

INTEGRATION OF ENVIRONMENTAL, SOCIAL AND ECONOMIC SUSTAINABILITY FOR VANUATU

SUSTAINABLE DEVELOPMENT: AN INFORMATION PACKAGE FOR VANUATU

**EDWARD Idvor Nompunetor NALIAL
Local Consultant**

August 1996

Table of Contents

Table of Contents	1
Table of Figures.....	2
Acknowledgements	3
Acronyms	4
1. Introduction	5
2. Sustainable Development as Defined in Vanuatu	7
2.1. Background	7
2.2. Vagueness and Ambiguity.....	7
2.3. Brundtland's Definition	8
2.4. Definition of Sustainable Development in Vanuatu.....	9
2.5. Collection of Definitions	10
2.6. Factors Influencing Definitions of Sustainable Development in Vanuatu	11
2.6.1. Land Tenure System.....	12
2.6.2. Cultural Issues	12
2.6.3. Population Growth.....	12
2.6.4. Natural Disasters	13
2.6.5. Economy.....	13
2.6.6. Political Instability.....	13
2.6.7. Physical and Geographical Issues.....	13
2.6.8. Human Resources.....	13
3. Integration of Sustainable Development Principles - Environmental, Social and Economic Sustainability for Vanuatu	14
3.1. Social Development/Equity.....	14
3.1.1. Equity	14
3.1.2. Empowerment.....	15
3.1.3. Social Cohesion and Mobility	15
3.1.4. Institutional Progress	15
3.2. Economic Growth.....	16
3.2.1. Efficiency	16
3.3. Environmental Protection	16
4. Guidelines for Vanuatu.....	17
4.1. National Conservation Strategy.....	17
4.2. Code of Logging Practice	17
4.3. National Development Plans	17
4.4. Malvatumauri National Council of Chiefs	18
4.5. National and Provincial Governments.....	18
4.6. Participatory Community Education, Awareness and Decision Making.....	18
4.7. Sharing Responsibilities	19
4.8. Protection of Local Indigenous Ecological Knowledge	19
4.9. Strengthen the Role of NGOs.....	20
4.10. The Need for Environmental Legislation	20
5. Examples of Sustainable Development Activities in Vanuatu	22
5.1. Vanuatu Land Use Planning Project (VLUPP)	22
5.2. Department of Lands	22
5.3. Department of Forests	22
5.4. Department of Fisheries.....	26
5.5. Department of Agriculture and Horticulture	31
5.6. Department of Trade and Industry.....	31
5.7. Vanuatu Cultural Centre.....	31
5.8. Environment Unit	32
5.9. Energy Unit	33
5.10. Vanuatu Association of Non Government Organisations (VANGO)	35
5.11. Foundation for the Peoples of the South Pacific/Community and Environmental Forestry.....	36
5.12. Malvatumauri National Council of Chiefs	38

5.13. National Komuniti Divlopmen Trust (NKDT).....	38
5.14. Vanuatu Rurual Development and Training Centres Association (VRDTCA).....	38
5.15. Wansmol Bag Theatre	39
5.16. Vanuatu Environment Organisation	40
5.17. Other Promoters of Sustainable Development	40
6. Conclusion.....	41
7. References	42

Table of Figures

FIGURE 1: DIAGRAMMATIC ANALYSIS. FIGURE 1: DIAGRAMMATIC ANALYSIS	14
FIGURE 2: VIEW OF ERROMANGO KAURI RESERVE	23
FIGURE 3: LOGGING OPERATIONS ERODED ROAD ON ERROMANGO.	25
FIGURE 4: ALTERATION TO RIVER COURSE FROM LOGGING OPERATIONS ON ERROMANGO.	26
FIGURE 5: PORT VILA HATCHERY FOR THE CAPTIVE BREEDING OF <i>TROCHUS</i> AND TURTLES.	28
FIGURE 6: <i>TROCHUS</i> READY TO BE RELEASED AT DEPLETED REEF SITES.	29
FIGURE 7: JUVENILE HAWKSBILL TURTLES READY FOR RELEASE.	30
FIGURE 8: VATTHE CONSERVATION AREA, BIG BAY, SANTO.	32
FIGURE 9: LORU PROTECTED AREA, KHOLE VILLAGE, SANTO.	33
FIGURE 10: VILLAGE TRAINING IN THE USE OF PORTABLE SAWMILLS.	37
FIGURE 11: CEF OFFICERS ENCOURAGE SUSTAINABLE PRACTICES IN FOREST UTILISATION.	38

Acknowledgements

Many people have generously contributed their time and expressed their support in a variety of ways in the compiling of this report. Notable of these are Sarah Naupa, Programme Officer (Melanesia) Capacity 21 Project, and Ernest Bani, Head of the Environment Unit. Their continued assistance and guidance throughout are gratefully acknowledged.

A special core of people deserve my gratitude for provision of information and other significant contributions they made. These include Reggie Kainbang and Michael Mangawai of the Department of Agriculture and Horticulture, Kalo Pakoa from the Fisheries Department, James Toa of the National Planning Office, Tony Bartlett, Ross Andrewartha and Aru Mathias of the Department of Forests, Howard Aru of the Department of Trade and Industry, Ralph Regenvanu of the Vanuatu Cultural Centre, Leo Moli of the Energy Unit, Russell Nari (Protected Areas Officer) at the Environment Unit and various Government institutions, staff and individuals who provided assistance.

In the NGO sector, to Neil Stevens of VANGO, Lai Sakita of NKDT, Bob Loughman of RSTP, Ann David of VRDTCA, Karl Waldebach of BEST, John Salong and Andrea Clark of IDEAS (Luganville, Santo) and the office of the VNCW.

Finally, I am in great debt to Dr Helen Corrigan of the Forests Conservation Unit (Department of Forests) for reviewing the drafts of the report and for moral support.

Acronyms

ACCT	Association de Cooperation Culturelle et Technique
BEST	Beneficial Environmental Sustainable Tourism
FSP/CEF	Foundation of the Peoples of the South Pacific/Community and Environmental Forestry
	CFC Chlorofluoro Carbons
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EU	European Union
SANMA	Santo and Malo Province
FFA	Forum Fisheries Agency
IDEAS	Industrial Development and Economic Alternatives for Santo and Malo
IIED	International Institute for Environment and Development
IMF	International Monetary Fund
MALAMPA	Malakula, Ambrym and Paama Province
NGO	Non-governmental organisations
NKDT	National Komuniti Development Trust
NPO	National Planning Office
OECD	Organisation for Economic Cooperation and Development
RSTP	Rural Skills Training Programme
SANMA	Santo and Malo Province
SD	Sustainable Development
SDN	Sustainable Development Network
SHEFA	Shepherds and Efate Province
SPC	South Pacific Commission
SPREP	South Pacific Regional Environment Programme, Apia, Western Samoa
UNCED	United Nations Conference on Environment & Development
UNDP	United Nations Development Programme
UNELCO	Union Electrique du Vanuatu Ltd
VANGO	Vanuatu Association of Non-Governmental Organisations
VANRIS	Vanuatu Resources Information System
VEO	Vanuatu Environment Organisation
VCMB	Vanuatu Commodities marketing Board
VLUPP	Vanuatu land Use Planning Project
VNCW	Vanuatu National Council of Women
WCED	World Commission on Environment & Development
WCS	World Conservation Strategy

1. Introduction

Development is a national priority for Vanuatu. However, there are limited natural resources available in this country. Therefore, like the rest of the world Vanuatu must outline methods that will retain the balance between development and maintenance of natural resources and the environment. The preservation of that balance is the practice, now endorsed, commonly known as Sustainable Development.

The concept of Sustainable Development is not new to Vanuatu. Protection of the environment and the natural resources is inherent in the national Constitution. Article 7 (d) places specific legal obligations, stressing that;

"Every person has the following fundamental duties to themselves, their descendants and to others:
to protect Vanuatu and to safeguard the national wealth, [resources and environment in the interests of the present and of future generations.]"

Vanuatu is obliged to comply with sustainable development principles in the international stage. It is a signatory to the Rio Declaration on Environment and Development at UNCED in 1992. The first of the 27 principles of the declaration states unequivocally:

"Human beings are at the centre of concerns for sustainable development They are entitled to a healthy and productive life in harmony with nature."

By approving Agenda 21, Vanuatu accepted a program of action for realising it. The challenge now is to move beyond rhetoric.

In addition to these duties, the traditional use of resources, practised by almost 80% of the population of Vanuatu (being the rural inhabitants), encapsulates the essential elements of sustainable development. A presumptuous argument suggests that if all uses of the environment and the resources within were based on the previous (that is before the introduction of large scale development and outside intervention) rural trend, there would be no need for alternative sustainable methods. However, this argument cannot be sustained in the face of rapid urbanisation and population growth, and push for development now occurring in Vanuatu.

The push for economic self -reliance and rapid population growth are among the pressures that are now being placed on the environment. Coupled with a lack of planning and statutory mandates for some key environmental and resources managing institutions, these negative trends could well be major threats to the environment in the near future.

In Vanuatu, as is the case globally, the threat of increasing environmental degradation has brought the slow realisation that a sustainable future requires a different approach to resources management. A growing awareness has developed as to the need to conserve finite or non-renewable resources; the need to use renewable resources at a rate which will sustain long term yield; and the need to balance the requirements of present generations against those of the future.

The aim of this package is to identify the specific needs of sustainable development materials relevant to Vanuatu (specific country aspects) and to prepare simple language guidelines that will assist stakeholders to appraise their policies and procedures in the context of environmental, social and economic sustainability for Vanuatu circumstances. There is also a perceived need to disseminate information regarding specific sustainable development projects, programs and activities that are present or have been undertaken over the last decade since 1985. This Information Package represents the close consultation, cooperation and collaboration with government departments, Non-Government Organisation (NGOs), the private sector, communities and individuals.

2. Sustainable Development as Defined in Vanuatu

This section deals with one of the issues of implementing sustainable development, that of defining the term and what it encompasses. Recognising the need to understand the ingredients of this new concept, to Vanuatu at least, questionnaires were sent out to persons in different departments and organisations to define the term according to their specific professions and disciplines. The section begins with the international definition, as presented in the World Conservation Strategy, the issues relating to it, and finally the definitions obtained within the national context.

2.1. Background

"Sustainable Development" has become one of the catch phrases of the 1990's, but it has presented difficulties of definition and has been, in some places, a hindrance to development. It has received faint praise, for example, sustainable development has been likened to;
"how to destroy the environment with compassion"
" a good idea which cannot be sensibly put into practice "
" moral convictions as a substitute for thought".

Sustainable development first came to prominence in the *World Conservation Strategy* (WCS) published by the World Conservation Union in 1980. It achieved new status with the publication of *Our Common Future*, the Brundtland report in 1987 and has gained greater world attention since the UN Conference on Environment and Development (UNCED), Rio de Janeiro, June 1992.

Now the concept of sustainable development engages governments, NGOs, civil servants, environmental activists, local government officials, community groups, development agencies, grassroots people, planners, commercial developers, industrialists, environmental agencies and academics in all fields.

Now everyone is using the term sustainable development or a similar term. For instance, the UNDP promotes "sustainable human development", the IMF and OECD talk of "sustainable economic growth", the World Bank is committed to "sustainable and equitable development", and the European Union explores the notion of "sustainable economic and social development"

2.2. Vagueness and Ambiguity

Much of the imprecision stems from the fact that the term "development" is used over a wide range of contexts. We talk of "economic development", "development opportunities", "development aid", "overseas development", "community development" and "human development".

"Sustainable" is by comparison a newcomer and has not yet acquired its own range of overlapping and sometimes conflicting associations.

2.3. Brundtland's Definition

Brundtland's concept of sustainable development places emphasis on both social justice and ecological health.

However, vagueness and ambiguity are also present in this definition.

The definition in the Brundtland Report reads:

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

These, now famous, words offer no hint of what sustainable development involves in practice, what commitments it requires and what the costs will be. Yet others regard sustainable development as having more of the character of a moral principle than a precise definition; 'Sustainability is not something to be defined, but to be declared. It is more of a guiding principle'. In this sense sustainable development is rather like democracy or justice.

The vagueness and ambiguity of definition are the first problem that each nation has to overcome if it intends to apply sustainable development principles.

2.4. Definition of Sustainable Development in Vanuatu

Sustainable Development can be, or in fact has been, defined in numerous ways depending on which principle and objective that is emphasised. Often it is referred to as environmentally sustainable development. The concept has been widely debated and written about. Some developers regard it as anti-growth, whereas others point to the fact that it is important to understand what sustainable development is all about and that it is not anti-growth but rather promotes growth in an environmentally sustainable manner. As far as Vanuatu and other Pacific countries are concerned, sustainable development is essential for advancement, productivity, and healthy lifestyles into the next millennium. As it stands there has been numerous definitions, yet no agreement on a specific definition for Vanuatu. At the National Conference on Sustainable Development (21-23 May 1996, Port Vila, Vanuatu) the participants drew up a definition. This is the definition that is to be adopted for Vanuatu.

"Sastaenabol Divlopmen long Vanuatu hemi fasin blong evriwan i wok tugeta blong lukaotem gud ol risos blong yumi tru long ol waes mo save blong ol pipol blong mekem laef i save kam moa gud tedei mo long taem i kam."

The definition is based on one designed for Papua New Guinea, with some amendments to suit Vanuatu. The English translation reads:

"Sustainable Development in Vanuatu is the way in which everyone works together for the management and conservation of their resources through the knowledge and expertise of people to enable the betterment of life today and in future."

Most of the definitions of Sustainable Development in Vanuatu revolve around the notions put forward in the Brundtland report emphasising the call for development that "*meets the needs of the present generation without compromising the needs of the future generations*".

Although there is acceptance of that universal definition, there have been slight alterations to suit the uniqueness of Vanuatu. Some definitions concentrate on "current use or meeting the targets of human needs" but not depleting the "reproduction capacities of the resource in the long-term ". Other definitions stress the need for environmental quality and social equity.

2.5. Collection of Definitions

Below is a list of some of the definitions of sustainable development that were collected. They cover a wide area ranging from the economic context to the environmental. Note that despite the differing aspects, all definition emphasise the need for human advancement, [ecological] conservation and an infinite continuity.

Economic: A project which is expected to generate sufficient income to pay its expenses and to provide sufficient profit to invest in the future of the project. Regard must be had to the natural resources used, whether they can be replaced.

Trade, Industry and Commerce: Development which utilises local and imported resources in the manufacturing and processing industries to generate income and profit, and to improve living conditions, while ensuring a balanced use of these resources, and an environmental impact level that is sustained within the absorptive capacity of a given physical and human environment.

Trade: Sustainable development can be used to imply a situation where markets and associated accounting systems (market prices) recognise natural resources, which notably includes all environmental resources, as assets, or to value property resources based goods and services or the costs and benefits involved with external effects of production and consumption activities.

Fisheries: Sustainable Exploitation or Sustainable Harvest, in terms of marine resources, simply means exploiting resources in a way that would enable the resource to sustain itself in the long run. Fishermen and resource owners should make sure there is enough breeding stock of certain harvested species. An example of sustainable development in Fisheries is the captive breeding of certain species such as turtles.

Forestry: Sustainable forest management is to balance development and conservation. Examples of sustainable development include, sustainable level of timber harvesting, the Code of Logging Practice (rules and standards for protection of environment and sustainable management of forests), conservation (Erromango Kauri Reserve, Erromango) and reforestation or regeneration.

Agriculture and Horticulture: Sustainable development refers to an appropriate (socially and economically acceptable) farming system which is able to sustain production at acceptable levels per given unit of land area over a desired or given period of time. An example of sustainable development is the use of inter cropping with leguminous plants (so that soil fertility is allowed to recover) with 'fallowing' to rest the soil.

Environment Unit: Sustainable development is maintaining the quality and supply of natural resources, together with the environment indefinitely into the future. Using a living resource sustainably means its rate of harvest corresponds with its rate of reproduction. Development-wise, sustainability requires the safeguarding and the well-being and productivity of the social and natural environment. Examples of sustainable development within the Environment Unit are, the "Vanuatu National Conservation Strategy" and the establishment of Conservation Areas (Vatthe Conservation Area, Big Bay, Santo).

Provincial Governments: Vanuatu is a place with finite room and resources. Continuing population growth, production and consumption will inevitably place severe stress on the natural process that renew and maintain the resource base of air, water, and soil that support all life. Therefore there is a need for control of population growth and efficient use of resources.

Agriculture System: A method of growing crops and raising livestock based on organic fertilisers, soil and water conservation, biological control of pests, and minimal use of non-renewable fossil fuel energy.

Economy: An economic system in which the number of people and the quantity of goods are maintained at some constant level. This level is ecologically sustained over time and meets at least the basic needs of all member of the population.

Society: A society based on working with nature by recycling and reusing discarded matter, conserving matter and energy resources by reducing unnecessary use and waste, by not degrading renewable resources. Examples of sustainable development in this province are the Land Use Planning Project, South Santo Bush Community Resource Management Project, Rural Skills Training Program, and again the Vatthe Conservation Area.

Planning: The promotion of sustainable development through the strengthening of land use planning and resource management. Training and education are major mediums of promoting sustainable development, practised by the NPO and VLUPP.

NPO: Sustainable development is basically the enhanced process of meeting the objectives of society or human needs by taking into consideration the social and environmental landscape.

Non-Government: Sastaenabol Divlopmen hemi wan kaen divlopmen we idea blong hem bambae i stap oltaem wetem komuniti. Idea mo praktis we komuniti i karemaot hem wan. Wan kaen divlopmen we hemi no gat en blong hem. Wan kaen divlopmen we hemi folem fasin blong kalja, yu no nid blong stap remaenem ol pipol from we hemi stap long kalja sistem blong ol.

The translated version reads:

Non-Government: Sustainable development has been in our communities for generations. Sustainable development concepts have formed the basic practices of our communities for many years and its principles are embedded in our culture. Sustainable development is a continual development.

2.6. Factors Influencing Definitions of Sustainable Development in Vanuatu

For Vanuatu, there are factors that have a significant influence on the definition of Sustainable Development , and have to be considered when giving the definition a meaning. Some of these factors assist and compliment the definition of sustainable development, while others are viewed as obstacles. Further discussion of these factors follows below.

2.6.1. Land Tenure System

The traditional and customary system of owning land in most islands in Vanuatu has a considerable influence. It can be an advantage when land is in the hands of traditional landowners since their traditional use of land is sustainable, notably subsistence farming or gardening. However, when land titles become individualised, and land is in just one person's possession then it is hard to gain some control if land is being used in an unsustainable way, for instance, one can contract their land to a logging company. Any attempt to interfere in such a case would be a violation of their property rights.

2.6.2. Cultural Issues

Most custom practices in Vanuatu are sustainable. Some of the beneficial methods in line with sustainability include placing moratoriums, taboos and prohibition of resource use by village chiefs. However, some custom usage are not sustainable, for instance, little care is taken with size limits of marine resources, such as the harvesting of lobsters and shellfish. In addition, certain resources are considered custom delicacies and are often overexploited, for example flying foxes and turtles. Such practices may be seen as normal in the villages, yet to others, this is ecological blindness.

2.6.3. Population Growth

Population will be a critical issue for implementing sustainable development in the future. The 'Port Vila Declaration on Population and Sustainable Development' formulated by Government representatives of South Pacific countries at the International Conference on Population and Development in 1994, calls for a recognition that population and sustainable development are interrelated. That:

"at both national and regional levels population issues must be integrated into the formulation and implementation of all policies relating to economic and social development and the environment."

This implies that for a country like Vanuatu the facts of population change and their effects must be taken into consideration in the planning and implementation of efforts to improve economic, social and environmental conditions.

Currently the population of Vanuatu stands at about 160,000. The population growth rate in 1979 was 3.2%. By 1989 it had dropped slightly to 2.8 % (last national census), which is still amongst the highest in the world. At this rate the population of Vanuatu will double every 25 years. For Port Vila and Luganville with about 8% growth rate, it doubles in about 10 years. Port Vila increases by about 25,000 per year. Population projections for the country are that in 2010, Vanuatu will have 260,000 which is almost double the present within a 15 year period. These figures are frightening and point to a need for population control.

Another demographic issue is the distribution of population. At present 80% live in rural Vanuatu with about 70% living in coastal areas. This distribution pattern will mean, 1) that marine resources will be under more pressure, this is already evident in the more densely populated islands of Paama and Tanna where over-exploitation is occurring and, 2) the provision of necessary services, mainly concentrated in the urban areas, will have to be redistributed for the rural population's needs. sustainable development will have to be structured and geared towards this demographic pattern and distribution.

2.6.4. Natural Disasters

Vanuatu is prone to natural disasters. It is frequented by cyclones, earthquakes and volcanic eruptions that cause disruptions in the maintenance and monitoring of sustainable development projects that are taking place now.

2.6.5. Economy

Vanuatu is an open economy with no controls on capital flows and exchange rates. The economy cannot be sustained with capital flowing out of the country in an uncontrolled manner.

2.6.6. Political Instability

This issue can be a barrier to implementation of sustainable development plans and policies. The country itself must have the political will to implement any sustainable development projects initiated.

2.6.7. Physical and Geographical Issues

Remoteness, isolation and inaccessibility are issues that may affect sustainability in Vanuatu. There is a lack of adequate infrastructure and transport through out the islands. Not all people, places and resources can be reached easily.

2.6.8. Human Resources

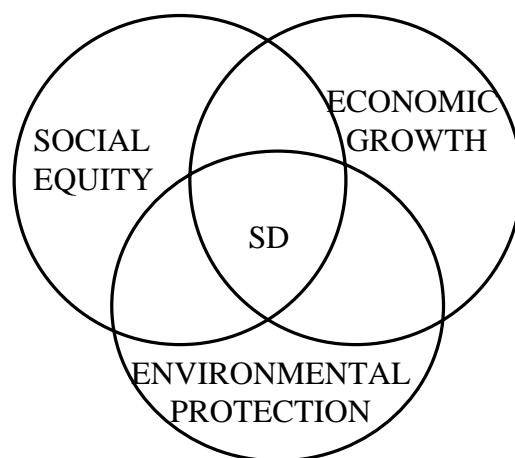
Human resources are at the centre of the debate on sustainability. Vanuatu may lack appropriate personnel to effectively manage the predicted future population increase. Provision of human resources through education and training must be increased to cater for services in the future.

Note: In general the most obvious obstacles to sustainable development are a lack of awareness of the issues, lack of political will for acceptance of steps forward, the opposition of entrenched interests, and the inadequacy of institutional mechanisms for integrating environment and development.

3. Integration of Sustainable Development Principles - Environmental, Social and Economic Sustainability for Vanuatu

For an effective and practical approach to implementing sustainability the three aspects of development; environmental, social and economic, have to be analysed jointly. The idea is best illustrated by Figure 1 below. From the diagram the discussion will diversify and cover the intended topic.

Figure 1: Diagrammatic Analysis. Figure 1: Diagrammatic Analysis



3.1. Social Development/Equity

The part of the diagram labelled 'social equity' comprises a number of issues. Foremost, it emphasises that any development has to be people centred, that is the involvement of the family, community groups and the individual in Vanuatu. The advancement of the human factor is the focal point of sustainable development. The person is an instrument in the process, and their involvement in the development process is of essential importance. It must be borne in mind, however, that the person can be a victim of development, and this is where difficulties to achieving sustainability can occur in. Sustainability can be achieved if the negative effects of development can be minimised. What is needed to keep a balance in social development is the improvement of the peoples' welfare.

In Vanuatu social development therefore means equity, empowerment, participation, social mobility, social cohesion, cultural identity and institutional progress. These points will now be elaborated on.

3.1.1. Equity

The task here is twofold, if one looks at this term in the case of development. Equity as in reasserting and upholding peoples' legal rights in both the national and customary laws that will enable them to 'participate'. And, that people be given equal opportunities to further themselves in their personal and public stature. To enable the second task, the provision of adequate public services is necessary. Services such as education and training, health,

accommodation, infrastructures and amenities. In the urban centres of Port Vila and Luganville, the lack of adequate housing and sanitation for a considerable section of the population is a strain on sustainability and will continue to be a barrier to future plans for sustainable development.

For 'legal equity', it is important that a person is recognised as a legal entity, bearing rights and duties. Our rights to pursue economic growth and utilise the resources we have are laid out in the Constitution and various other national laws. In customary law it is well recognised that persons have rights and duties. A person may have a right as the true owner of land, rivers and coastal areas, yet they have a duty to ensure that there still is an exercise of 'user rights' that everyone else in a village has. Rights and duties should correlate and must not be disengaged in the process of sustainable development. For every exercise of a right that a developer has, there is a corresponding duty. For instance, businessmen exercising their right to economic gain by manufacturing ice-cream with attractive wrappings, have a duty to provide rubbish bins where the wrappings can be disposed. In turn the consumer uses the bins after consuming the ice-cream, therefore creating a good environmentally safe business environment.

3.1.2. Empowerment

Giving power to the people is necessary in achieving sustainable development. *Participation* and *awareness* are the crucial elements in empowerment. Peoples' active involvement in the development process is the key to success. Awareness involves clarifying the issues and peoples' position socially and legally with regard to a particular development. The bottom line is to empower people to enable them to decide if a development is beneficial to them. The people who should be targeted are the stakeholders, the chiefs and grass-roots people in villages. Empowerment of people in the rural areas is currently being successfully undertaken by the National Komuniti Development Trust (NKDT).

People in rural areas have an immense knowledge of sustainable methods in regard to resource use. Empowerment involves also, the recognition and better utilisation of this local knowledge.

3.1.3. Social Cohesion and Mobility

Social belonging is important in the culture of Vanuatu. People need to feel they are part of a group by identification through their culture and social networks. The social groupings typical in the villages assist in strengthening peoples roles and positions in carrying out certain activities including development. This pattern of traditional organisation supports the survival and sustainability of local subsistence farming systems. The effectiveness of any sustainable development programs would be undermined if traditional systems and their influence were not utilised.

3.1.4. Institutional Progress

Vanuatu has developed numerous institutions to cater for developments, yet these institutions lack the capacity to implement policies that aim to achieve sustainability. Many well-meaning environmental policies, for instance, are likely to fail.

Institutions such as the Environment Unit, need to develop and progress. The Unit has the important function of advising Government on environmental policy formulation and monitoring. Yet the functions now are inadequate to suggest that the unit is the "environmental watchdog" in Vanuatu. Since its establishment in 1986, it has yet to achieve full departmental status and the required statutory mandate to implement environmental policies in Vanuatu. It is hoped that with the new environment legislation (Environment Act of Vanuatu) being drafted for Vanuatu, the Unit will be given special statutory powers that will enable it to operate across disciplinary and jurisdictional lines and be accountable for results.

3.2. Economic Growth

Countries around the world actively seek economic advancement and self-reliance. Economic growth, as shown in Figure 1, represents the interaction of economic institutions such as trade, commerce, finance departments, and the national planning office in Vanuatu.

To achieve the desired economic standard, it is a balancing exercise between wise use of available resources and fair social progress. In this sense economic growth must be efficient and equitable.

3.2.1. Efficiency

The concept of efficient economic growth is based on pricing policies. Such policies are efficient where they are seen as powerful mechanisms for fostering sustainability and assisting regulatory measures. Adequate resource pricing which recognises and allows for a positive and negative influence of environmental factors in the economy is required at this stage in Vanuatu as most of the resources are seen by developers as freely available. There is a potential for over-exploitation if the resources continue to remain in this state. Efficient economic growth denotes improved environmental stewardship. An example of this stewardship is the agriculture pricing policy for export goods, which the Department of Forests is implementing by reviewing forest products and timber pricing.

3.3. Environmental Protection

This heading covers ecological issues, their utilisation and guardianship. Economic and social improvements have to be undertaken with attention to ecosystem integrity, carrying capacity, biodiversity and global environmental issues.

As capacity is always emphasised globally, forests must be conserved. Conservation in Vanuatu is particularly important since the forest plays a fundamental role in the day to day living of the ni-Vanuatu. The forests hold a range of economic and practical benefits as they help to maintain climate and soil conditions, provide medicines, food and habitats for wildlife. They also have religious and cultural importance and hold aesthetic values for the people. If conservation is achieved alongside economic and social development then the balance will result in sustainable development. This is the central area labelled as "Sustainable Development"" in Figure 1.

4. Guidelines for Vanuatu

This country does not lack policies that will aid in integrating sustainable development environmentally, economically and socially. It already has in place comprehensive guidelines for that purpose but it lacks a mandate and mechanisms to implement them. Certain government departments, NGOs and other groups have shown that these ideas are workable. There are various manuals that contain policies for encouraging sustainable development. These could be the blue-prints for fostering sustainable development in Vanuatu.

4.1. National Conservation Strategy

This document drawn up in 1993 is very far reaching with regard to methods of achieving sustainability as its emphasis is on ecology and conservation. It prioritises the environmental issues and steps that need to be taken to enable environment-friendly development. It also identifies the key players, what processes are essential and the future trend for environmental management.

However, there has been slow progress in implementing it, as the Environment Unit has only an advisory role, and can only make recommendations. By convention, recommendations have no compulsory or legal compliance and can either be accepted or refused. The National Conservation Strategy contains more than recommendations, it is the national guideline for development and environmental stewardship in Vanuatu. If it is carefully implemented, sustainability could be achieved.

4.2. Code of Logging Practice

This manual, now at the stage of being made an order of Parliament, combines elements of economic and forest protection. It sets the rules, regulations and controls in the practice of logging. It was drafted by all the affected parties in the logging industry namely the Department of Forests, land owners, logging companies and the timber industry. The Department of Forests is the overseer of this important manual. Its implementation, however, requires the cooperation, will and effort of all parties involved.

This document is necessary for the regulation of the increased logging activities currently occurring in the islands of Erromango, Efate, Malakula and Santo. If not properly controlled it could have severe effects on the ecosystems and the biodiversity within these forests. Peoples' living would be affected accordingly. Considering that about 80% of the population live in the rural areas, any major disturbances in their livelihood would mean a considerable problem for Vanuatu.

4.3. National Development Plans

These are more economic oriented, yet the theme is economic growth via sustainability. They set out within five year intervals the goals to be reached. Vanuatu is now undergoing the Third National Development Plan (DP3) 1992-1996. This plan calls for self-reliance through the improvement of quality of life, especially in rural Vanuatu. Where developments are

initiated, people must have a sense of ownership over that new activity. DP3 specifically has sustainable development methods underlined for implementation.

4.4. *Malvatumauri National Council of Chiefs*

This is an important body for the regulation of social and cultural systems in Vanuatu. Chiefs hold a special place in Vanuatu's customary law and need to be empowered and involved in any activities to achieve sustainability. For community participation, therefore, Chiefs play an important role and must be recognised when implementing processes to involve the community in sustainable development.

Chiefs' roles are also important in the sense that they encourage traditional practice in resources use. Furthermore, they regulate the use of certain resources by placing taboos and moratoriums for periods of time to allow carrying capacities of species to recover. Such practices are ideal for the integration of sustainable development activities within existing Vanuatu processes.

4.5. *National and Provincial Governments*

The government is at the steering wheel of every sustainable development initiative carried out nationally. It has to show direction and leadership if sustainability is to be achieved. It needs to show political will, because without it, sustainable development will just be an empty catchword.

Provincial Governments interact more often with rural peoples. Therefore, this interaction must be through delegation of powers from the National Government for there to be any implementation of sustainable development in the Provinces. A positive move recently undertaken has been to empower Provinces to enact By-laws that they consider necessary. This power has been put into good use whereby new By-laws for conservation areas have been established in MALAMPA and SHEFA provinces.

4.6. *Participatory Community Education, Awareness and Decision Making*

Such a process is essential for pushing forward sustainable development in Vanuatu. Persons affected by any type of development need to be aware of its costs and benefits. Community members cannot be full participants in development schemes unless their right to information is respected. They cannot make good decisions unless they are aware of environmental threats and, unless they are made aware of all their options and the likely consequences. Education and awareness programs serve to overcome these obstacles.

'Participation', a process through which stakeholders influence and share control over development initiatives, must be exercised. For any community development, the voluntary and democratic involvement of people in contributing to the effort is necessary so an equitable share in the benefits can be derived. This participatory approach ensures that the people who will be affected are involved at the start of planning for a project. It must be stressed that a participatory approach emphasises the "bottom-up" approach to development.

In Vanuatu this is the approach that should be adopted, instead of the commonly practised "top-down" approach.

A special emphasis must be placed on the stakeholders since they have property rights to the resources that may need to be managed in promoting sustainable development. They must feel that a project is not being imposed on them, and that any decisions on resource use will be based on consensus.

4.7. Sharing Responsibilities

Sustainable development is about sharing responsibilities between those who have the power to effect change. In Vanuatu there is need for collaboration amongst the Government, Non-Government organisations, the business community, groups and individuals. We humans and the environment are interdependent and everyone must play their part in the sustainable management of the environment and its resources.

Each of the groups have specific responsibilities. The business communities basic goal is, economic growth however, it needs to be directed towards sustainable development, specifically to meet the requirement for clean, equitable growth. Therefore the business community must devise strategies to maximise profits while minimising resource and energy use, and pollution. In other words the business community needs to practise "eco-efficiency"

But business is, in part, dependent on Government action. Government must create legislative and fiscal frameworks that will enhance the business environment as well as promote sustainable development. They must work together through new forms of public-private partnership at both policy and project level to create an ecologically balanced environment.

Individuals also have roles to play. In urban areas, individuals can promote sustainability by engaging in simple activities such as recycling, composting and conserving energy. This could be complemented by walking to work or switching off unnecessary lights at the office and home. The municipalities of Port Vila and Luganville are actively implementing better rubbish management, practices by placing bins for rubbish disposal, yet people are reluctant to use them. What is needed is group action that will encourage the wide spread understanding and implementation of sustainable activities.

4.8. Protection of Local Indigenous Ecological Knowledge

At least 80 percent of ni-Vanuatu still practise traditional methods of obtaining food. Some of these land, water and sea practises have been used for thousands of years and still work well. Only recently have governments and foreigners come to respect these methods and resource-management systems as numerous studies in recent years have indicated the long-term success of these traditional methods in providing sustenance to villagers while also conserving biodiversity, and ecosystem health.

Unfortunately as traditional values are being recognised, local ecological knowledge is slowly disappearing due to the influence of modernisation, cash cropping, industrialisation,

urbanisation and the disassociation of the young from community traditions. People with a formal western education know less about resource management in local communities, yet it is these educated people who will be in charge of environmental planning and the utilisation of natural resources at the national and provincial level. Foreign technical knowledge and national political power cannot be put into best use to help the environment unless combined with the wider knowledge of local resources by the elder members in local communities. Effort must be made now to record and preserve this valuable traditional knowledge in Vanuatu.

4.9. Strengthen the Role of NGOs

Non-Government organisations(NGOs) in Vanuatu play an important role in the environmental movement. They are instrumental in promoting awareness at the grass-roots level for the good management of natural resources. NGOs have been efficient particularly through their participatory approaches in executing activities such as sustainable development in the rural areas. They facilitate community participation in decision making and mediate between the government and grassroots people, and between the poor and the powerful. For this reason NGOs in Vanuatu seem to have been able to reach more people than other institutions. It is evident that international agencies and institutions are now using NGOs to channel funds to small communities.

Because NGOs are outside the power structure of the Government, they are free to speak out and challenge the validity of Government decisions. This way they act as a check on Government actions and act as watchdogs on issues such as the environment. Therefore, the role of NGOs must be given a special place in sustainable development or environmental management in Vanuatu. It must be commented that many government departments have established good working relationships with NGOs, and have collaborated to undertake successful projects. For instance, the Vatthe Conservation Area (Big Bay, Santo) was a result of cooperation between the Environment Unit and various NGOs both local and international. This type of cooperation must be continued and improved on for promoting sustainable development in Vanuatu.

4.10. The Need for Environmental Legislation

The Earth Summit realised that to enable sustainable development, there needs to be sufficient range of environmental laws within the country. Principle 11 of the Declaration on Environment and Development emphasises that,

"States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries."

Vanuatu's environmental legislation is lacking mainly because the current laws are outdated and are no longer applicable. There are specific areas of the environment that are yet to be regulated by law. Hence the task is twofold; a review of existing legislation and where necessary amendments be made, and enact comprehensive resource management legislation.

A review of existing legislation at this stage should cover the Forestry Act of 1986, which has become ineffective due to the new wave of logging activities in Vanuatu. Also in this category are the Fisheries Act, the Town Planning Act, the Foreshore Development Act, and laws relating to the management of land and resources in general.

The second task is being satisfied by the drafting of the Environment Act for Vanuatu which will be modelled on its equivalent from the Solomon Islands. The Environment Act for Vanuatu should specifically address issues of institutional reform, to give a mandate to relevant government institutions that manage the environment and its resources, notably the Environment Unit, Energy Unit, Forestry Department, Geology and Mines and the Lands Department.

The Environment Act must also acknowledge traditional customary law and reference must be made to the traditional land tenure system. Traditional practices, as reflected in customary law, are of immense potential importance in the management of natural resources, for example in connection with the preservation and management of protected areas. Sustainable development and good environmental management can be achieved with the strengthening of customary laws and management processes with those developed under the new national legislation.

5. Examples of Sustainable Development Activities in Vanuatu

Below are examples of sustainable development practises that have been carried out in Vanuatu. The list also includes initiatives that promote sustainable development in Vanuatu, and how the unsustainable aspects of development have been avoided. Mention is made of the barriers each department and organisation faces in regard to the implementation of sustainable development activities. The institutions and organisations listed have extensive knowledge and experience and should be consulted for advice on integrating economic, social and environmental sustainability for Vanuatu.

5.1. Vanuatu Land Use Planning Project (VLUPP)

This office is concerned with the collection of Land Use information and access to it for relevant users. With the recognition that information is essential in implementing sustainability, this project aims to have up-to-date information readily available to everyone. In the past it has taken time and money for each group to go out into the field to gather information. The VLUPP is easing this task by updating and improving the Vanuatu Natural Resources Information System (VANRIS). In addition, the office runs workshops where persons are taught about the VANRIS and how to access it.

Their overall aim is to establish an improved land use planning system to achieve sustainable development and conservation of land resources. Hence the emphasis is on database management through the enhancement of VANRIS to promote land use planning at national, provincial and local levels.

5.2. Department of Lands

This department has the important function of subdividing lands that are in the two main urban centres using specific code criteria. It uses several codes to determine what type of development can occur in each of the urban centres. For instance, a Residential Code is used to consider whether the construction of a residential building fits the criteria designated for the residential zone. The same process is carried out for development within the Industrial Code.

Environmental and sustainable development standards are inserted into leases that each developer enters into when commencing the construction of a development. As the lease it is a legal agreement, the standards that are established have to be complied with resulting in environmental benefits.

5.3. Department of Forests

Vanuatu is committed to ensuring that its forests are managed on a sustainable basis. The Department of Forests aims to balance development with conservation through sustainable forest management. Over the past few years steps have been taken to ensure that forestry in Vanuatu complies with the principles of sustainable development. Its mechanisms

for achieving sustainable development are the Vanuatu Sustainable Forest Utilisation Project, the Conservation Unit and the Code of Logging Practice.

The Vanuatu Forest Utilisation Project has a range of activities all of which focus on attaining sustainable management of the forests. Among these, is a sustainable level of timber harvesting that is being carried out through an inventory of the forest resources. The sustainable level of harvest for Vanuatu is around 50,000 cubic metres. Previous harvesting has always been below the sustainable limit. AusAID is funding this project in the hope of controlling and managing the recent wave of logging projects being carried out in Vanuatu.

The Forest Conservation Unit, a new section in the Department of Forests, has been established to promote conservation in Vanuatu. Its activities have been expanded to include studies on natural forest regeneration, biodiversity assessments and the identification of priority areas to be considered for conservation sites and protected areas. The unit works with the relevant environmental institutions of the government and the NGO community to promote conservation and forest resources management. Photo 1 below shows the Erromango Kauri Reserve. The project is coordinated by the Unit with the help of the NGO community.

Figure 2: Distant View of Erromango Kauri Reserve from the main South River - Happy Land track. An initiative undertaken the Forest Conservation Unit, NGOs and community groups.



⇒*Insert picture fig2.tif at this point*

Figure 2: View of Erromango Kauri Reserve

The most significant contribution to sustainable development in Vanuatu from the Department of Forests is the Code of Logging Practice. This code contains the standards and regulations needed to sustainably manage the forest and the environment. It is an important

code, having legal effect and is the product of discussions between the major stakeholders in the forestry industry. These are namely the landowners, the logging companies, the timber industry and the Department of Forests. The completion of this document is timely, since the country is beginning to experience some of the detrimental aspects of uncontrolled logging.

Figure 3: The Code of Logging Practice is aimed at preventing malpractice in logging operations in Vanuatu, such as this poorly build road from Dillon's Bay to Port Narvin, Erromango.



⇒ *Insert picture fig3.tif at this point*

Figure 3: Logging operations eroded road on Erromango.



Figure 4: ...A river course blocked off by soil erosion from logged areas, Port Narvin, Erromango.

⇒ *Insert picture fig4.tif at this point*

Figure 4: Alteration to river course from logging operations on Erromango.

5.4. Department of Fisheries

This Department is by far the most successful in implementing sustainable development in Vanuatu. The sole function of this department is to develop and manage the marine resources of Vanuatu and is progressing very well in that manner. It trains fishermen in sustainable techniques of fishing, formulates policies and regulations to cater for fishing, exercises captive breeding programmes to restore certain marine species populations, and is involved in intensive research.

The Extension Services section works closely with the fishermen to develop marine resources through improved fishing methods, processing and marketing.

Nearly all aspects of fisheries and fishing in Vanuatu is covered by regulations and laws. Regulations control small scale fishing. For instance, each rural fisherman is required to keep a monthly catch record which enables fisheries officers to determine whether the sustainable yield is under or over-exploited. The scale of harvesting of species is regulated as well. Collecting shells such as *Trochus* using oxygen-diving apparatus is prohibited as is using diving guns to catch lobsters. Harvesters must comply with size limit regulations for coconut crabs, lobsters, *Trochus* and certain species of crustaceans. Turtles, Dugongs and dolphins are

totally protected by law. There is a total ban on the sale of turtle shell. Laws go further to provide for the monitoring of Vanuatu's EEZ and to strictly monitor the activities of foreign vessels. This has been made easier with help from the Forum Fisheries Agency (FFA), then South Pacific Commission (SPC), and the governments of New Zealand, Australia, and the USA.

The significance of these laws and regulations is that the Fisheries Department, unlike other institutions, can enforce them as the Enforcement Officer in the Department has powers of investigations, recommendations and prosecution. To date there has been one prosecution. This is an important precedent in implementing sustainable development in Vanuatu.

The Research Unit of the Resources Assessment and Management section is carrying out research in support of sustainable development. Research includes captive breeding, marine resources survey and assessment, developing experimental breeding sites, and awareness education on the sustainable management of fisheries resources. Captive breeding is carried out at the Department's hatchery in Port Vila. Turtles, *Trochus*, and Green snail are now being bred in captivity and then released in the wild.

The Cook's Reef experiment on Emae island is a project monitored by the department with the collaboration of the villagers.



Figure 5: The hatchery in Port Vila, used for captive breeding of species such as *Trochus* and turtles. Juveniles are released to the wild after several months.

⇒ *Insert picture fig5.tif at this point*

Figure 5: Port Vila hatchery for the captive breeding of *Trochus* and turtles.

Up until 1992 *Trochus* population on this reef was non-existent. The Fisheries officers placed 200 *Trochus* from their hatchery in Port Vila. A moratorium on collection of *Trochus* was placed on the reef for three years. In January 1996 the first survey revealed that the *Trochus* population had exploded to an estimated six tons. Now 2.5 tons is allowed to be harvested per year. This quantity will bring an annual income of about 800,000 vatu to the people of Emae. The department has also provided a Management Plan for the area, together with conditions and regulations. One of the conditions is that only three harvest dives can be made a week. Penalties for breaches range from a fine of 1500 vatu to confiscation of fishing tools. Enforcement is carried out with the help of the chiefs- "cooperative management" as it is called by the Department.



Figure 6: *Trochus* ready to be released at depleted reef sites.

⇒ *Insert picture fig6.tif at this point*

Figure 6: *Trochus* ready to be released at depleted reef sites.



Figure 7: Hawksbill baby turtles, a week before being released.

⇒ *Insert picture fig7.tif at this point*

Figure 7: Juvenile Hawksbill turtles ready for release.

The Department has been restricted in its activities by a lack of national financial support and has had to rely heavily on aid from abroad. The Department is also constrained by a lack of human resources and from poor cooperation from other Government Departments and NGO agencies due to political influence.

5.5. Department of Agriculture and Horticulture

The integration of Sustainable Development activities within this department is a practice that has been going on for some time. With its primary objectives based along the lines of to provide technical assistance in agricultural techniques to enable food security, and to advise farmers on how to grow and produce quality products for markets, it has had some success.

Its efforts are concentrated in the areas of strengthening traditional subsistence farming and research into new and improved methods of utilising land. Food and agricultural products for consumption and export will become important issues in future due to increasing population and the fact that this country's economy has always been strongly based on agriculture. An example of sustainable development that has been continually practised by farmers is intercropping. This is of benefit as it provides a harvest on a continual basis utilising coconuts, cocoa and vegetable in the same area, or just the first two with cattle. This sector needs continuing support for further research into sustainable development activities.

5.6. Department of Trade and Industry

Economic sustainability denotes that a certain economic activity has to be self-sustainable by ensuring that capital, assets and output are kept in balance. As such, for Vanuatu to be self-sustainable it is imperative that its natural resources are carefully managed and that economic factors are not overlooked. The Department of Trade and Industry is charged with the task of designing policies that are essential for enabling economic, as well as social and environmental sustainability. For example an economic development activity can only be carried out if the environmental impact is at a level that can sustain that activity.

5.7. Vanuatu Cultural Centre

When one talks about the environment in Vanuatu, its cultural aspect cannot be overlooked. Vanuatu enjoys a rich and diverse culture which is now experiencing some challenging times. The task of the Vanuatu Cultural Centre is to preserve, manage and develop these cultures.

The Cultural Centre provides invaluable advice on the traditional methods of sustainable development that have sustained Vanuatu for hundreds of years. This role of the Vanuatu Cultural Centre has become necessary due to recent environmental degradation, mainly from logging activities and now it is a requirement that it is consulted in environment-related developments.

The concern the Cultural Centre raises is the threat of a loss of cultures from the effect of increasing modernisation of Vanuatu. The value of traditional sustainable development knowledge could well disappear as a result of the alienation of youth from cultural traditions or from the increasing demand for western education. People may travel far from home to obtain education yet they know less and less about resource management in local communities.

5.8. Environment Unit

Environmental management and protection are the responsibilities with the Environment Unit. This Unit is also responsible policy development in the field of resource management and sustainable development. Of these, the most important to date is the National Conservation Strategy completed in 1993. As already mentioned in section 4.1, this document pinpoints the need for environmental management in Vanuatu and outlines the parties, processes and avenues that are necessary for achieving the stated goals. The Unit is the relevant authority for most of the environmental issues in Vanuatu.

The Environment Unit has been active in promoting conservation in Vanuatu. With the assistance of SPREP and regional NGOs, some areas are now conserved or protected under law. Notable of these is the Vatthe Conservation Area in Big Bay, on the island of Santo (see Figure 8 below). This signifies an important step in sustainable development in Vanuatu because it has provided a burst of enthusiasm for conservation activities throughout the whole country as people are becoming aware of the negative effects of development. The Unit lacks the full mandate it requires if it is to be the environmental watchdog in Vanuatu.



Figure 8: Vatthe Conservation Area, Big Bay, Santo.

⇒ *Insert picture fig8.tif at this point*

Figure 8: Vatthe Conservation Area, Big Bay, Santo.

Loru Protected Area on the Island of Santo (see Figure 9 below).....was established in conjunction with Vanuatu Protected Areas Initiatives Project and Department of Forests. The Loru Protected Areas was proposed by a local Chief, and is now managed by this community.



Figure 9: Loru Protected Area, Khole Village, Santo.

⇒ *Insert picture fig9.tif at this point*

Figure 9: Loru Protected Area, Khole Village, Santo.

5.9. Energy Unit

The Energy Unit was established in 1986 after the realisation by the government that Vanuatu relies heavily on imported fuel. The high consumption of imports had an adverse effect on the country's trade deficit and there was a recognised need to develop alternative fuel and power sources. The main sources of energy that is now being tapped are hydro, solar, geothermal and wind power to replace the imported petrol and gas. The other function the unit has is to promote the use of energy efficient appliances and those that are environmentally friendly; that is non-CFCs consuming appliances. Overall, the unit is promoting sustainable development in its policies by regulating and managing the energy

resources that Vanuatu has Listed Below are projects and examples of sustainable development, that the Energy Unit has undertaken and is now monitoring and improving.

1. Hydro Power: This source of power is being developed as the immediate replacement to fossil fuel. There are three hydro power stations now operating in Vanuatu. The Sarakata hydro power station on the Sarakata River on the Santo was funded by the Japanese and has proved to be a viable and profitable alternative to petrol. In its first year of operation, its net profit was 10.6 million vatu, the bulk of this profit being savings made from use of fuel supplied by UNELCO in Luganville. The forest area cleared for initial construction is now being replanted to restore the natural vegetation. The second hydro station is on the Brenwe River on Malakula (funding 20% Vanuatu Govt, 80% Republic of China). The third hydro station Epau, is located on the south west of Efate. The Epau project is being used as a model for the establishment and management of hydro power stations in Vanuatu. Government officers are being trained on the good management and maintenance of power stations. A significant step that the Unit took, which was different from previous two projects, was to have an Environmental Impact Assessment (EIA) carried out by SPREP before the project went ahead. The EIAs for the first two were carried out after establishment. This shows an increasing concern for the protection of the environment within the unit. (The management of the Brenwe station is being jeopardised by land disputes, as far as information is available, no EIA has been carried out for this project).

2. Solar Energy: This is another type of energy resource that is currently under development. Its operation is at a trial stage, being used on a small scale at Vureas High School on Ambae to run computers. Solar panels are used to generate power for clinics and churches throughout Vanuatu. In all there are 8 solar power generating stations in the country, two funded by the British, the other six by ACCT (Association de cooperation culturelle et technique) of France.

3. Biomass or Firewood: The demand for firewood has been on a steady rise for the past five years, notably in the two urban areas. The Unit undertook experiments to find an alternative to firewood since this demand exerts much pressure on the natural vegetation. Charcoal was identified as the best alternative since it produces twice the heat that firewood produces. Production Scheme. With funds from the Canadian government, a workshop was held at Onesua where charcoal production was tested and it proved to be a viable alternative. Two charcoal producing machines are now being operated at Onesua High School and Montmartre School. The Unit has been more successful with the cassifire (wood and steam power station) at Onesua High School on north Efate. Since its establishment in 1986, this project is its biggest achievement as it is able to supply power to the entire school. The cassifire system uses cassia (Acacia) therefore, a large plantation of cassia is maintained which has the additional benefit of being a leguminous plant which nourishes the soil allowing gardening activities to occur.

These following sources of energy are under study and plans are for trials to begin within the next five years.

4. Geothermal: With widespread volcanic activity in Vanuatu, geothermal power is a potential energy alternative to imported fossil fuel. The Energy Unit is now studying the geothermal resource at Takara, north Efate and has put forward a project proposal to the government to assess the potential of the resource to supply power to Efate.

5. Wind Power: The Energy Unit plans to develop wind power as another energy replacement alternative that is renewable, therefore not detrimental to the environment. A project proposal for wind power development has been postponed until 1999 experiments being carried out at Whitesands over a two year period are complete. The Whitesands experiment ends in November of this year, then the apparatus will be shifted to another island to assess the available wind potential (funding from Forum Secretariat, Fiji).

Following are the barriers that the Energy Unit sees as hindering sustainable development in Vanuatu:

1. Lack of Capital/Funding for development of these energy resources.
2. Lack of human resources in the field of energy development.
3. Lack of status and mandate to carry out its functions. There is a suggestion that the Energy Unit given full departmental status to enable it to more effectively develop more efficient or alternative energy supplies.

5.10. Vanuatu Association of Non Government Organisations (VANGO)

The Vanuatu Association of Non Government Organisations (VANGO) plays an important role in advocating, encouraging and promoting sustainable development in Vanuatu. Because VANGO sees itself as being in the lead for the recognition of NGOs in Vanuatu, its initiatives for sustainable and good use of the environment are embedded in its overall aim.

To enable the good and sustainable use of the environment VANGO aims to:

- (a) reach out to grass roots people in remote areas and encourage NGO Organisation and participation,
- (b) be the support pillars or walking sticks of the Government in the development of Vanuatu especially at the community level. VANGO attempts to have NGOs input into all government policies and developments to ensure a broader consensus and participation (in decision making). It recognises an integrated approach towards policy formulation on social, economic and environmental issues,
- (c) promote services to disadvantaged people,
- (d) provide access to appropriate training and information for groups, individuals and Vanuatu as a whole,
- (e) provide a communications network to encourage exchange between NGOs at a national, regional and international level,
- (f) promote NGO principles in Vanuatu and communicate with national groups and organisations.

The methods and programs that VANGO is currently undertaking to implement sustainable development in Vanuatu are listed below:

- (a) Sustainable Development Network (SDN)-this program, via a fort-nightly radio show funded by UNDP, is aimed at education and awareness of development issues in Vanuatu. Information received through the SDN is disseminated to NGOs, the public and interested individuals. Recently, much of the radio show has been devoted to environmental issues culminating from logging. VANGO is calling for protection of the environment and better regulation and use of the forest resources.

- (b) VANGO provides Electronic Mail (E-Mail) and Internet services for the public on the latest developments in sustainable development and other areas such as human rights and the Environment in general.
- (c) VANGO has a Resource Centre (a small library) that helps with awareness and education on sustainable development and general issues relating to the environment. This library contains texts and materials on Vanuatu, the Pacific Region and the world.
- (d) VANGO runs workshops and holds public talks to educate people on current and proposed development, social, economic, cultural and environmental issues.

Obstacles to VANGOs Work (in achieving sustainable development):

- 1. It can only make recommendations to the government due to a lack of a statutory mandate.
- 2. The inability of NGOs to coordination- their activities in a national level,
- 3. The appropriation of NGO powers and functions by Government through their reluctance to integrate NGO recommendations and policies into the Government decision making process.

5.11. Foundation for the Peoples of the South Pacific/Community and Environmental Forestry

The Foundation of the Peoples of the South Pacific (FSP), through its various programs has been active in attempts to foster sustainable development in Vanuatu. One particular program, the Community and Environmental Forestry (CEF), has to be commended for its efforts. CEF continues to provide valuable assistance to rural peoples on alternative methods of forest utilisation. Their emphasis is on small but beneficial projects of resources management for communities. Projects that will provide the needed income yet not the undesired effects on the environment.

The CEF program is active in education and awareness, and in promoting small scale sustainable forestry. To avoid the effects evident with large scale logging operations, CEF encourages the use of small portable sawmills. In the last four years there has been a notable increase in the use of these sawmills as a direct result of the CEF initiative in fostering sustainable development in Vanuatu. Such efficient and beneficial use of forest resources must be encouraged for the overall aim of sustainability in Vanuatu.

Figures 10 & 11: Training people to think small and sustainable, CEF officers show villagers on Malakula how to use a portable sawmill.



→Insert picture fig10.tif at this point

Figure 10: Village training in the use of portable sawmills.



→Insert picture fig11.tif at this point

Figure 11: CEF Officers encourage small, sustainable practices in forest utilisation.

5.12. Malvatumauri National Council of Chiefs

Custom and tradition play an important role in the national life of Vanuatu. Major areas of law, and for our purpose, policies for environmental management are shaped by traditional or customary practices. The importance of custom has lead to the establishment of the Malvatumauri National Council of Chiefs. It unifies Chiefs and the various traditions they bring from their islands, for the objective of assisting the Government in major development issues.

Chiefs are very influential people, particularly in rural Vanuatu. Any type of development in a rural area has to be approved the by Chief of the community. Therefore, they are an ideal channel for promoting sustainability. It has been mentioned that they too have special powers for regulation of resources use, for example if they decide that a reef is being overexploited ,a chief can then exercise his pre-emptive power of prohibition either by placing a moratorium or restriction of access to the reef.

The National Council of Chiefs is, however, concerned at what it sees as the erosion of the place of custom in the pattern of things in modern Vanuatu. This concern could be reconciled by enacting legislation that would consolidate the power of chiefs and codify customary law and practices.

5.13. National Kominiti Developmen Trust (NKDT)

The National Komuniti Developmen Trust (NKDT) tackles developmental issues through literacy programs. With the understanding that a considerable portion of the population of Vanuatu is illiterate, NKDT clarifies issues by conducting literacy awareness programs, concentrating on educating people to fully understand the costs and benefits of intended projects. This is a scheme of "empowerment " for better informed decisions for communities. The scheme includes translating major project documents into the local languages of Vanuatu to ensure that all members at the community are able to contribute in the decision making process.

5.14. Vanuatu Rurual Development and Training Centres Association (VRDTCA)

Vanuatu Rural Development and Training Centres Association (VRDTCA) contributes to sustainable development in Vanuatu through extending education to as many people as possible. VRDTCA as the name suggests, comprises of rural training centres that were initiated by the communities and with the help of foreign governments to provide further education to school leavers both from primary and secondary schools. Environmental education is part of the program taught at these training centres. VRDTCA has developed a comprehensive Environment Education text that is now being used not only at the centres but also at other educational institutions. These books, in three volumes, target issues ranging

from environmental protection and management to the wider issues associated with the environment, such as population pressure.

5.15. *Wansmol Bag Theatre*

The Wansmol Bag Theatre group advocates sustainable development through drama, and with considerable success. The group makes learning about environmental issues fun. Using drama solves the problem of illiteracy. It produces plays on video for distribution to schools, communities, various groups and for sale in other Pacific countries. Environmental plays that have been produced include logging awareness, protection of the sea turtle and managing the reef resources. It continues to play a role in promoting sustainability in Vanuatu.

5.16. Vanuatu Environment Organisation

This newly established NGO promotes sustainable development by coordinating the environmental efforts of all NGOs. Its aim is to manage, protect and preserve the environment of Vanuatu for now and the future. Such a national environmental organisation had been lacking with environmental issues being dealt with by NGOs with other priorities. VEO was established in the hope that it will be the NGO at the forefront of all major environmental concerns. It is currently involved in drafting and reviewing of environment legislation for Vanuatu, carrying out biodiversity assessments, setting of conservation and protected areas, and providing legal advice on development and resources use issues.

5.17. Other Promoters of Sustainable Development

The following organisations and departments are also involved in assisting sustainable development in Vanuatu. At the time of consultations and interviews they indicated that they are involved in advancing sustainable development and some had projects that promotes sustainable development. They should not be excluded when one seeks advice on integrating economic, social and environmental sustainability for Vanuatu. The list includes the, Chamber of Commerce, Vanuatu Commodities Marketing Board (VCMB), Vanuatu National Council of Women (VNCW), Rural Skills Training Program (RSTP), Attorney General's Office, Industrial Development and Economic Alternatives for Sanma (IDEAS),and Beneficial Environmental Sustainable Tourism (BEST). This list in no way represents all the promoters of sustainable development in Vanuatu. Other institutions and organisations have been involved in significant measures in pushing forward sustainable development and they must be commented on for their efforts.

6. Conclusion

Sustainable development is a concept and practice not uncommon to Vanuatu. The terminology describing the process of sustainable development has brought with it issues of definition in the national context, yet it has not overshadowed the mainstream ideas linked with its practice. Ni-Vanuatu have shown that they understand the concept by providing definitions that are specific to Vanuatu. The factors that influence the process have been taken into account in the definitions. A national definition has been provided to further develop and promote the idea, with a hope to achieve sustainability via environmental, social and economic progress.

Integration of environmental, social and economic elements into sustainable development is an immense task. It requires that development be equitable and that it must be seen to include and benefit all sections of the population. Relevant institutions need to develop and progress to enable efficient economic growth and management of resources and the environment. There are mechanisms in place to undertake the task, however, they need to be realised and implemented.

The examples cited in this report signify that there are already many schemes where government, the private sector, and other organisations are committed to sustainable development for Vanuatu. However, there many areas that need improvement. Environmental legislation, particularly relevant to the management of forestry, fisheries, mineral resources, and the environment must be reviewed and updated. Environment Legislation should provide for more power to relevant Units and Departments for enforcement, policing and prosecution where necessary. Human resource development is an essential element in implementing sustainable development. The Government must show commitment to its idea of self-sufficiency which includes the training and empowerment of local staff at a level that allows tasks, research and education of all sections of rural and urban populations about sustainable development. Such education and awareness need coordinated efforts to pass similar rather than conflicting messages. Sustainable development that is environment friendly, socially and economically manageable is a conceivable concept in Vanuatu.

7. References

AIDAB, (1994) *Towards a Sustainable Future: Ecologically Sustainable Development through Australia's Development Cooperation Program*, Canberra, AIDAB

Boer, B (ed) (1993) *Strengthening Environmental Legislation in the Pacific Region*, Sydney, Australian Centre for Environmental Law, University of Sydney

Brown, LR et al (1996) *State of the World 1996: A Worldwatch Institute Report on Progress Towards a Sustainable Society*, New York, W.W Norton & CO

Community and Environmental Forestry (FSP) (1995) 'Small Scale Sustainable Forestry Industry for Vanuatu', *Annual Project Report 1994 and 1995*, Port Vila, FSP

Department of Forests (1995) *Code of Logging Practice for Vanuatu*, Port Vila, AusAID and Department of Forests

Dixon, J A (1994) *Economic Analysis of Environmental Impacts*, London, Earthscan

Environment Unit (1993) *Vanuatu National Conservation Strategy*, Port Vila

Fallon, J (1994) *The Vanuatu Economy: Getting Conditions for Sustained and Broad Based Development*, International Development Issue No.32, Canberra, Centre for International Economics, ANU

Froster, M (1991) *Environmental Law in Vanuatu: A Description and Evaluation*, London, World Conservation Union (IUCN)

NZ Law Society (1991) *Resource Management Act 1991 Seminar*, Wellington, NZLS

Reed, D (1995) *Sustainable Development: An Introductory Guide*, London, Earthscan

Research School of Pacific and Asian Studies (ANU) (1994) *Vanuatu Rod Blong Fiuja (Strategies for Vanuatu)*, Canberra, National Centre for Development Studies

SPREP (Capacity 21) (1996) *National Workshop on Sustainable Development and Planning Report*, Apia, Western Samoa

Swale, S (1994) *Running After the Wind: An NGO Response to a Structural Adjustment Policy for Vanuatu*, Port Vila

Tacconi, L (ed) (1992-1995) *Vanuatu Forest Conservation Reports No.1-11*, Sydney, Department of Economic and Management , University of New South Wales

UNCED (1992) *Earth Summit '92*, London, Regency Press

UNHCR (1994) *Human Rights: The New Consensus*, London, Regency Press

University of the South Pacific Law School (1996) *International Environmental Law Materials*, Port Vila, USP

Whyte, J (1995) *Lanem Envaeronmen*, Buk 1,2,3, Port Vila, USAID & VRDTCA