

VANUATU: NAPA PROJECT PROFILE

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VANUATU

NAPA PRIORITY PROJECT 1

PROJECT CONCEPT 1. AGRICULTURE & FOOD SECURITY

PROJECT GOAL

The overall goal of the project is to enhance food security and hence resilience of the economy to the adverse effects of climate change.

RATIONALE

Low productivity and small holdings are the key constraints towards expansion and commercialization of agriculture in Vanuatu. There is little incentive to enhance productivity through use of modern methods and technology. The sector is also vulnerable to change in world prices. Copra and cocoa are the main commodities that have been affected by this to a large degree. Soil degradation is also affecting production. The traditional method of shifting cultivation is no longer practical given the increased demand for land from the rising population. Agro-forestry is being promoted, with the use of intercropping to reduce soil degradation, but its impact has been limited.

The increasing incidence of extreme events and climate change is adding to the stress on this sector. There is little additional information on the effect these changes will have on the other cash crops such as yams, taro and sweet potatoes that are important for the sustenance of the Ni-Vanutu people. The issue is further complicated by the lack of mechanisms to enhance storage to meet shortfalls during times of disasters. Climate related disasters are already impacting production through salt water intrusion, droughts, soil erosion and cyclones. The projected increase in cyclone frequency and intensity further heightens the vulnerability of the agriculture sector. Destructive winds and heavy rainfall associated with cyclone events may result in widespread crop damage.

Crop production has decreased significantly as a result of increased temperatures, more frequent and prolonged dry conditions and increased variability of rainfall. Pest activities have also increased with yams being the crop most affected by a tuba-eating beetle that induces rotting. Cyclone incidences however remain the major threat to the sector often severely damaging subsistence crops.

Annual average temperatures are projected to increase to 28.8 oC and 29.7 oC by 2050 and 2080 respectively under the selected climate change scenarios. With these projected elevation in temperatures, heat tolerance thresholds of crops are likely to be reached and most likely induce heat stress, wilting and crop failure. Subsistence crop production may fall as a result and in turn threaten food security on the island. Impacts may be aggravated in the event of El Nino episodes, which are expected to cause extreme dry spells in future. Furthermore, in a warmer environment, people will be forced to reduce working hours to the early hours of the morning and the cooler hours of the afternoon and early evenings, hence reducing productivity.

Increased precipitation scenarios may increase annual averages by 2001 mm by the 2050s and 280 mm by the 2080s. Prolonged wet conditions and warmer temperatures may create conditions favourable for pests and diseases, which may flourish and affect production and food security significantly.

Traditionally through a system of bartering, and shifting agriculture the people have managed to deal with these events. However, given the shortage of land and the increased incidence of these events, these mechanisms are no longer adequate. There have been some methods that have been employed to enhance storage and processing, and it is expected that this project will explore ways of adopting these for use throughout the country.

One of the successful practices that has been adopted in certain areas has been the use of a simple process for

drying and preserving cassava – an important source of food for most rural communities. This is briefly illustrated below.

Making of Portable Drying Frame for Cassava Chips

Recommended structure is a (200 x 91) cm frame on which is stretched some chicken wire covered by some mosquito net. These frames allow for the drying of up to 12 kg of fresh cassava over two to three sunny days.



1. Cutting the chicken wire



2. Stretching the chicken wire on the frame



3. Organising a support for the frame



4. Cutting some chips

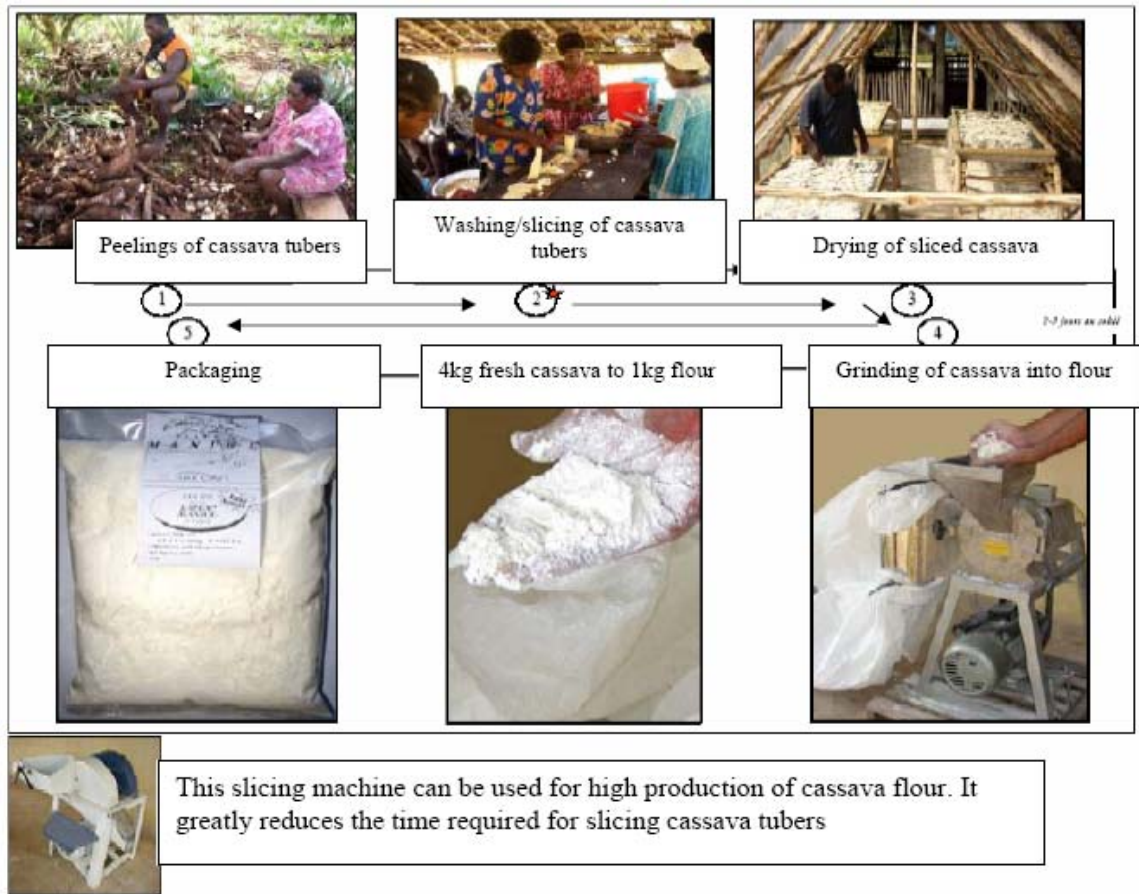


5. Driers being used



6. A readily available dryer area.

Illustrated Transformation of Fresh Cassava Into Flour



Since its inception in 2002 POPACA, the EU and Government of France have supported the country's root crop sector through rural development projects being implemented by the Department of Agriculture and Rural Development

A Root Crop Development Programme was initiated three years ago on the Island of Santo focusing on the implementation of village based manioc processing, One producer organization was created the Lory Cooperative, and equipped with milling equipment for the production of manioc flour.

The consumption of local products was promoted through assistance to an “*Aelan kakai (Year of Island Food) stall*” at Luganville, run by local women’s groups, who organized local training sessions on creating wholesome food using manioc flour as a main ingredient. The Santo Programme “Flawa Blong Manioc”(Manioc flour) demonstrated that appropriate technology was readily available for the production of manioc flour in Vanuatu. Experimentation demonstrated that it is possible to develop a market for manioc flour products by its incorporation into traditionally ‘wheat flour only’ products.

Furthermore, the Santo “Flawa Blong Manioc” Programme ventured into adapting local popular recipes such as laplap using manioc flour instead of more traditional ingredients, and produced a recipe booklet in Bislama which also provided numerous other cooking suggestions. However, one of the major problems the programme encountered in Santo was the limited size of the local market.

Consequently, it was decided in 2004 to expand POPACA’s Root Crop Programme to Efaté, where it is hoped that the country’s capital and largest urban centre will offer much greater and diverse market opportunities.

In February 2005, the Department of Agriculture, through **POPACA**, launched a root crop processing pilot project in the villages of North Efaté and, to date, information meetings, survey, training sessions, and workshops have been organised at Magaliliu, Tanoliu, and Malafau. In excess of thirty farmers have been involved in the preliminary stage of the project and are successfully participating in activities organized by the Programme; they have also received drying equipment from POPACA.

In June 2005 an implementation agreement was signed between the Government of Vanuatu and the FAO (Food and Agriculture Organization).

The cassava flawa program has been taken up under the Italian Trust Fund implemented by FAO (Food and Agriculture Organization) under “SUPPORT TO THE REGIONAL PROGRAMME FOR FOOD SECURITY (RPFS) IN THE PACIFIC ISLAND COUNTRIES

The primary overall objective of the root crop processing project is to enhance farmers’ livelihoods, incomes and food security.

The project will enable the general development of a greater consumption of locally grown products and more specifically will supply the Port Vila urban market. Other objective expected is to reduce the country’s reliance on imported foods and to strengthen technical support to root crop producers.

The development program complies as well with a current policy on improving the level of food security in the country.

The project is aimed at facilitating the setting up of root Crops Processing Units on Villages around the island of Efaté. Only one PU is built at Onesua College (EFATE) due to limited funding. There is processing equipment in three villages around the Island: Teouma, Magaliliu, Tanoliu.

In 2006 three workshops was organized in different villages on the island .The purpose of these trainings was to raise awareness on household food security issues such as local food processing and consumption, and also to promote food preservation as a disaster preparedness. More than one hundred participants attend these sessions that was conducted in collaboration with Agriculture, Trade and Public Health Departments. It is expected that more trainings will be organized in communities in 2007 on EFATE.

It is imperative that these training sessions, and awareness programmes be extended to other parts of the country. The rapid population growth, land shortage and the projected impacts of climate change makes the case for the food preservation programs a necessity.

Project Objective

1. To facilitate alternative methods of food preservation, processing and marketing by incorporating successful traditional practices with the modern technological methods;
2. Develop capacity of local and national governmental and non-governmental organizations to support vulnerable communities in coping with climate variability and longer-term climate change;

3. To sensitise communities and decision makers on the potential impacts of climate change on food security.

Outcome 1

Alternative method of food preservation taking into account traditional and modern practices.

Outputs

- 1.1 Existing technology upgraded;
- 1.2 Particular processing technology tried and tested in other sites and provinces;
- 1.2 Particular preservation technology tried and tested in sites and provinces;
- 1.3 Technology replicated in other identified sites and provinces;
- 1.4 Use of local flour from root crops such as cassava, yams, sweet potatoes etc is enhanced.

Outcome 2

Alternative method of food processing and marketing strategies.

Outputs

- 1.1 Marketing strategies: product analysis ,packaging, labelling adopted at existing sites;
- 1.2 Strategies extended to other sites and provinces;
- 1.3 Training activities on marketing activities be conducted for communities.

Outcome 3

Raised awareness and enhanced capacity to communicate information more effectively between different sectors and stakeholders.

Outputs

- 1.1 Enhanced knowledge about the techniques/processes and technology;
- 1.2 Greater awareness about food storage as a strategy to meet shortfalls during times of disasters;
- 1.3 Communities better informed about alternative marketing strategies.

IMPLEMENTATION ARRANGEMENTS

The project will be implemented by the Department of Agriculture and Rural Development (DARD) under the Technical Section. The DARD will work closely with other government agencies such as the Department of Health Food Technology Centre, Department of Forestry and Vanuatu Quarantine & Inspection Services. The project will be under the broad overview of NACCC which will serve as the Advisory Committee.

Sustainability of the program.

Food security aspect is one of the major activities that the Department of Agriculture with the other government sector are supporting and implementing since the year 2000.

To assure the sustainability of this program the Department of Agriculture will support all activities at the field level, logistic during the implementation of the food preservation program to achieve its vision.

Furthermore this institution will emphasises that the participation of all stakeholders including small-holder, farmers, youth and women associations, working together for the mutual benefit of rural livelihoods is essential for the Programme to succeed.

BUDGET

It is expected that the GEF will be requested to provide **USD 1m** from the LDC fund for the proposed Medium Size Project. An equivalent amount of co-funding will be provided through the FAO and EU projects, and in-kind support from the Government.

VANUATU

NAPA PRIORITY PROJECT 2

PROJECT CONCEPT 2. SUSTAINABLE TOURISM DEVELOPMENT

DESCRIPTION

Project Goal

Enhance adaptation to climate change in the tourism sector for Vanuatu.

Aim

The aim of this project is to further develop and demonstrate adaptation initiatives that will reduce the vulnerability of the tourism sector, and its natural and human resource base, to the impacts of climate variability and change, and in doing so enhance the sustainability of the natural resources and the quality of life of the people of Vanuatu and also generate global environmental benefits. A specific focus of the project is to build and utilize the capacity of Vanuatu to integrate responses to concerns related to climate variability and change into a broader risk management framework, strategy and plan for the tourism sector. The project will build on previous studies linking climate change, biodiversity, human livelihoods and tourism.

Project Objectives Outcomes and Outputs

Objective 1

Strengthen the capacity of the tourism sector and other key players for adaptation policy, planning and implementation

Outcomes

- Enhanced capacity of the tourism sector and other key players to prepare and implement adaptation policies and plans;
- A strengthened enabling environment for addressing climate-related risks, nationally, internationally and at island and enterprise levels;
- Improved understanding of the climate-related risks facing the tourism sector, the costs and benefits of risk management initiatives, and practical understanding and experience in addressing these risks through adaptation initiatives undertaken at operational level and through island-scale planning and regulation to national strategic planning, by tourism enterprises, communities and all levels of government.

Outputs

- A capacity needs assessment, carried out through a multi-stakeholder participatory workshop and interviews with key representatives;
- A capacity enhancement action plan, based on an assessment of the current adaptive capacity of the tourism sector and on the requirements for strengthening this capacity in order to address the current and anticipated climate risks of relevance to the tourism sector; this plan will be coordinated and integrated with the SNC;
- An inter-ministerial and multi-stakeholder consultative or advisory group such as the NACCC which was mandated by the Council of Ministers (COMs) to oversee project coordination and implementation. The committee will involve representatives of key public, private and NGO institutions, and will be expected to coordinate and monitor climate change adaptation activities in the longer term;

- Identification of support and donor institutions for the co-financing of the project implementation.

Objective 2

Demonstrate how climate change adaptation by the tourism sector contributes to national sustainable development, including through sound management of the environment and natural resources.

Outcomes

- Demonstrated effectiveness of climate change adaptation as a result of:
 - major sustainable development benefits for communities and the nation as a whole, in relation to water, energy, health, agriculture, and natural resources, and especially through the transfer and uptake of environmentally sound and sustainable technologies; and
 - improve living standards through tourism operations;
- Contributions to national priorities, including the SNC;
- A national consultation and implementation mechanism for climate change adaptation in the long term.
- Global benefits for the environment as a result of three coordinated country projects that enhance the sustainability of tourism, including implementing activities that take climate change risks into account, improve the management of natural resources, and protect biodiversity.

Outputs

- In cooperation with the Vanuatu Meteorological Services, prepare a climate risk profile for Vanuatu that evaluates current risks and how these may alter as a consequence of climate change; the climate risk profile will give specific attention to climate risks of relevance to the tourism sector and to locations that are particularly important for tourism.
- Selection Matrix to choose a most useful mix of adaptation demonstration projects. A range of adaptation measures will be identified and assessed through stakeholder consultation in order to implement in selected pilot coastal zones. Examples of possible adaptation measures include:
 - Revision of existing legislation and policies, gap analysis and definition of new regulations and policies needed;
 - Preventive solutions in tourism infrastructure development and planning policies: e.g. designation of coastal development zones, integration of climate risk criteria in development projects, beach management and monitoring, conflict resolution among users, etc.;
 - Contingency and evacuation plans in case of extreme climatic events;
 - Engineering solutions (e.g. rainwater collectors);
 - Environmental management in tourism operations (e.g. water-saving);
 - Financial incentives and public-private partnership for the application of engineering and environmental management solutions;
 - Nature conservation through tourism: identification and implementation of techniques to minimize impacts of tourism activities in natural environments, and creating revenue-generating mechanisms through tourism for the maintenance of protected and other natural areas;
 - A plan that identifies, coordinates and promotes adaptation initiatives at business, community, provincial and national levels in order to address the current and anticipated climate-related risks facing the tourism sector;
 - Relevant information on the costs and benefits of the adaptation initiatives, including the global environmental benefits;
- Develop a risk management framework for climate change impacts on tourism as part of a wider risk management plan for tourism in Vanuatu.
- Specific demonstration projects of climate change adaptation interventions identified in the above plan;

- Relevant tourism stakeholders with the capacity to mainstream adaptation in their policies and work programmes and to undertake specific adaptation initiatives;
- Coastal planning toolkit for local and beach authorities, resorts and businesses;

Objective 3

Contribute to wider national and international understanding of climate change adaptation policies and measures by documenting and disseminating the success factors, lessons learned and barriers, as well as good practice guidelines for replication and upscaling.

Outcomes

- Wider national and international understanding, and increased use of good practices in adaptation by the tourism sector globally;
- Increased efficiency and effectiveness of efforts by tourism-focused enterprises, communities and governments in SIDS to manage climate-related risks as a result of replicating and upscaling the lessons learned and success factors from the demonstration projects, and overcoming the barriers.

Outputs

- A synthesis of the lessons learned, success factors and barriers associated with each of the specific demonstration projects; these findings will also be made available for inclusion in the SNC; the synthesis will emphasize: a) the enabling environment; b) implementation process; c) cost-benefit of adaptation; and d) replication and upscaling.

RATIONALE

Tourism is an important source of revenue for Vanuatu and it accounted for 40% of the GDP in 2000. It is concentrated around the two main urban centre (90% of Vanuatu's hotel capacity is focused in Port Vila) but it is also expanding rapidly into the rural areas (Statistics Office, 2000) Climate change and its various impacts pose a significant risk to tourism, especially in developing countries where tourism is often the single most important industry. Climate change will impact on tourism, the marine and terrestrial biodiversity, and as a consequence on the livelihoods of local communities. Globally, the tourism sector will have to face the risks of climate change, contribute to mitigation of greenhouse emissions, and adapt to unavoidable impacts through careful management of the natural and other resources on which the sector relies. Among all tourist destinations, Small Island Developing States (SIDS) and coastal zones are most vulnerable and many are already experiencing impacts consistent with climate change. Understanding vulnerabilities, managing risks, building capacity, and implementing adaptation policies and measures is therefore urgently needed in SIDS and will achieve the greatest immediate benefit within the whole tourism sector.

The sector has been identified as having great potential for Vanuatu, but in need of further analysis. Amongst the constraints identified to realising its full potential, there is a need to increase community awareness of tourism development and benefits that can accrue to the local communities are important. The proposed project will assist in addressing these challenges, and go a long way in facilitating the mainstreaming of climate change into the development plans for the tourism sector in Vanuatu.

IMPLEMENTATION ARRANGEMENTS

The project will be executed by the National Tourism Development Office (NTDO), and the Vanuatu Tourism Office (VTO) which will work closely with the Vanuatu Hotel and Resort Association, Chamber of Commerce and Ministry of Tourism. The overall guidance for the project will be provided by NACCC.

BUDGET

A proposal for **USD 1m** will be developed for GEF funding, and will be allocated according to the activities and outcomes, to be determined during the project development phase.

VANUATU

NAPA PRIORITY PROJECT 3

PROJECT CONCEPT 3: COMMUNITY BASED MARINE RESOURCE MANAGEMENT PROGRAMMES

DESCRIPTION

Project Goal

Enhance adaptive capacity and resilience of vulnerable communities to the impacts of climate change.

Project Objective

To develop community based marine resource programmes, embracing both traditional and modern practices.

RATIONALE

According to the Third National Development Plan, the main objectives underlying fisheries development and management in Vanuatu are:

- To maximize the economic returns and other benefits from the exploitation of marine resources to the people of Vanuatu, particularly the indigenous population;
- To promote the rational exploitation of marine resources while ensuring that they can be exploited in a sustainable manner over the long-term;
- To promote and encourage the growth of the private sector;
- To avoid development activities that imply an ongoing, recurrent cost to Government;

The following fisheries development and management objectives are taken from the Department of Fisheries' 1997 draft Policy Statement;

- To manage, develop and protect the nation's fisheries resources and its marine, coastal and aquatic environments in such a way as to conserve and replenish them as an asset for future generations;
- To utilize the nation's fisheries resources in support of economic growth, social betterment, human resource development, employment creation and a sound ecological balance;
- To pursue effective strategies, including the continued improvement of administrative and legal machinery, for managing fisheries resources and their exploitation;
- To rationalize national planning, research, education, extension and monitoring capacity in regard to fisheries;
- To increase access by fishing communities to the cash economy;
- To improve Vanuatu's nutritional standards by encouraging and managing subsistence and small-scale fisheries production;
- To provide technical support to provincial and local government bodies, to the private sector, and to other agencies in the execution of fisheries projects.

The government's management strategy nominally consists of two major elements:

1. For the commercial fisheries – the use of formal fisheries management plans;
2. For the subsistence and village based fisheries – devolution of management responsibility to local communities.

With respect to the existing status of fisheries management and development plans, the 2000 ADB fisheries sector review states: "To date, no fishery in the country has operated under a formal management plan."

According to the 1999 Annual Report of the Fisheries Division, the direction being taken by the Department, ".....away from relentless pursuit of a narrow set economic development opportunities, and towards a

broader range of both development and management activities”. The report suggests that the broader range of activities should include greater emphasis on management of reef resources, rather than on commercial finfish fisheries.

The impact of climate change on fisheries, especially coastal fisheries is not conclusive. But all evidence point to a likely negative on both the quantity and quality of the resources due to the impact of temperature on the ecosystem. Fisheries will be affected through the degradation/loss of ecosystems such as mangroves which act as spawning, breeding and nursing grounds for a number of fish species, and through changes in sea surface temperature and also the intensity and location of upwellings that will modify species distribution;

Given the huge reliance of this sector on the mainly rural communities, any effects on the distribution and availability of this vital resource will have a direct bearing on the protein supply to the communities. It is important therefore that through education and awareness programmes, the possible negative impact on the fisheries sector is highlighted. This should form the basis of conservation and management strategies that will prepare communities for the worst possible scenarios. Some of the successful coping mechanisms can be adopted alongside any modern technological solutions.

Project Objectives/outcomes/outputs

Outcome 1

Implemented pilot activities to increase the adaptive capacity of coastal communities in the participating countries

Output 1.1: Pilot projects implemented on identified sites on particular islands.

Output 2.2: Communities embark on sustainable livelihood activities.

Outcome 2

Mainstreaming of adaptation into policies and programmes.

Output 2.1: Coastal management activities integrated across sectors, programmes and at various levels of society in the programme sites.

Outcome 3

Building capacity to increase the ability to plan for and respond to climate and coastal change.

Output 3.1 Improved capacity of institutions and human resources to develop and implement adaptation strategies and measures in coastal environment; development of expertise in application of climate and ocean models to forecast impacts and vulnerability; improved managerial skills for decision-makers and coastal stakeholders.

IMPLEMENTATION ARRANGEMENTS

The project will be executed by the Department of Fisheries in close consultation with other departments and ministries engaged in activities related to the coastal zones and marine issues.

BUDGET

A proposal for **USD 1m** will be developed for GEF funding, and will be allocated according to the activities and outcomes, to be determined during the project development phase.

VANUATU

NAPA PRIORITY PROJECT 4

PROJECT CONCEPT 4. SUSTAINABLE FORESTRY MANAGEMENT

DESCRIPTION

Project Goal

To mainstream climate change issues in the country's sustainable forest management policies and practices.

Rationale

The forests and forestry industries of Vanuatu are making an increasingly important contribution to the development and economy of Vanuatu. In 1996, the value of forest product exports was US\$3.62 million, about 13.2% of total exports. Landowners received about Vt 36 million in log royalties and US\$0.27 million in sandalwood royalties, while forestry workers were paid an estimated US\$1.20 million in wages.

However, the importance of Vanuatu's forests can not be judged only from an economic perspective. Forests, land and people in Vanuatu are inseparably linked. The forests are a vital part of the country's cultural heritage and contribute to the welfare and economic development of the people.

Forests provide the basic needs of water, food, shelter, fuel, and medicine. In addition to these fundamental forest values, the commercial benefits that can be derived from the forests are increasingly important to the traditional landowners and to the Government. Apart from providing job opportunities, income, and badly needed rural infrastructure, the development of the forest resources stimulates activities within the whole economy.

Careful planning and management of the use of the forests is important to ensure that the values supplied by forests are not jeopardised by the equally important need for development. The balancing of the need for environmental protection and development can be achieved through sustainable forest management.

Vanuatu's vision for the management of the forestry sector is an arrangement where the Government will work cooperatively with the landowners and the forest industries to achieve sustainable forest management and thereby encourage revenue generation for ni-Vanuatu landowners, economic development for the wider community and conservation of Vanuatu's forest biodiversity. This forestry vision includes:

- A strong national commitment to sustainable forest management to maximize the benefits of the forests for both present and future generations;
- Forest-based rural development leading to a greatly increased importance of the forest sector in the overall economy of Vanuatu;
- Comprehensive land use and forest planning mechanisms together with the proper implementation of planned forestry operations;
- Increased national forest resources, through improved natural forest management, joint-venture commercial forest plantations and agroforestry, despite a shrinking natural forest area;
- Development and expansion of efficient, viable, value-adding forest industries which contribute to economic and employment growth;
- Improved knowledge of Vanuatu's forest resources, ecosystems, biological diversity and the silviculture of the indigenous species;
- Improved awareness of the values of forests and trees and the active involvement of ni-Vanuatu in the management, conservation and development of these resources;
- Protection and management of the nation's significant conservation sites involving full participation by the ni-Vanuatu landowners;

- Increased regional and international cooperation for the forest sector together with international recognition that forest products from Vanuatu come from sustainably managed forests;
- A competent and adequately funded forest department which is effective and responsive to the needs of the government, the forest industries and the community.

Sustainable forest management is the management of a forest estate to produce a sustainable yield of timber and non-timber forest products over hundreds of years. The sustainable yield of timber from a forest is the volume that can be cut continually without depleting the total timber resource; that is, the volume cut must not exceed the growth of timber in the forest.

The concept of sustainable forest management in Vanuatu must be tempered by the fact that there is no government-owned forest land, and that it is an inalienable right of landowners under the Constitution to manage their land as they see fit. If they wish to clear forest for agriculture, that is their right; if they want to log that also is their right. However, in the situation of a decreasing forested area, sustained yield in Vanuatu only can be assured by increasing the productivity of the remnant forest area and by establishing highly productive forest plantations.

Ecologically sustainable forest management involves balancing sustainable forest management with the maintenance of the ecological processes that sustain forest ecosystems, the conservation of the biological diversity associated with forests and the protection of water quality and associated aquatic habitats.

Project Objectives Outcomes and Outputs

Objective 1

Strengthen the capacity of the forestry sector and other key players for adaptation policy, planning and implementation

Outcomes

- Enhanced capacity of the forestry sector and other key players to prepare and implement adaptation policies and plans;
- A strengthened enabling environment for addressing climate-related risks, nationally, internationally and at island and enterprise levels
- Improved understanding of the climate-related risks facing the forestry sector, the costs and benefits of risk management initiatives, and practical understanding and experience in addressing these risks through adaptation initiatives undertaken at operational level and through island-scale planning and regulation to national strategic planning, the department of forestry, communities and all levels of government.

Outputs

- A capacity needs assessment, carried out through a multi-stakeholder participatory workshop and interviews with key representatives;
- A capacity enhancement action plan, based on an assessment of the current adaptive capacity of the forestry sector and on the requirements for strengthening this capacity in order to address the current and anticipated climate risks of relevance to the forestry sector;
- An inter-ministerial and multi-stakeholder consultative or advisory group to oversee project coordination and implementation. The committee will involve representatives of key public, private and NGO institutions, and will be expected to coordinate and monitor climate change adaptation activities in the longer term;
- Identification of support and donor institutions for the co-financing of the project implementation.

Objective 2

Demonstrate how climate change adaptation by the forestry sector contributes to national sustainable

development.

Outcomes

- Demonstrated effectiveness of climate change adaptation as a result of:
 - major sustainable development benefits for communities and the nation as a whole, in relation to water, food, shelter, fuel and medicine, and especially through the transfer and uptake of environmentally sound and sustainable technologies; and
- A national consultation and implementation mechanism for climate change adaptation in the long term;
- Global benefits for the environment as a result of the country project that enhance the sustainability of forestry, including implementing activities that take climate change risks into account, improve the management of natural resources, and protect biodiversity.

Outputs

- Prepare a climate risk profile for Vanuatu that evaluates current risks and how these may alter as a consequence of climate change; the climate risk profile will give specific attention to climate risks of relevance to the forestry sector;
- Selection Matrix to choose a most useful mix of adaptation demonstration projects. A range of adaptation measures will be identified and assessed through stakeholder consultation in order to implement in selected pilot coastal zones. Examples of possible adaptation measures include:
 - Revision of existing legislation and policies, gap analysis and definition of new regulations and policies needed;
 - Preventive solutions in forestry infrastructure development and planning policies: e.g. integration of climate risk criteria in development projects, conflict resolution among users, etc.;
 - Engineering solutions (e.g. for soil erosion);
 - Environmental management in forestry operations (e.g. sustainable logging code);
 - Financial incentives and public-private partnership for the application of engineering and environmental management solutions;
 - Nature conservation through identification and implementation of techniques to minimize impacts of logging activities in natural environments, and creating revenue-generating mechanisms for the maintenance of protected and other natural areas;
 - A plan that identifies, coordinates and promotes adaptation initiatives at business, community and national levels in order to address the current and anticipated climate-related risks facing the sector;
 - Relevant information on the costs and benefits of the adaptation initiatives, including the global environmental benefits;
- A plan that identifies, coordinates and promotes adaptation initiatives at business, community and national levels in order to address the current and anticipated climate-related risks facing the forestry sector;
- Relevant information on the costs and benefits of the adaptation initiatives, including the global environmental benefits;
- Develop a risk management framework for climate change impacts on forestry as part of a wider risk management plan Vanuatu;
- Specific demonstration projects of climate change adaptation interventions identified in the above plan;
- Relevant stakeholders with the capacity to mainstream adaptation in their policies and work programmes and to undertake specific adaptation initiatives;

Objective 3

Contribute to wider national and international understanding of climate change adaptation policies and measures by documenting and disseminating the success factors, lessons learned and barriers, as well as good practice guidelines for replication and upscaling.

Outcomes

- Wider national and international understanding, and increased use of good practices in adaptation by the forestry sector globally;
- Increased efficiency and effectiveness of efforts by forestry enterprises, communities and governments in SIDS to manage climate-related risks as a result of replicating and upscaling the lessons learned and success factors from the demonstration projects, and overcoming the barriers.

Outputs

- A synthesis of the lessons learned, success factors and barriers associated with each of the specific demonstration projects; these findings will also be made available for inclusion in the SNC; the synthesis will emphasize: a) the enabling environment; b) implementation process; c) cost-benefit of adaptation; and d) replication and upscaling.

IMPLEMENTATION ARRANGEMENTS

The Department of Forestry will have the overall mandate for the project which will be undertaken in consultation with the Departments of Agriculture, Livestock, Lands and Environment. NACCC will serve as the Advisory Committee for the project.

BUDGET

A proposal for **USD 1m** will be developed for GEF funding, and will be allocated according to the activities and outcomes, to be determined during the project development phase.

VANUATU

NAPA PRIORITY PROJECT 1

PROJECT CONCEPT 1. INTEGRATED WATER RESOURCE MANAGEMENT

DESCRIPTION

Project Goal

Enhanced resilience of watershed through integrated water resource management.

Project Objectives

The objective of the project is to reduce vulnerability to the anticipated impacts from climate change on the country's water resources, with a primary focus on watershed areas. Specifically, the project seeks to identify national policies to address the impacts of climate change on water resources at the national level and to specifically formulate and implement pilot adaptation actions and specific measures in representative systems in order to protect their environmental functions and their rich biodiversity from climate change related impacts.

The project's goal is to enhance capacity to cope with projected climate change and climate variability in the watershed areas of Vanuatu. This will be achieved by the following strategies/activities.

- Assess the vulnerability and adaptive capacity of upland farmers and local institutions to climate change;
- Build resilience of upland farmers to the impacts of climate change by developing sustainable livelihoods (eg diversified farming; agroforestry; conservation farming);
- Integrate climate change risks in protected area and watershed planning;
- Develop a watershed-based early warning and monitoring system for climate phenomena such as ENSO;
- Build capacity of government and civil society organizations in coping with climate change.

Expected Outcomes and Expected Outputs to Achieve Outcomes

The project's main goal to enhance capacity of local stakeholders and institutions in Vanuatu's watersheds to cope with climate variability and climate change will be attained by the specific objectives, outcomes and outputs outlined below.

Objective

To develop and pilot strategies for building resilience of farmers to the impacts of climate change and climate variability.

Outcome 1

Sustainable livelihoods practices in pilot sites enhance resilience of farmers to cope with climate change and climate variability.

Output 1.1: Database containing hydro-climatic and socio-economic information

Output 1.2: Current coping mechanisms

Output 1.3: Livelihood options (eg diversified farming; agro-forestry; conservation farming) to enhance resilience identified.

Output 1.4: Enhanced capacity of government and civil society organizations to cope with climate change

Outcome 2

Early warning and monitoring systems provide timely and relevant information to assist farmers cope with climate variability.

Output 2.1: Integrated watershed management information system

Output 2.2: Training provided in use of climate information

Output 2.3: Stakeholder network established to enhance interaction

Outcome 3

Climate change risks, preparedness and mitigation integrated in protected area and watershed planning.

Output 3.1: Stakeholders (government, NGOs, private sector) trained to mainstream climate risks.

Output 3.2: Watershed management plans developed and enhanced

Output 3.3: Guidelines for mainstreaming adaptation

Outcome 4

Community's awareness of climate change and variability issues enhanced leading to successful replication of coping strategies in other areas.

Output 4.1: Best practices and lessons learned documented and disseminated widely using the media.

Output 4.2: Climate issues integrated into current agriculture and forestry activities.

Output 4.2: Community organizations strengthened.

Outcome 5

Developing mechanisms to promote sustainable land-use patterns that maintain the functional integrity of watershed areas. Promoting the sustainable use for watersheds and keeping the environmental and ecosystem services for native and migratory species as well as sustainable economical activities tuned to the specific characteristics on each area.

It is expected that the results of the project could be more widely replicated in other watersheds areas in the Vanuatu. The country is high volcanic with large mountains and hills, with many farmers cultivating rainfed sloping areas.

RATIONALE

According to the PAA approximately 80% of the population have access to improved water services (reticulated supply and rainwater catchment tanks) and over 80% of the population have improved sanitation. Moreover, most of the programmes that are currently implemented in the water sector focus mainly on getting water to the people but not addressing issues such as deforestation in the watershed area, encroachment of agriculture into the watershed and coastal areas.

IMPLEMENTATION ARRANGEMENTS

The project will be implemented by the Departments of Geology, Mines and Water Resources and Agriculture, working closely with the Departments of Forestry, Lands and Environment, with NACCC acting as the Advisory Committee.

BUDGET

A proposal for **USD 1m** will be developed for GEF funding, and will be allocated according to the activities and outcomes, to be determined during the project development phase.