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## **A CLIMATE CHANGE POLICY AND IMPLEMENTATION STRATEGY DISCUSSION PAPER FOR VANUATU**

**(For Consultation Purposes)**

**Title: Adapting to Climate change and Variability:  
Planning for the future**

**To be compiled by the following Principal Ministries:**

**Lands, Natural Resources and Environment**

**Infrastructure and Public Utilities**

**Forestry and Fisheries**

**Foreign Affairs**

**Education**

**Health**

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## Introduction

Meteorological and hydrological hazards are the most frequently and extensively observed natural hazards. The Belgium Centre for Research on the Epidemiology of Disasters reported that from 1993-2002, meteorological and hydrological hazards were responsible for 86 per cent of the 531,000 deaths related to natural disasters, and about 63 per cent of related property damage, amounting to more than US\$ 630 billion<sup>1</sup>. The World Meteorological Organization (WMO), through data accumulated in weather monitoring facilities throughout the world over many years, noted that the global climate is changing considerably. It also further reported that this would have enormous adverse impacts on the global environment and directly affecting millions of people across the world. Climate change<sup>2</sup> was an emerging issue in the early 1990s, and the science behind it has been a topic of considerable debate in the international arena for quite sometime. This resulted in the formation of the Intergovernmental Panel on Climate Change (IPCC) to carefully address the science behind the changing climate. The findings of the IPCC first assessment report thus prompted negotiations leading to the launching of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. At the third conference of the Parties (COP 3), the Kyoto Protocol emerged as the first tangible tap to address the climate change issue globally, however it has not come into force due to the reluctance by certain countries.

The climate change debate over the years has interestingly shifted from climate change mitigation to adaptation. The Alliance of Small Island Developing States (AOSIS) has always been vocal in pressing for adaptation support from developed countries to seriously supporting adaptation programmes in order to alleviate some of the vulnerabilities that people are facing. The Delhi Declaration of the eighth Conference of the Parties (COP 8) for the first time specifically highlighted the issue of adaptation, and it states:

“Adaptation to the adverse effects of climate change is of high priority for all countries. Developing countries are particularly vulnerable, especially the least developed countries and Small Island developing States. Adaptation requires urgent attention and action on the part of all countries. Effective and result-based measures should be supported for the development of approaches at all levels on vulnerability and adaptation, as well as capacity-building for the integration of adaptation concerns into sustainable development strategies.”

The threat of climate change for Vanuatu and other Pacific Island countries is no longer an issue for the future as extreme climate related events are being faced today. Although Vanuatu’s contribution to global greenhouse gas emissions is insignificant, the projected effects of climate change and sea level rise on Vanuatu are expected to be catastrophic. The impacts will be felt for many generations due to the islands low adaptive capacity, and high vulnerability to natural disasters.

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<sup>1</sup> *World Climate News*. No. 24. January 2004. Issued by the World Meteorological Organisation.

<sup>2</sup> The term climate change in this document means climate change and variability.

For Vanuatu, tropical cyclone data has been collected for some 30 years dating back to 1960-70s. Even though data may not be sufficient to predict future cyclone activities in Vanuatu, it is evident that very strong cyclones exceeding 80-100 knots have a return period of 1 in every 5 years.

There is insufficient evidence to say cyclone frequency and intensity is increasing in the South Pacific due to the lack of high quality 40+ years of data. However, it would be wise considering that IPCC has projected a more El Niño state in the future in the Pacific, to prepare for greater numbers and more intense cyclones. The South Pacific has experienced the highest numbers of cyclones in a season during El Niño Events e.g. 1997/98 (17 events) and 1982/83 (16 events). The average (mean) for the South Pacific is between nine and ten cyclones per season.

## **2.0 Purpose:**

The purpose of this paper is three fold:

- i) Provide a summary on climate change development in Vanuatu; past to the present and an analysis of what had been achieved and future areas that the Vanuatu Government and other stakeholders need to address;
- ii) Determine the issues that had been identified over the years in particular from the First National Communication that may form the basis for a climate change policy; and
- iii) Develop a preliminary climate change policy framework for consultation purposes.

## **3.0 Climate Change developments in Vanuatu**

As an island nation, it is essential to understand how climate change and variability will affect our coastal ecosystem, marine resources, subsistence and commercial agriculture developments, domestic and industrial developments, human health, water resources, population and our national economy at large. In order to develop and implement appropriate response strategies, Vanuatu, needs to understand the effects of climate change, the degree of vulnerability and the national capacity to adapt. Past economic developments have been slow due to several factors one of which is natural disasters<sup>3</sup>. According to the Statistical Year Book of Vanuatu, two severe cyclones that hit the country from 1984-1989 severely impacted on the economy.

Several programmes have been implemented over the years to address some of the concerns raised above and this policy and strategy is also an attempt to strategically provide the necessary institutional framework (human and financial resources) that will provide the foundation at which these issues of national importance will be addressed now and into the future. Provided below in a chronological order are some of the climate change developments in Vanuatu that have contributed to the development of capacity at various levels which include institutions and the community at large over the years.

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<sup>3</sup> Statistical Year Book of Vanuatu, 2002. National Statistics Office.

### **3.1 Ratification of the UNFCCC Convention and Protocol**

In 1989, Vanuatu formed the National Advisory Committee on Climate Change (NACCC) to advise government on matters relating to climate change during the UNFCCC process and draws on expertise within key government departments. Vanuatu signed the United Nations Framework Convention on Climate Change (UNFCCC) at its launching in Rio de Janeiro, Brazil in 1992 and ratified it in 1993. This shows the serious stand Vanuatu has taken on environmental issues such as climate change.

In 1997, the Conference of the Parties to the UNFCCC negotiated the Kyoto Protocol, which sets out actual targets for developed countries to reduce their greenhouse gas emission, within a set time frame. Vanuatu ratified the Kyoto Protocol on 17<sup>th</sup> of July 2001. It is critical for Vanuatu that climate change remain an important political issue because as a Small Island Developing State (SIDS) can lobby governments from industrialised countries who are responsible for this greenhouse gas emission to take actions within their own countries to prevent further climate change.

Although the signing and ratification of the UNFCCC and Kyoto protocol reveals the commitment that Vanuatu has made, a more critical issue here is that it is too late for Vanuatu and other Pacific Island countries to continue urging the developed countries with regards to their emissions. More importantly now is for Vanuatu to seek assistance from these countries to help the Pacific and its people cope with climate change and variability.

### **3.2 Pacific Island Climate Change Assistance Programme**

Vanuatu has been able to meet its national obligations under the UNFCCC through support from the Pacific Islands Climate Change Assistance Programme (PICCAP). This is the first serious initiative to address the issues related to climate change in several Pacific Island countries. The focus and emphasis of the programme was to build skills and knowledge of national experts to carry out vulnerability assessments and to assist with the completion of their first national communication as required under the UNFCCC. Adaptation was not a main focus of this programme so more detailed adaptation work with Pacific island country institutions and in particular communities is needed.

This is a three-year programme funded by the Global Environment Facility (GEF), executed by the United Nations Development Programme (UNDP) and implemented in the Pacific by the South Pacific Regional Environment Programme (SPREP). This project assisted Vanuatu to complete its First National Communication to the Conference of the Parties (COPs) and carrying out of several vulnerability assessments in rural communities of Vanuatu.

#### **3.2.1 National Communication to the COPs**

Vanuatu has completed its First National Communication in July 1999 and this report is now deposited with the UNFCCC Secretariat and is also available at the Environment and Meteorology departments. In its National Communication, Vanuatu

has provided mission statements and strategies directed towards policy formulation pertaining to climate change. This national communication has been prepared to fulfil Vanuatu's obligations under Articles 4 and 12 of the UNFCCC. These require that all signatories to the UNFCCC communicate to the Conference of the Parties (COP) National Greenhouse Gas Inventories and develop national plans to mitigate climate-change impacts and promote measures to facilitate adequate adaptation to climate change within three years of the convention coming into force. This communication has been prepared in accordance with guidelines issued following the 2nd Conference of Parties (COP2) to the treaty. It presents an overview of national circumstances, particularly aspects that interrelate to climate-change issues, presents a GHG inventory, and analyses mitigation strategies, vulnerability assessment and adaptation assessments and options. An overview of policies and programmes related to the implementation of the convention is presented, including identified project concepts for further refinement and funding.

### **3.3 Capacity Building for the Development of Adaptation Measures Project**

Vanuatu with other Pacific Island countries have over the years called on the international community to help their people adapt to their vulnerabilities related to climate change. They clearly recognized the need to: (i) reduce their vulnerability to climate-related risks through adaptation processes, and (ii) strengthen their human and institutional capacities to assess, plan, and respond to climate related risks. This is evident in the High Level Adaptation Communiqué adopted by countries in Nadi, Fiji in 2002 and the Forum Leaders Communiqué adopted by Pacific Leaders in Suva, Fiji also in 2002.

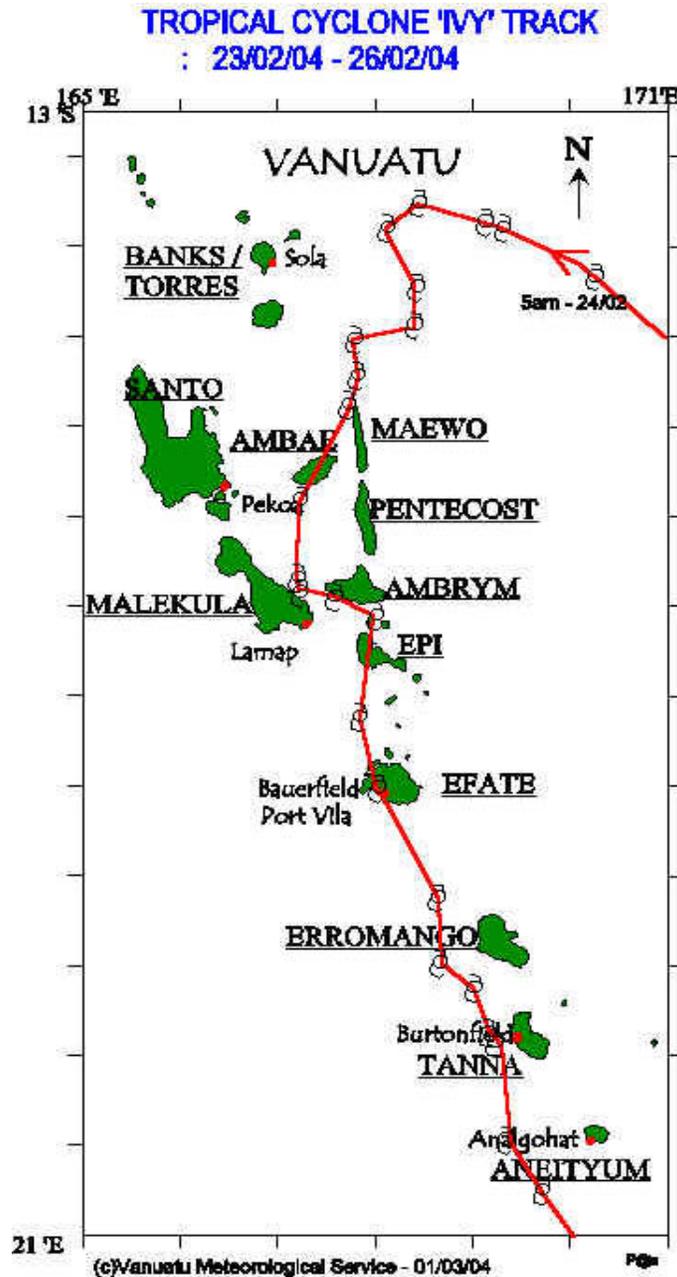
The Capacity Building for the Development of Adaptation Measures in Pacific island countries (CBDAMPIC) project is Canada's response to the call by Pacific island countries for assistance to develop an adaptation programme that will reduce climate related risks at the national and community level. The project will focus on improving the sustainable livelihood of Pacific Island people by increasing their adaptive capacity to climate-related risks. The CDN 2.2 million-dollar initiative of the Canadian Development Agency (CIDA) is executed by SPREP from January 2002 to March 2005 in Vanuatu and three other countries; Cook Islands, Fiji, and Samoa.

The goal of this project is to strengthen the capacities of national expertise in order to enable them to identify, consider and evaluate adaptation options and measures with regards to climate change. This will be achieved through the improvement and coordination of institutional arrangements, the strengthening of national capacities to enable the identification of adaptation options, the evaluation of those options, including technology assessments, and the development of sector policies in terms of adaptation measures to climate change.

### **4.0 Basis for a Climate Change Policy**

Vanuatu is one of the most vulnerable island countries in the Pacific that is subjected to extreme climate events such as cyclones, floods and droughts almost annually. In particular, cyclones are a major threat averaging 2 to 3 events per season. For the Pacific region, the highest concentration of cyclone occurs west of Fiji in the Vanuatu and northern New Caledonia waters often developing and generally intensifying 5-15<sup>0</sup>

and 16-20° south of the equator respectively. Given Vanuatu's location 13°-20.5° South (latitude) and 166°-171° east (longitude), it is situated precisely in the cyclone path, therefore experiencing cyclonic activities nearly every year. For the past decade, some major cyclones that have hit Vanuatu include; Betsy in 1992, Prema in 1993, Dani in 1999, Sosé in 2001 and Ivy in 2004 (where winds intensified to hurricane force strength, 80 knots and gusting to over 100 knots). If more cyclones follow the path that Ivy took in February 2004, than the livelihood of the people of Vanuatu as well as the larger economic development of the country will be rendered to a halt as majority of government's efforts will be solicited towards recovery rather than development (fig 1.0).



Vanuatu cannot bear the full costs of addressing the issues of her national mitigation of greenhouse gas emissions, vulnerability assessments and adaptation to climate change. Opportunities for financial assistance under the United Nations Framework Convention on Climate Change financial mechanism, the Global Environment Facility (GEF), and bilateral and multilateral assistance are necessary. However, these areas of assistance can only be successfully harnessed if Vanuatu is strategic in its approach, which is to have a proper guiding policy and implementation strategy. Financing institutions can see a role for them in these national policies and strategies and thus would be able to contribute in the short, medium or long term.

Adaptation is an on-going process over this century and beyond and requires Government, Private Sector and Non-Government Organization commitment. The process should be pursued in light of the sustainable management plans of Vanuatu, and for the benefit of the local communities in the longer term. Therefore it is only appropriate for the Vanuatu government to have a policy and a strategy in place that ensures a coordinated and integrated approach amongst these various government and non-government organisations because climate change is cross-sectoral and will need a cross-sectoral approach that cannot rely only on good faith only but a clearly defined pathway for everyone's benefit.

Climate change affects most sectors of government and itemised below are some of the critical sectors that are directly affected by climate change and a description is attempted on how climate change impacts on these sectors. These sectors could play a leading role in the formulation of a climate change policy for Vanuatu.

#### **4.1 Agriculture Sector**

This sector has always been the backbone of Vanuatu's economy and contributes the most to the country's GDP. Both commercial and subsistence agriculture are based on rain-fed agricultural systems. It is a sector that is most vulnerable to climate variations in terms of its production capacity and capability. It is highly vulnerable to droughts especially in the leeward parts of the islands. Drought related economic losses have been considerable in the past. External aid and government assistance is usually required to facilitate recovery in the worst affected areas in Vanuatu.

Most fertile agricultural lands, together with a large number of Vanuatu's population are situated along the coast and low-lying regions of Vanuatu. In the case of a tropical cyclone, destruction of crops due to sea and river flooding is a major problem. Accelerated erosion of the coast as well as the riverbanks due to high rates of deforestation is also a major problem. According to the Vanuatu Poverty Survey Analysis Report (1998), over 90% of the poor are involved in the agriculture sector and depend on sustainable agricultural activities.

#### **4.2 Human Health**

Weather and climate play important role in terms of impacts of human health. For a country like Vanuatu, which experiences many tropical

cyclones, there are major links of these extreme events to deaths and injuries. Weather and climate also affect human health indirectly. Hot and humid environment present favourable conditions for the development of bacteria, insects and other disease carriers such as flies and rats. Diseases such as malaria and dengue fever occur because of the development of mosquitoes and other insects. Malnutrition can arise at times of food shortage as a result of drought and cyclones.

Health would also be affected through decreased access to food due to reduced agricultural production and high food prices.

#### **4.3 Water Resources**

Vanuatu has limited surface water and villagers on many islands and residents of urban areas are dependent of ground water. Increased temperatures are likely to increase the demand for portable water. However, increased heat, greater run-off from high intensity rainfall events, decreased rainfall and an increase in evaporation could reduce the rate of ground water recharge and decrease surface water flows. Water shortages are already apparent in dry seasons and would become more pronounced and may require more sophisticated distribution networks to maintain human populations in severely affected areas.

Any increase in sea level could cause salt-water intrusion into the shallow ground water lens in coastal areas, particularly if ground water recharge was reduced or water over-extracted. Water issue could be more problematic in small low-lying islands that are dependent on shallow ground water aquifers.

#### **4.4 Coastal Environment**

The coastal zone is of importance to small island nations such as Vanuatu. It is a dynamic environment containing assemblages of resources including reefs, mangroves and seafood. Coastal areas around Vanuatu provide an important base for socio-economic activity. Many of our resorts are built along the coast and provide employment for many of our people.

Sea level rise and other elements of climate change would affect the physical, biological and the chemical composition of the coastal zone. Shrimps and crabs will relocate themselves to suit the environment they live in. Coastal fisheries might also disappear.

In addition, it is likely that valuable arable land in the coastal zone would be lost with sea level rise and coastal erosion. Ecosystems such as mangroves and havens of biodiversity would be reduced, leaving Vanuatu's rich variety of species strained. Growth and maintenance of coral reefs would be affected by increasing temperature.

Another most serious impact of climate change on coastal communities is more frequent and more extreme flooding. This would increase pressure on remaining land and exacerbate problems associated with

forest destruction and ecosystem degradation as new agricultural tracts are created. The coastal zone available for development will become narrower and in fact will likely displace the residential communities already inhabiting the area. Since the location of Port Vila town and villages are along the coast, majority of the population's activity related to industry and commerce will be seen to decrease if rapid climate change continues. During a tropical cyclone, hotels along the coast would be the most vulnerable to damage.

#### **4.5 Coral Reefs**

Coral reef systems fringe most islands in Vanuatu. They are important sources of economic and subsistence resources, and a draw-card for the important tourism sector, while protecting adjacent coastlines from extreme sea events.

Reefs are highly vulnerable to the climate change scenarios predicted and with more frequent and higher intensity cyclones, physical damage to the reef system is inevitable as well as coral bleaching.

### **5.0 Constraints to climate change development**

Lack of understanding of climate change and variability issues in the higher echelons of governance is still a major constraint leading to a lack of coordinated approach to addressing climate related risks in Vanuatu. Coupled with the lack of coordination as to how cyclone events are assessed and reported for rehabilitation operations, government's financial and human resources are not appropriately utilised therefore can be a drain particularly when events of this nature happen almost annually for Vanuatu. There is a need for a more synchronized approach to dealing with climate related issues at the national level because the livelihoods of the people and the nation's budget are directly affected.

Financial and human constraints are a major concern to line departments such as Meteorology and Environment that are dealing with climate related issues and at present have depended largely on donor assistance to fund on-going activities at the national and community level. It is envisaged that commitment would be coming forth from government to provide support to some of these important manpower and financial resources because it would be beneficial for the country as a whole and it also makes economic sense. Work of these dedicated officers in providing forecasting, and assisting in assessments of cyclone activities and be able to predict future climate related events will assist the country be more resilient to current and future climate related risks.

There is a considerable amount of Meteorological Information/data at the Vanuatu Meteorological Service with some records extending as far back as the late 1960s. However, the Meteorological Service has in the recent past experienced problems in terms of processing historical data, maintaining high observation standards and further developing services due to funding, training and staffing constraints. This presents a problem since the data will contribute to the assessment of how vulnerable a system is to climate change.

Capacity building is also seen as a major problem for the country. Although, people living near the towns and cities have access to climate information, it is those that are in the islands that are mostly affected. Lack of information and awareness will further put them at risks to climate change.

## **6.0 Climate Change Policy: The Framework**

The climate change policy and implementation strategy for Vanuatu will serve to define the position of government and other stakeholders on the issues of climate change, variability and sea level rise. It will also define the direction or way forward and the various responsibilities of each stakeholder in the short and long term. Governments have priorities already in place whereby resources are committed and these are traditional priority areas such as education and health. In order to reprioritise government expenditures to meet the resource requirements for implementing climate change adaptation or mitigation strategies envisioned, then government will need to be guided by a clearly defined policy and strategy.

### **6.1 Policy Statements**

The Vanuatu Government recognises the severity of the adverse impacts of global climate change, particularly the impacts it will have on the livelihood of ni-Vanuatu, and on socio-economic development as a serious national concern.

As a signatory to the UNFCCC and the Kyoto Protocol, the Vanuatu Government recognises the important roles of these treaties in combating climate change and urges developed country Parties, and other major emitters of GHG, to ratify the Protocol and adhere to the principles of these treaties.

In accordance with the Convention and the Kyoto Protocol the Vanuatu Government places much of the national adaptation costs on assistance from the Convention process, and on bilateral and multilateral assistance from developed countries and major gas emitters.

In acknowledging the unified effort of Pacific Island Countries, AOSIS and LDC bloc in the climate change negotiation process, the Vanuatu Government will continue to encourage and support the work of these three negotiation bodies in the UNFCCC process, particularly in issues of direct interest to the Government and the citizens of Vanuatu.

**Thereof, the Government of Vanuatu through the Environment and Meteorology Department and other Government Ministries, Civil Society and the Private Sector:**

1. is committed to mainstreaming climate change issues in all its environmental, social, economic, planning structures and processes for sustainable development at the national and community level;

2. is committed to minimising increases in Greenhouse Gas Emissions (GHG) in the medium to long term;
3. will promote understanding of climate change and raise awareness of the impacts, national vulnerability and possible adaptation measures;
4. will proactively identify vulnerable communities, areas and assets at risk and develop adaptation options that are appropriate, cost effective and culturally sensitive to increase resilience;
5. is committed to improve and strengthen the Vanuatu Meteorological Service, Lands Department and associated parties collection, analysis and use of data to monitor climate and sea level change patterns. The Vanuatu Government needs to protect all historical data archives and current monitoring sites especially those that have been in existence for more than 30 years and other stations in key locations; and
6. will actively participate in international and regional forums at negotiations on matters pertaining to climate and climate change and other related concerns.

## **7.0 Strategy for Implementation**

This strategy focuses on the major areas covered in the policy which include:

- (i) Mainstreaming;
- (ii) National Greenhouse Gas Inventory Network;
- (iii) Pursuing sustainable development through the UNFCCC and the Kyoto Protocol;
- (iv) Understanding and responding to the adverse impacts of climate change;
- (v) Training, public awareness and education;
- (vi) Capacity building; and
- (vii) Linking science and policy

The implementation strategy recognises that building national adaptive capacity is a long-term process, which requires a longer-term programmatic approach, commitment and a change of attitude and approach in the national development process. In addressing climate change issues, particularly in adaptation activities, the programmes of action shall be pursued in an integrative and collaborative manner.

### **7.1 Institutional Structure**

#### **Objective**

To mainstream current climate change activities under the Capacity Building for the Development of Adaptation Measures in Pacific Island countries project [CBDAMPIC], in order to maintain continuity and progress in addressing local climate change concerns; and implementing the UNFCCC and its Kyoto Protocol.

## **7.2 The Integration of Current National Climate Change Activities into the National Government Mainstream**

*Recognizing* the importance of continuity of current progress on the climate change front,

And *based* on decision 458 of the 93<sup>rd</sup> Ordinary meeting of the Council of Ministers (COM) of 15 June 2000, which formed the foundation for mainstreaming the NACCC and its Secretariat,

The institutional structure for addressing climate change issues in Vanuatu is hereby detailed:

### **7.3 Meteorological Services Department Climate Change Section**

- (i) The Department of Meteorological Services shall integrate the institutional arrangements formulated during the implementation of the Capacity Building for the Development of Adaptation Measures in Pacific Island countries project [CBDAMPIC] in Vanuatu, particularly the NACCC secretariat, pursuant to the COM decision in the chapeau above which mandated the department of Meteorology to house the Secretariat of the NACCC.
- (ii) In mainstreaming the NACCC secretariat, the Meteorology Department shall establish the Meteorological Services Department Climate Change Section and be responsible for the institutional, financial and logistical support arrangements thereof.

### **7.4 The Role of the Secretariat of the NACCC/Climate Change Section**

- (a) The role of the Secretariat/Climate Change Section shall be to:
  - (i) Coordinate climate change activities in Vanuatu,
  - (ii) Provide secretarial services to the NACCC,
  - (iii) Regularly inform and provide appropriate reports to the NACCC and all stakeholders, including local authorities, policy makers, politicians, private sector and communities on international, and national issues relating to Climate Change, particularly in relation to the United Nations Framework Convention on Climate Change and Kyoto Protocol issues,
  - (iv) Coordinate capacity building efforts in enabling appropriate level of expertise at national and local authority level for climate and sea level change research and development in Vanuatu,
  - (v) Carry out vulnerability and adaptation assessments using the CV&A and V&A methodology,
  - (vi) Facilitate relevant local climate change data collection and information gathering, their subsequent analysis and dissemination, through all appropriate means of communication to stakeholders,
  - (vii) Collate climate change information as required under Article 12 of the Climate Change Convention (National Communications) for onward submission to the Conference of the Parties Secretariat, as and when required,

- (viii) Develop programmes to raise public awareness and education, particularly in the area of formal and non-formal curriculum development, on climate change issues.
- (ix) Ensure appropriate and effective participation in national, regional and international climate change meetings to ensure inflow of opportunities to Vanuatu.

#### **7.5 The Composition of the Meteorology Department Climate Change Section**

- (i) The Composition of the Meteorology Department Climate Change Section shall have the following positions:
  - 1 Senior Officer: Climate Change Section
  - 2 Assistant Officer: Climate Change Section
  - 3 Public Information and Awareness Officer: Climate Change Section.
- (ii) The position of the Public Information and Awareness Officer follows the agreement under section 10.3, subparagraph ix.
- (ii) Any other future positions that may be required will be determined by the NACCC.

#### **7.6 The National Advisory Committee on Climate Change**

- (i) The National Advisory Committee on Climate Change (NACCC) shall continue its mandate, pursuant to the COM decision included in the chapeau above, which is to oversee the implementation of the UNFCCC, the Kyoto Protocol and any related plans of action on the climate change front in Vanuatu, under this new arrangement.

#### **7.7 Membership of the NACCC**

- (i) Pursuant to the decision of the COM referred to in the chapeau above the membership of the NACCC shall include: Meteorological Services Department, Foreign Affairs Department, Environment Unit, Department of Fisheries, Department of Economic and Social Development, Department of Agriculture, Energy Unit, Department of Land Survey, Land Use Planning Office, Department of Forestry, Department of Health, National Disaster Management Office, Department of Quarantine and Inspection Services, Vanuatu National Council of Women, and a representative of Vanuatu Non-Government Organizations.
- (ii) Under this strategy an amendment shall be filed to the COM to make the necessary adjustments to the membership of the NACCC to include the Department of Education, National Statistics Office, Chamber of Commerce the Department of Provincial Affairs, and the VIPA.
- (iii) Other organizations, local authorities and departments are required to assist, where appropriate, on specific issues.

## **7.8 *The Chairperson of the NACCC***

- (i) Pursuant to the decision of the COM referred to in the chapeau above the Chairperson of the NACCC shall be the Head of the Environment Unit.
- (ii) An amendment shall be filed to the COM to relax this decision to allow for flexibility in the Chairmanship of the NACCC, to allow for other members of the NACCC as well as Directors General to become chairperson of the committee.
- (iii) Under this Strategy the Chairperson of the NACCC for 2002 being elected. Subsequently thereafter, the 1<sup>st</sup> Vice Chairpersons shall be promoted to the position of Chairperson, and serving the term of 1 year. This will ensure participation by all NACCC members as well as maintaining a three-year continuity by going through the ranks, in the order of 2<sup>nd</sup> Vice Chairperson to 1<sup>st</sup> Vice Chairperson and finally Chairperson.
- (iv) The amendment to the COM decision shall also include positions for two 2 vice chairpersons, who are to be elected for 2002. Subsequently thereafter, only the third Vice Chairperson shall be elected, as the others move up the ranks. The term of office for a Vice-chairperson therefore shall be for two years.

## **7.9 *Work Description of the Chairman***

The Chairman of the National Advisory Committee on Climate Change shall bear the following responsibilities and serve the following purpose:

- i. Be the Head of the NACCC
- ii. Preside over NACCC Meetings and other deliberations with a vision to ensure all issues of interest to the NACCC are pursued, understood, and fully addressed.
- iii. Make it a priority to understand the issues relating to Climate Change and the relationship to Sustainable Development
- iv. To strengthen and enhance a project friendly environment for attracting donor interests in funding Climate Change, as well as other sustainable development related projects in Vanuatu.
- v. Work collaboratively with, and offer advice and direction to the Secretariat
- vi. Muster political involvement and support for climate change process.
- vii. Ensure climate change policy and legal issues are accorded.
- viii. Attend appropriate National, Regional and International Climate Change as well as other relevant Environment Meetings, and to be Head of Delegation when a Minister, Political Advisor or DG is not present.
- ix. Ensure fair representations in the NACCC
- x. Ensure that the NACCC carry out the duties and responsibilities in section 4.10 of this implementation strategy.

## **7.10 *The Role of the National Advisory Committee on Climate Change (NACCC)***

The role of the NACCC shall be to:

Provide operational directives to the NACCC Secretariat,

- (i) Make informed consensus decisions on issues arising from the Climate Change Convention, Kyoto Protocol and any future Plans for Action as decided by the Conferences of the Parties,
- (ii) Facilitating political inclusion in the national climate change process, particularly to encourage appropriate policy development to enable effective national responses to climate change.
- (iii) Coordinate International Climate Change negotiations, ensuring consistency, relevancy and real benefits to Vanuatu in participation,
- (iv) Inform respective departments on Climate Change issues, particularly consideration of climate change issues in sectoral policies and other department plans,
- (v) Monitor and facilitate the work of the Greenhouse Gas Inventory Network, detailed in Chapter 6, and including any relevant data collection and information systems.
- (vi) Ensure that the Department responsible for settling the financial contributions of Vanuatu to the UNFCCC is accorded.
- (vii) Recognize and encourage human resource development in the field of scientific research and development, including the formulations of projects and joint projects, particularly in the context of Climate Change,
- (viii) Establish and coordinate the work of the National Group of Experts.
- (ix) Ensure appropriate climate change acts/legislation are enacted.
- (x) Facilitate access to funding for the national climate change effort.

#### ***7.11 Time Frame***

The institutional arrangements shall be achieved within a time frame that allows continuity of progress under the assistance programmes on climate change.

#### ***7.12 The Department of Foreign Affairs***

- (i) The Department of Foreign Affairs, being a member of the NACCC, shall work closely with the NACCC through the secretariat in monitoring regional and international climate change issues and ensuring the exchange of information thereof.
- (ii) The Department of Foreign Affairs shall be responsible for settling Vanuatu's Financial Contributions to the UNFCCC.
- (iii) The Department of Foreign Affairs, in consultation with the NACCC, shall immediately settle the outstanding financial contributions owed since 1996, to ensure national participation in the climate change process, including access to opportunities under the Convention and the Kyoto Protocol, is not compromised.
- (iv) The Department of Foreign Affairs shall report on progress on the UNFCCC financial contributions to the National Advisory Committee on Climate Change in March every year.

### **7.12 National and Local Authority Participation**

An effective national effort to address Climate concerns requires a multidisciplinary approach, which should involve close collaboration between concerned Government departments, local authorities and the private sector, NGOs and communities.

- (i) To ensure effective provincial participation in the climate change process, existing systems should be used as the basis for local authority participation.
- (ii) The local authorities shall identify an appropriate contact whom shall have included in their duties and responsibilities to act as a focal point for climate change.
- (iii) The Secretariat of the NACCC shall play a facilitating role in ensuring an overall and inclusive national participation referred to in paragraph (i) and (ii) above.
- (v) The multidisciplinary approach in addressing climate change concerns in Vanuatu is very important and may warrant other temporary or longer-term institutional arrangements required for creating enabling environments for specific climate change activities.

### **7.13 The National Group of Experts (NGE) for Climate Change**

- (i) The NACCC shall establish a National Group of Experts (NGE), whose composition shall be determined by the NACCC, and whose mandate shall be to do research on environmental change issues, particularly on climate change, affecting the country. The NGE shall periodically report to the NACCC on its findings.
- (ii) The NGE shall be established during the third meeting of the NACCC in 2002. Their mandate and composition, including terms in office, shall be further developed by the NACCC prior to establishment of the Group.

## **8 National Greenhouse Gas Inventory Network**

### **8.1 Objectives**

To institute a continuous reliable and timely data collection system that would ensure sustainable, effective and timely reporting of future GHG emissions and sinks to the Conference of the Parties and for national policy.

### **8.2 Definition of the National Greenhouse Gas Inventory Network**

The National Greenhouse Gas Inventory Network is hereby defined as a multidisciplinary taskforce, whose focal point is the National Statistics Office to co-

ordinate data collections, for the collection of information required under Article 12.1 of the Convention.

### **8.3 *Role of the National Statistics Office in the context of the GHG Inventory Network***

The National Statistics Office, through its mandate as a central data and information focal point for the Government of Vanuatu, shall extend its duties to coordinate the collection, collation and analysis of greenhouse gas emissions and sinks data and will be the secondary depository of this data.

The secretariat shall facilitate the training and enabling activity component to enable full integration of this activity into the department.

With this responsibility and capacity as the focal point for Vanuatu National Greenhouse Gas Inventory Network, the National Statistics Office will maintain a presence within the National Advisory Committee on Climate Change as a member of this committee.

### **8.4 *Operational Guidelines***

(i) *The National Statistics Office, assuming the responsibility of coordinating the GHG emissions and sinks inventory network, shall include in its system a greenhouse gas emissions data collection, collation of greenhouse gas inventories, which shall be made available to the Department of Meteorology<sup>1</sup> for the purposes of collating the national communications.*

The organizations and institutions concerned shall identify an officer each whom shall be responsible for identifying and submitting the appropriate data and information to the National Statistics Office.

The Secretariat of the NACCC/Climate Change Section shall organize a training and awareness workshop, by April 2002, and additional workshops as appropriate thereafter, including other backups, to train officers identified in paragraph (ii) above, and the National Greenhouse Gas Inventory Focal Point, to enable them to carry out these tasks.

In organizing this training/workshop the Secretariat will search for the appropriate expertise region-wide in the Pacific.

The monitoring and reporting shall take into account inclusion of data providers, collectors and users.

### **8.5 *The Capacity for Greenhouse Gas Inventory Research***

Research is an important aspect of improving the quality of national Greenhouse Gas Inventory emissions and sinks, particularly in areas where there is currently poor

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<sup>1</sup> Climate Change Section of Department of Meteorology

reporting. Research on GHG Inventory is the main step leading to the certification process in CDM, but does not limit national opportunities in attracting CDM based projects.

## **9 Sustainable development strategy under the UNFCCC and its Kyoto Protocol.**

### ***9.1 Objectives***

To identify a national strategy to pursue sustainable development and to explore and utilize the opportunities under the UNFCCC and the Kyoto Protocol including, but not limited to, the Clean Development Mechanism of the Kyoto Protocol, for the purposes of pursuing sustainable development.

### ***9.2 Basis for participation in the Clean Development Mechanism of the Kyoto Protocol***

- (i) Vanuatu is not required under the Climate Change Convention to instate greenhouse gas emission reduction measures and to reduce greenhouse gases.
- (ii) Opportunities exist, under the CDM<sup>3</sup> of the Kyoto Protocol, for least developed and developing country Parties to voluntarily participate in activities, which will enable them to pursue and achieve sustainable development, whilst contributing to the ultimate objective of the Convention, jointly with developed country Parties.
- (iii) Vanuatu will use the opportunities under the CDM to pursue sustainable economic and social development.

### ***9.3 Guidance to the pursuance of opportunities under the Clean Development Mechanism***

- (i) The National Advisory Committee on Climate Change, being the national body responsible for climate change activities in Vanuatu, shall coordinate CDM activities and moderating them, through consultations with all stakeholders and relevant local and local authorities, including local chiefs, to promote sustainable economic and social development and maximizing local benefits.
- (ii) Maintaining the principles for sustainable development implied in paragraph (i) above, CDM activities in the Forestry Sector must avoid deforestation and degradation of primary/natural forests of Vanuatu. Such activities must take into account the availability of land to maintain national food security.
- (iii) A favorable opportunity for Vanuatu under the CDM seems very positive for coconut inter-cropping because of its multiple benefits: benefits to farmers through increased productivity per land area and benefits to the global climate;

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<sup>3</sup> Refer to Article 12 of the Kyoto Protocol

and with the Kyoto incentive, there is likely to be extensive re-plantations leading to increased national production of copra, and coupled with the increasing prospect for Island fuel<sup>2</sup> production, coconut inter-cropping presents a very viable candidate for a CDM project.

- (iv) The promotion of nut and fruit tree plantations (nangae etc.), in line with the principles of agro-forestry, and including forestation of grasslands, provide opportunities, which could be pursued under the CDM initiative.
- (v) Research in soil management to enhance its fertility and increase its carbon storage capacity is could also provide an avenue for new CDM projects, including joint projects.
- (vi) With the current dependency on fossil fuels, it is now realized that national economic growth and development could be greatly enhanced by maximizing the use of available renewable energy sources.
- (vii) There exists a large potential for rural renewable energy development, including, *inter alia*, mini hydro power schemes, geothermal, solar and PV Systems, wind power generation and ocean thermal.
- (viii) In pursuing such activities under the CDM, the element of suitability and appropriateness at local levels should be taken into account.
- (ix) The outputs of the National Strategy Studies (NSS), in the context of providing guidance to the Government on activities that could be pursued under the CDM initiative, sanctions the NSS process to be dictated by ni-Vanuatu. This National implementation Strategy will also provide useful input to the NSS.
- (x) Opportunities do exist to manage and operate diesel generators with coconut oil and diesel mixes. COPV is taking the lead role in proving the viability of this potential renewable energy source, and this initiative could be adopted by the high demand users, such as the industrial sector, and low solitary domestic users of electricity supply, in particular government, and local authorities services, including schools, in both rural and urban centers.
- (xi) The rural electrification policy needs to address and emphasize the regulatory role of the national Government in ensuring the effective services provided by the utilities, which meets the requirements of rural development and policy initiatives utilizing the available renewable energy sources.

#### **9.4 Role of the Government**

The Government shall play a leading role in implementing projects, which promote the CDM initiatives.

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<sup>2</sup> Coconut oil, produced at Coconut Oil Products Vanuatu Limited (COPV)

The Government through the NACCC, in consultations with appropriate development agencies, will be to facilitate inflow of and implement CDM based activities. This collaboration is very important in monitoring these activities in Vanuatu.

## **9.5 Role of the Private Sector**

- (i) The private sector has an important role in national development process and is encouraged to use the CDM initiative, taking into account the specified guidelines under the CDM approach.
- (ii) The CDM approach provides incentives to pursue and achieve sustainable development, of which the private sector could also participate and assist the national sustainable development process.

## **10 Impacts, Vulnerability and Adaptation**

### **10.1 Objectives**

To increase knowledge and understanding of the impacts of climate change and variability on biophysical systems, and including socio-economic aspects, and addressing the vulnerability of each sector, for the purposes of enhancing the national adaptive capacity.

### **10.2 Impacts**

The inter linkages between the biophysical and the social aspects of the environment system implies that the impacts of climate change are likely to be integrative and accumulative, and could include impacts on:

- (i) **Food Security:** The national food security is likely to be threatened by the possibilities of new plant pests and diseases, and the vulnerability of plants to climate change and variability.
- (ii) **Coastal Zones:** The impact of climate change in the coastal zone will include coral bleaching, impacts on coastal marine resources, and severe coastal erosion, that could threaten coastal settlements and water resources. These impacts could be worsened by human interference with coastal vegetation, and possible changes to the assemblage of species in that environment.
- (iii) **Water Resources:** Water resources will be seriously severed in some small island groups, which are already facing water stress during normal dry periods. However the whole archipelago will be affected by fluctuations in rainfall patterns, particularly during strong La Nina and El Nino conditions.
- (iv) **Health:** There is likely to be increased Government expenditure on health services to combat climate related stresses and vector borne diseases, which appear to be responsive to climate change.

- (vi) Infrastructure: Existing infrastructures that were built on vulnerable zones are being placed in increasingly vulnerable situations and would be costly to the Government if they were affected.
- (vii) Socio-economic development: Vanuatu depends largely on a climate sensitive economy, and thus the impacts of climate change will directly affect the national economy, minimising national capacity to meet the needs for all ni-Vanuatu citizens in a future with climate change.

### **10.3 Vulnerability**

- (i) Vulnerability assessments will play a crucial role in determining exposure units, the extent, and time frame for which the impacts are likely to become of a threatening nature.
- (ii) In carrying out vulnerability assessments, appropriate assessment tools and scenario generators, as well as the element of training will be required.

### **10.4 The National Adaptive Capacity Building Strategy**

*Acknowledging* the urgency of developing national response strategies to minimize the adverse impacts of climate change in Vanuatu, particularly the impacts on the vulnerable rural communities of Vanuatu,

And *recognizing* the importance of integration of adaptation activities, involving national participation,

The National Implementation Strategy recognizes and places emphasis on building the National Adaptive Capacity, through pursuing the following:

- (i) The draft environmental and resource management bill will be a corner stone for sustainable development in Vanuatu, which necessitates its adoption and enforcement to promote sustainable development and contributing to the enhancement of national adaptive capacity.
- (ii) Certain commercial and subsistence agricultural practices, including *inter alia*, the slash and burn method, soil tillage, and unsustainable farming practices on slopes, need to be reconsidered, based upon sound advice, in light of the foreseeable impacts of climate change.
- (iii) There is a need to revisit existing relevant pieces of environment and development policies, such as the code of logging practices, building codes, foreshore development act and land use act, to make necessary amendments, as well as developing new policies, such as food security policies, in order to promote active sectoral responses to the impacts of climate change.
- (iv) The draft water resources bill shall ensure sustainable rural water supply development by encouraging community ownership of water supply systems; and ensure safe and secure water sources; which will contribute to the enhancement of national adaptive capacity.

- (v) The Secretariat shall facilitate meetings of the NGE and in ensuring all relevant stakeholders have access to the reports of the NGE.
- (vi) Improper use of land particularly for community settlements has created a national hazard, and contributing to increase in vulnerable pockets of population. Immediate actions should be taken by the appropriate local and national authorities to reverse such trends, in order to reduce the magnitude of vulnerable populations, particularly around the two main centres of Vila and Santo.
- (vii) Land use impacts on the fragile coastal/marine environment may severely reduce their resilience to changes in sea surface temperature fluctuations, sea level rise and coastal erosion. These vulnerable coastal areas should be a priority for awareness and education, particularly where settlements are being threatened.
- (viii) There is a clear need for the establishment of a resettlement committee whom shall address the present and future vulnerable communities in their relocation processes.
- (ix) Relevant institutions shall take necessary steps to address immediate adaptation needs and concerns identified in Vulnerability Assessments, whose further delays will contribute to increased vulnerability and creating hazards to the livelihood and well being of the populations concerned.
- (x) The CHARM process, established by the National Disaster Management Office shall be integrated into the climate change vulnerability and adaptation process, this being an already existing system, which could assist national climate change effort for the longer-term benefit to communities.
- (xi) The pursuance of a longer-term beneficial adaptation process for Vanuatu would focus on developing a National Climate Change Business Plan. This logic builds on a practical approach to sustainable use of the environment where each island community is individually assessed for the most beneficial and environmentally friendly income generating activities.
- (xii) The NACCC shall advise the Government, based on sound advice, on the necessary steps required to increase the national and local authority capacity to formulate appropriate response measures to address the adaptation needs and concerns in these priority areas: Coastal Zones and marine ecosystems, water resources, food security, vulnerable infrastructures and settlements, natural forests.
- (xiii) The Community Vulnerability and Adaptation and Action (CV&A) process shall be integrated into relevant existing methodologies, which shall directly address the adaptation concern, including the mobilisation of community level participation through PRA and other appropriate approaches.
- (xiv) The NACCC shall monitor, through a transparent reporting process, including through general consultative meetings, the progress of implementation of

adaptation activities, and shall ensure that the adaptive capacities are being increased as a result of project implementation.

- (xv) Effective programmes to slow the current population growth rate could be classed as a measure to reduce climate change impacts and foster adaptive capacities. This is an activity that should be supported under adaptive capacity building activities.

## **10.5 Funding for Adaptive Capacity Building Activities**

- (i) Funding for facilitating the enhancement of national adaptive capacities shall be sought from, among other agencies, the Global Environment Facility (GEF), through the LDC National Adaptation Programme of Action window as well as the Climate Change Fund. This does not limit using other operational windows under the GEF or through participation in regional climate change projects and activities.

## **11 Observation System**

### **11.1 Objective**

- (i) To facilitate capacity building within the Department of Meteorology and Hydrology Unit to enable improved collection, analysis, interpretation and dissemination of quality climate observation related information, to meet the needs of national development as well as keeping a clean track on climate changes.
- (ii) Facilitating the role of the Department of Meteorology and Hydrology Unit in Carrying out systematic observation in Vanuatu.

In carrying out this National Implementation Strategy (NIS), special technical attention will be paid to:

- (i) Supporting and enhancing the role of systematic observation in Vanuatu, through appropriate international partnership programmes, and in particular, the Global Climate Observation Systems (GCOS) programme.
- (ii) Supporting and facilitating national climate observation networking to minimize duplication of effort, whilst promoting access to and exchange of, data and analysis between the Department of Meteorology and the Hydrology Unit.
- (iii) Supporting and providing national training programmes for observation officers to enable them to deliver quality and complete data that will support quality information on Vanuatu climate trends.

## **12 Training, Public Awareness and Education**

### **12.1 Objective**

To promote and facilitate national, local authorities, schools and community level training, education and awareness, through appropriate means of communication, with

a view of enhancing national, local authority and community level responses to climate change.

## **12.2 The need for a comprehensive national Climate Change training, awareness and education Strategy**

- (i) Although Vanuatu contributes a minute amount of greenhouse gas emissions to the atmosphere it is apparent that the adverse impacts of climate change will threaten national security (socio-economy); the vulnerable rural communities will become victims to the foreseeable impacts of climate change.
- (ii) The adverse impacts could be minimised but this has to be facilitated through an effective and comprehensive national and local awareness and education programme.

## **12.3 National Climate Change Awareness Strategy**

- (i) Awareness and education needs to be carried out at all levels of the society with appropriate contextual adjustments in content, to meet the specific situations of the targeted group, including simplicity and clarity for rural communities and schools.
- (ii) The target groups will be classed according to these five main categories: Politicians, Policy Makers, General Public, Schools and Rural Communities.
- (iv) The Government shall put emphasis on the inclusion of climate change issues in the national education curriculum, to be taught at all levels of education.
- (v) In addressing paragraph (i) above, awareness materials shall be clear and concise awareness, and an appropriate mechanism of delivery should be developed. The delivery of the awareness raising should be carried out in such a way that does not induce fear, but to mobilise local action.
- (vi) The significance of the impacts of climate change on Vanuatu communities and the national economy requires serious consideration at all levels of society and should be addressed at the level of the National Summit should be investigated.
- (vii) The awareness raising effort shall use all opportunities, particularly those that present themselves through their seriousness in threats and current physical impacts.
- (viii) The seriousness of threats, risks and adverse impacts of climate change in Vanuatu warrants a national year for climate change to be accorded.
- (ix) A National Climate Change Summit shall be organised on a yearly basis to allow the government and local authorities, non-government organisations as well as the private sector to participate in a climate change and sustainable development meeting, whereby the National Implementation Strategy on climate change shall be reviewed.

- (x) The secretariat shall create a position for and employ a full time information and awareness officer, to co-ordinate information flow and programme and assist in the implementation of awareness programmes.

**13 Synergies of the UN Environment Convention at the national level**

- (i) This strategy recognises the implementation of other international environment Conventions, such as the UN Convention on Biodiversity and the Montreal Protocol, in Vanuatu. The Climate Change effort would support a more unified approach in the implementation of these Conventions for the purposes of maximising benefits for all citizens of Vanuatu.

**14 Recommendation**

Cabinet is invited to approve the climate change policy and implementation strategy.

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