.

Further information

http://www.usaid.gov/development/development_initiative.cfm

AUSTRALIAN GOVERNMENT MAURITIUS STRATEGY OF IMPLEMENTATION CASE STUDY

Title

Coastal and Marine Resources - Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security

Thematic area

Coastal and Marine Resources

Concrete actions taken and specific progress made in implementation

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI) is a an Indonesian led partnership that brings together the governments of Indonesia, Philippines, Malaysia, East Timor, Papua New Guinea, and the Solomon Islands (the CT6) to deliver improved management and protection of the region's coral reefs, greater sustainable management of the regions fisheries and provide an improved basis for food security in the region.

The first official CTI Senior Officials (SOM) meeting was held in the margins of the United National Climate Change Conference in Bali December 2007. The meeting achieved an agreed understanding among the CT6 on the basis of the initiative and identified a way forward over the next 2 years. USA, Australia and select NGOs and development banks were invited to become CTI Development Partners, and Australia hosted a regional workshop in late 2008 to provide key opportunity to exchange expertise in coral reef and marine protected areas management.

A series of high level meetings in 2009 further clarified objectives by articulating regional goals and identifying actions. In May 2009, the initiative was officially endorsed by leaders at the CTI Summit, held in the margins of the World Ocean Conference in Manado, Indonesia.

Since its launch, the CTI has focused on addressing governance and coordination requirements including the establishment of a permanent secretariat, in-country consultation processes and the development of regional and national objectives.

Lessons learned and good practices

The CTI is underpinned by high level political will, such a foundation has allowed the development of a strong division and its articulation in regional and national goals though the development of a CTI Regional Plan of Action and nearly completed National Plans of Actions.

Relevant stakeholders including NGOs, development organisations and external Governments, groups have been involved from the start. This approach has allowed a more comprehensive consideration of issues.

Existing activities and proposed future activities undertaken in the region have seen the CTI developed as a synergistic, complementary initiative rather than a partnership that duplicates existing agreements and activities.

Effectiveness of implementation support and mechanisms, including monitoring systems

The CTI has been strong in its establishment of dedicated working groups to address partner coordination and sustainable financing. However the supporting mechanisms for the initiative, such as governance and administrative procedures need more investment. There is now significant effort in this area and it is anticipated that the permanent regional CTI secretariat will be formalised by mid 2010.

Special constraints and challenges faced

The CTI represents a unique grouping of two distinct cultural regions, the South East Asian countries of Indonesia, Philippines and Malaysia and the Melanesian countries of Timor Leste, Solomon Islands and Papua New Guinea. This could cause issues regarding the transfer of knowledge between cultures and the applicability of lessons learnt. Transversely, however, in formalising the linkage between SE Asia and the Pacific regions, the CTI has made valuable communication channels which will allow it to capitalise on experiences across a much broader area.

Recent trends and emerging issues

In striving to achieve its overarching objectives, the CTI will need to ensure it considers and adapts to the following emerging issues:

- the relationship of the CTI with the plethora of existing national, bilateral, regional and international fora and MEAs;
- population growth and associated increased dependency on marine based resource; and
- impacts of climate change on oceans, particularly vulnerable ecosystems like coral reefs, and coastal communities.

Further information

<http://www.cti-secretariat.net/>

AUSTRALIAN GOVERNMENT MAURITIUS STRATEGY OF IMPLEMENTATION CASE STUDY

Title

Persistent Organic Pollutants in the Pacific

Thematic area

Management of Wastes

Concrete actions taken and specific progress made in implementation

This program disposes of stockpiled Persistent Organic Pollutants (POPs), including agricultural pesticides and polychlorinated biphenyls (PCBs) from old electrical transformers in 12 Pacific island countries: Fiji, Cook Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

In the mid 1990s, Pacific Island members of the Secretariat of the Pacific Regional Environment Program (SPREP) undertook an assessment of their waste management needs and agreed that the removal of POPs was a very high priority.

Since 1999 the Australian Government has contributed \$7.5 million to this objective. Australian assistance began with a thorough inventory of all unused POPs that could be located in the partner countries and the development of a plan for their collection and transport to Australia.

POPs are man-made chemicals that are toxic, persistent (do not break down quickly in the environment), accumulate up the food chain, and pose a significant health risk to all living things. They are carcinogenic, teratogenic and mutagenic and their production and use is now banned in most countries. There is general international agreement that they require global action to reduce their impact on humans and the environment.

Exposure to POPs impacts on learning and intelligence, causes liver damage, some cancers, and interferes with hormone functions. They are fat-soluble, and accumulate in breast tissue, so women and breast-fed infants are particularly vulnerable to their effects.

POPs move around the world, evaporating in hot equatorial regions and condensing and precipitating near the poles. Whales, seals, penguins and the Canadian Inuit population show contamination from POPs produced in very distant regions, and many Arctic and Antarctic birds and small land and marine animals are dying from the direct or indirect effects of accumulated POPs.

Lessons learned and good practices

Pacific islands rely heavily on the quality of their environment for survival. Many local industries are dependent on a clean environment: fishing, agriculture, pearl industries and tourism. The removal of POPs is important to the livelihoods and health of people in the Pacific Islands.

About 120 tonnes of waste POPs have now been brought back to Australia for destruction in a state-of-the-art treatment facility, in a process designed by the Commonwealth Science and Industry Research Organisation (CSIRO). The process uses physico-chemical measures operating under high temperatures and pressures. The POPs molecules are blown apart and allowed to recombine as carbon dioxide, sodium chloride (common salt) and water. The facility is also treating similar chemicals from within Australia.

The project has been undertaken with strict safety requirements for packaging, shipping, road transport and destruction. It is regulated by various state, national and international regulations.

Effectiveness of implementation support and mechanisms, including monitoring systems

AusAID worked with the Pacific Regional Environment Program (SPREP) to determine Pacific island member countries' priorities for waste management. SPREP undertook initial investigatory work on the scale of the problem and subsequently worked with the contractors engaged by AusAID to implement the project. Environment ministries in the participating countries have been partnered by Australian Government counterparts to negotiate the permitting requirements for moving hazardous waste between countries. State and local government agencies have oversights the safe transport and destruction of Pacific persistent organic pollutants (POPs) in Australia.

Clear, rigorous management protocols (in accordance with national and international regulations) ensured the managing contractor kept physical risks as low as practicable. Political and weather risks were initially underestimated, but flexible contracting allowed them to be managed without incident.

Special constraints and challenges faced

Most Pacific island countries are densely populated small island states and lack the specialised resources or capacity needed for treatment and disposal of persistent hazardous chemicals. Lack of awareness of the dangers the POPs present has contributed to their unsafe storage, leading to human exposure and environmental contamination.

A wide range of stakeholders' inputs and some serious initial concerns were addressed through the project's communications strategy, developed before project implementation began. The strategy was used actively to inform stakeholders (included multiple Australian and Pacific government agencies at

national and local levels, SPREP and affected communities in the Pacific partner countries and in Australia) throughout the term of the project.

Recent trends and emerging issues

About 120 tonnes of stockpiled POPs and PCB-contaminated transformers have been removed from Pacific islands and safely destroyed in Australia. At many sites, the collection of POPs has significantly improved the immediate environment for local communities by removing chemicals which could have leached into food gardens and places where children play. Awareness of the dangers of POPs contamination has been raised in Pacific governments, although not all had staff available to participate effectively in the project and to absorb additional training.

Further information

http://www.usaid.gov.au/country/cbrief.cfm?DCon=5711_808_5883_4348_6746&CountryID=33691914&Region=SouthPacific

www.ghd.com.au

www.chem.unep.ch/pops

Title

Tonga Energy Road Map

Thematic area

Energy Resources

Concrete actions taken and specific progress made in implementation

Through the Tonga Energy Roadmap the Government of Tonga will develop a ten year roadmap (2010 – 2020) to identify solutions that reduce vulnerability to oil price shocks and achieve increased access to quality modern energy services in an environmentally sustainable manner.

Access to reliable and affordable energy services is fundamental for development. Energy catalyses economic activity and plays a vital role in improving social services such as health and education. However, access to energy is lacking in the Pacific, particularly in rural areas. Pacific Island countries are also highly dependent on imported fuel for energy generation and the challenge of meeting the associated costs makes these economies vulnerable to the volatile international oil market.

The Government of Tonga has set a goal of achieving 50 per cent of grid-based electricity supply from renewable energy within 3 years to 2012. To achieve its renewable energy aims, the Government of Tonga has requested that donors coordinate within its Energy Roadmap, to be developed by early 2010. The Tonga Energy Roadmap will chart the course to address the economic and environmental impact of fossil fuel dependence, while expanding access to quality energy services. Specifically, it aims to reduce Tonga's vulnerability to oil price shocks and achieve increased access to quality modern energy services in an environmentally sustainable manner. Australia, in partnership with the World Bank, is supporting the development of this Energy Roadmap.

The Tonga Energy Roadmap will detail:

- **Analysis:** Technical assessments, cost estimates and recommendations of the least cost approach to reducing the cost of petroleum products supply and reducing Tonga's dependence on petroleum for power generation and increasing accessibility as rapidly as possible;
- **On-Grid Issues:** Addressing issues around policy, regulatory and legal functions, including supply and demand side energy efficiency issues and general institutional / management improvements necessary to reduce system losses and increase efficiency of grid supply. Opportunities for substitution of petroleum-based generation with renewable sources will be identified and developed;
- **Off-Grid Issues:** Identification of options to increase access to quality

- energy services in an environmentally sustainable manner; and
- Financing: The Roadmap will look at the estimated costs and develop a strategy that considers all available financing - public, private and donor. The Roadmap will also consider where subsidies may be appropriate for improved service delivery, in unserved areas.

Lessons learned and good practices

Key lessons learned are:

- Small island states are finding it increasingly difficult to manage energy costs - The smaller Pacific island countries are highly dependent on imported fossil fuels as their main energy source. Rising and volatile fossil fuel costs can badly exacerbate existing macroeconomic management challenges. The particularly high international energy prices experienced in 2008 hit Pacific Island Countries hard.
- Pacific island governments are committed to reducing their dependence on fossil fuels - Through the Pacific Plan, the Pacific Framework for Action on Climate Change and decisions of Pacific Energy Ministers, Pacific island governments have clearly articulated their determination to reduce dependence on fossil fuels. At the same time, they want to extend cost-effective, reliable energy services to unserved rural households and contribute to global greenhouse gas mitigation efforts.
- Alternative energy and energy efficiency is becoming more feasible - The cost of renewable energy technology is decreasing. Even at current prices, with relatively high up-front investment costs, renewable energy technologies can be cheaper than fossil fuel alternatives when life-cycle costs are considered. Innovative approaches to achieving energy efficiency could be more widely applied, and Pacific island governments have substantial scope to adjust policy and regulatory settings, and improve the efficiency of energy providers and on-grid energy consumers, in order to reduce the costs of energy service provision. This in turn will increase the affordability of expanding and maintaining energy services to off-grid households and businesses through small-scale technology such as micro-hydro, biodiesel and solar photovoltaic.

Effectiveness of implementation support and mechanisms, including monitoring systems

The Tonga Energy Roadmap is a practical example of implementing the Accra Agenda for Action and the Cairns Compact. The Roadmap will drive a more effective coordination of development resources by the Government of Tonga and development partners. The Roadmap will allow the Government of Tonga to clearly articulate energy sector needs and allow the effective coordination of donor assistance.

Special constraints and challenges faced

Small island states are finding it increasingly difficult to manage energy costs. Many Pacific island countries are highly dependent on imported fossil fuels. Rising and volatile fossil fuel costs can exacerbate existing macroeconomic management challenges.

At the same time, alternative energy and energy efficiency measures are becoming increasingly more feasible. The cost of renewable energy technology is decreasing. Even at current prices, with relatively high up-front investment costs, renewable energy technologies can be cheaper than fossil fuel alternatives when life-cycle costs are considered.

Pacific island governments have substantial scope to adjust policy and regulatory settings, and improve the efficiency of energy providers and on-grid energy consumers to reduce the costs of energy service provision. This will increase the affordability of expanding and maintaining energy services to off-grid households and businesses through small-scale technology such as micro-hydro, biodiesel and solar photovoltaic.

Support needs to be coordinated. Pacific island countries' development partners are providing increasing support for energy efficiency and renewable energy. Financing and/or technical assistance is being provided by key bilateral donors, the multilateral development banks, UN agencies, the Global Environment Facility and several specialised non-government organisations. This assistance would benefit from greater coordination to increase aid effectiveness.

Recent trends and emerging issues

The production of the Tonga Roadmap is the beginning of an important process that will address the long-term challenge of energy security and access in Tonga. It will support planning and budgeting that considers life-cycle costings, recurrent cost implications, and institutional capacities for investing in and maintaining infrastructure. It is a mechanism for harmonisation amongst donor partners, to increase the effectiveness of aid.

Further information

<http://www.usaid.gov/our-work/countries/pacific/infrastructure>

AUSTRALIAN GOVERNMENT MAURITIUS STRATEGY OF IMPLEMENTATION CASE STUDY

Title

Improving tsunami warning and response capacity in the Pacific

Thematic area

Natural and Environmental Disasters

Concrete actions taken and specific progress made in implementation

Australia has built upon the long running South Pacific Sea Level and Climate Monitoring Project to improve tsunami warning capacity and strengthen responses in Pacific island countries.

Existing equipment at sea level monitoring stations in 12 Pacific countries has been upgraded so these stations now provide tsunami detection capacity as well as the ongoing measurement of sea levels. Each station now sends a signal every minute to the World Meteorological Organisation's Global Telecommunication System which is used by the Pacific Tsunami Warning Centre in Honolulu to issue tsunami alerts in the Pacific.

Risk assessments have been conducted by Geoscience Australia in partnership with Pacific regional organisations to identify geographical areas and populations particularly at risk of tsunami. This has enabled Pacific countries to prioritise improvements to preparation and response capacity

The Australian Bureau of Meteorology (BOM) and Geoscience Australia engaged with stakeholders from communities and governments across 14 Pacific Island countries to assess preparation and response capacity to tsunami and other natural hazards. This produced a prioritised and costed lists of enhancements required to make each country's system effective. Pacific governments are using these lessons learned to implement changes and support funding proposals to development partners.

Lessons learned and good practices

National assessments in each country were conducted by visiting teams working together with experts from each participating country in the fields of tsunami warnings, emergency management, regional disaster management, data and warning communications.

This work enabled the effectiveness of warning systems to be determined and the capacity of emergency services and communities to respond. Thorough preparatory work with each country has ensured the assessments are accurate and realistic and that proposed future work is achievable.

Effectiveness of implementation support and mechanisms, including monitoring systems

Equipment in Pacific countries has been installed and will be maintained and replaced as needed with Australian Government support. Work with Pacific government agencies and communities to improve preparedness will be ongoing over some years and is likely to need external support. The Australian Government provides assistance to countries in the Pacific region in monitoring and reporting on their responses to environmental issues but measurable changes to disaster response capacity can not be expected at this stage.

Special constraints and challenges faced

All tsunami warning systems are based on the idea that most tsunamis are caused by earthquakes, and since the seismic waves generated by earthquakes travel much faster than the tsunamis, tsunamigenic earthquakes can be detected long before the arrival of the tsunami. Most undersea earthquakes do not generate tsunamis, however. If tsunami warnings were based on earthquake occurrence alone, there would be so many false alarms that people would soon lose confidence in the warning system. For this reason, direct monitoring of sea-level data is required after a large earthquake to verify that a tsunami has actually occurred.

The monitoring components of a tsunami warning system consist of a seismographic network for monitoring earthquakes, operated by Geoscience Australia, and a network of sea-level monitoring stations, operated by the Bureau of Meteorology. The sea-level network includes several 'DART buoys', which are sophisticated systems used to measure tsunami heights in the open ocean. Data from the sensors is transmitted to the World Meteorological Organisation's Global Telecommunication System in real time. The operations centres of both agencies receive data from all of these observation platforms, and 'mirrored' analysis systems are maintained at Geoscience Australia's headquarters in Canberra and the Bureau of Meteorology's operations centre in Melbourne.

Further information

http://www.usaid.gov.au/keyaid/adaptation_initiative.cfm

http://www.bom.gov.au/tsunami/about_atws.shtml