

## **Presentation on community-based adaptation approaches in the Pacific Island Countries.**

The presentation will focus on adaptation activities undertaken in the Pacific and on community based involvement in adaptation. The presentation will cover the following aspects as they relate to this topic:

- lessons learned and best practices identified
- remaining gaps, needs and concerns
- the role of local, national, regional and international actors
- what actions are underway in the Pacific, and
- how can the UNFCCC process better facilitate community-based adaptation.

Adaptation to climate change has been a major preoccupation for the Pacific Island Countries since the issue first became known and the threats to the survival of the Pacific SIDS became elucidated. All the Pacific Islands have carried out their first national communications to the UNFCCC and a number have carried out other in-depth studies related to adaptation. All PICs identified numerous adaptation activities that should be implemented in the near to medium term. Most of these proposed activities would have a strong community based components, as the majority of the activities fall within the following sectors: coastal zone management, water resources management, food security and human health – all of which are directly linked to the communities, their well-being, livelihoods and prospects for sustainable development.

As mentioned most vulnerability and adaptation assessments at the national levels have been carried out in the context of the preparation of initial national communications. These followed a model prepared by Waikato University, New Zealand and the University of the South Pacific, Fiji. Using simple simulations, the model allowed participants to make predictions on climate change impacts on vulnerable areas. Vulnerability assessments highlighted the following key sectors which have been affected by climate change and sea-level rise: coastal zone and coral reefs; agriculture and food security; marine resources; water resources; and biodiversity. Some example of the effects included a decline in fruit crops production and low export sales due to drought and low rainfall in previous years, and loss of agricultural land due to intrusion of sea-water through flooding, inundation, and coastal erosion especially in the atoll islands.

The potential impacts on coastlines is likely to be more dramatic than the consequent sea-level rise because the coastlines can be easily eroded by high-energy waves or storm surge. Coral reefs not only suffer from overexploitation but also are affected occasionally by episodic warming of the seawater column. Most of the economic activities, infrastructure and human settlements are located in the coastal areas of all PICs. In this regard these initial adaptation assessment activities were useful in getting some activities initiated on the ground in the PICs.

There were however some limitations to the model, and other modalities were attempted in parts of the Pacific, such as integrated risk reduction approaches within a Asian Development Bank project entitled Climate Adaptation in the Pacific Islands (CLIMAP).

This project was designed to assist participating PICs to adapt to current and future climate risks through the use of a Climate Change Adaptation through Integrated Risk Reduction (CCAIRR) framework and methodology, to demonstrate a risk-based approach to adaptation and to mainstreaming adaptation. A number of case studies were carried out to demonstrate why reducing climate-related risks should be an integral part of sustainable development and practical means of how to do this. Climate-related risks are already high for island communities, as well as for basic infrastructure. Risks are likely to increase considerably under current climate change scenarios, as well as under observed climate variability and extreme events. CLIMAP studies have shown that for infrastructure projects, it is possible to avoid most of the costs attributable to damage from climate change, and to do so in a cost-effective manner. Climate proofing undertaken at the design stage of the project is one approach to achieve this.

Many PICs also participated in a global programme on Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions or Sectors (AIACC). The aim of this project was to develop a second generation of integrated assessment methods and models, including the incorporation of 'human dimensions' of vulnerability and adaptation options and economic evaluation procedures. PIC nationals were supposed to have been trained under this programme to use these new integrated assessment model scenarios of coastal inundation on islands, with financial support from the Global Environment Facility (GEF), through the System for Analysis, Research and Training (START) programme, the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Environment Programme (UNEP).

The lessons learned from the various projects and programs in the PICs can therefore be summed up as follows: In the past most studies of adaptation options for PICs have largely focused on adjustments to sea-level rise and storm surges associated with tropical cyclones. There was an early emphasis on protecting land through 'hard' shore-protection measures rather than on other measures such as accommodating sea-level rise or retreating from it, although the latter has become increasingly important on continental coasts. Later vulnerability studies conducted for selected small islands show that the costs of overall infrastructure and settlement protection is a significant proportion of GDP, and well beyond the financial means of most small island states. More recent studies since the IPCC TAR have identified major areas of adaptation, including water resources and watershed management, reef conservation, agricultural and forest management, conservation of biodiversity, energy security, increased share of renewable energy in the energy supply, and optimized energy consumption. The emphasis has thus become more broad-based and looks at climate change impacts from a more comprehensive perspective.

From a systemic perspective these lessons direct Pacific Island Countries and communities to:

- increase the ability of islands' physical infrastructure to withstand the impacts of climate change. For example, seek to extend the temperature or rainfall range that a system can withstand; or modify a system's tolerance to loss or failure;
- increase the flexibility of potentially vulnerable systems that are managed by Governments or communities, through adjustments in management practices, such as changes in use or location;
- enhance the adaptability of vulnerable natural systems, by reducing stresses due to non-climatic effects, removing barriers to the migration of plants or animals, and improving overall resource management practices;
- reverse trends that increase vulnerability by reducing human activity in vulnerable areas, preserving natural systems that protect against hazards, and ensure that the incidence of "scoring own goals" is reduced;
- improve public awareness and preparedness by informing the public about risks and possible consequences of climate change, setting up early-warning and monitoring systems for extreme weather events, and by developing overall communications strategies that make climate change science accessible to the average citizen.

But that is perhaps where some of the biggest gaps exist. The lessons learned present a major challenge for the Pacific Island Countries to address. Since proposed adaptation strategies have focused on reducing vulnerability and increasing resilience of systems and sectors to climate variability and extremes through mainstreaming adaptation, there is a need to ensure appropriate participatory modalities for these strategies. While some of the early projects allowed for in-depth community participation, mainly due to the fact that only small site-specific examples could be studied under the limited funding available, for a broader nation-wide adaptation strategy to follow similar patterns would require some adjustments for many PIC Governments. Consultative practices vary greatly throughout the Pacific, and have deep political-cultural roots. Especially in the multi-island jurisdictions it is easier for community organizations to be consulted in local government decision making, given the long distances to capitals in some cases.

Another major gap is the ability of PIC Governments to retain personnel trained in climate change matters. Personnel trained as part of enabling activities or other projects learn valuable skills that are in short supply in the region. Certain specialist professions such as coastal zone managers or coastal engineers are mostly unavailable to PIC Governments. This is of course a wider problem than climate change responses and relates to the overall national and regional strategies for education for sustainable development, which is the subject of on-going debate in the region.

In addition, the assessment and transfer of environmentally sound technologies for adaptation to climate change poses a complex challenge for the Pacific. First, there is a lot of uncertainty regarding site-specific vulnerability and subsequently what adaptation will be required at the local level to the impacts of climate change. This uncertainty carries over to the identification of appropriate adaptation measures, options and

technologies, as well as to the stakeholders that are affected. A national and local community discussion on hard technologies, which may not be appropriate, versus the importance of soft technologies needs to be encouraged. This is particularly true since there are potential synergies between mitigation and adaptation with may have either positive or negative effects. For example, the work on a bio-fuels industry in Fiji has highlighted the potential for soil conservation as an adaptation measure to be integrated into what is largely a mitigation activity.

The Pacific Island Governments and communities through the involvement of communities and other stakeholders in the national climate change teams have recognized the role of local, national and international stakeholders. Expert advice is sought and considered in all the Pacific Island Countries, whether it is from the regional university or from academics with a strong interest in the region. There is a need to improve on the overall climate change governance in the region. For this reason SPREP has suggested the re-establishment of the Pacific Climate Change Roundtable. The background to this rests with the adoption in 2005 by the Pacific Islands Forum Leaders of the Pacific Regional Framework for Action on Climate Change. This Framework established a series of priorities on climate change for the region. These priorities include:

1. Implementing adaptation measures
2. Contributing to mitigation of GHG emissions
3. Improving our understanding of climate change
4. Education and awareness
5. Improving decision making and good governance
6. Partnership and cooperation

Under each of these priorities it is envisaged that project activities will be undertaken by PICs nationally and regionally, supported by the regional organizations. In addition it should be noted that the in order to ensure appropriate coordination of activities under the Framework, a Pacific Climate Change Roundtable (PCCR) should be established. Since responsibility for the Framework's regional and international actions can and should be shared by the region's organisations, SPREP has been called upon to convene regular meetings the PCCR inclusive of all regional and international organizations with active programmes on climate change in the Pacific region to:

- help update the PICs on regional and international actions undertaken in support of the Framework;
- voluntarily lead or collaborate in implementing and monitoring actions relevant to their priorities and work programmes; and
- agree on mechanisms for measuring progress, identifying difficulties, and addressing actions needing special attention.

The PCCR should meet at least once a year, and should also afford the PICs the opportunity to prepare for the annual meetings of the Conference of the Parties to the UNFCCC.

The UNFCCC has been the major international forum for discussion of adaptation measures, and has assisted Pacific SIDS in highlighting their concerns. The UNFCCC has given recognition to the fact that adaptation to climate change is an ongoing and reiterative process that includes information development, awareness raising, planning, design, implementation and monitoring. Reducing vulnerability to climate change requires not only having access to technology, but also having the mechanisms, capacity and other resources available to make adaptation technology useable and sustainable. The mere existence of adaptation technologies does not mean that every vulnerable community, sector or country has access to these options or is in a position to implement them. An increasing reliance on technologies for information development and management is an important element for inclusion in the adaptation process under the UNFCCC. Thus in the next stage of the development of adaptation issues it would be important to provide mechanisms for adaptation information exchange, to act on capacity needs assessments as well as technology needs assessments, to build capacity in Pacific SIDS to acquire, adopt and implement adaptation technologies, and to provide adequate financing for adaptation. Clearly much of these activities are beyond the scope of the UNFCCC Secretariat, but are matters that the COP could reasonable consider, in particular the element of ensuring that the communities that are going to be most affected by climate change are the recipients of technical and financial assistance.

The Pacific Climate Change Roundtable will provide a major opportunity for the Governments and communities to build a consensus on what actions should be taken to alleviate climate change impacts in the region. However, the practical work that will be undertaken in support of the regional and national policies will largely be as part of the regional projects PACC, PIGGAREP and PI-GCOS, as well as in the context of the preparation and completion of NAPAs and SNCs.

In conclusion, while the communities have been involved in the development of climate change policy at the national level in many PICs, and have also been actively engaged in the implementation of adaptation activities, there is still a lot of work required to ensure that grass-roots views are incorporated in the mainstreaming of adaptation in national sustainable development planning. Valuable lessons have been learned in the Pacific, and it is now incumbent on the new projects and mechanisms to ensure that all stakeholders are provided the opportunity to participate in adapting to climate change.