

**VANUATU NATIONAL BIODIVERSITY STRATEGY AND
ACTION PLAN PROJECT**

**NATIONAL BIODIVERSITY
CONSERVATION STRATEGY**

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Table of contents

| | |
|---|-----------|
| <i>Foreword</i> | 3 |
| <i>Acknowledgment</i> | 4 |
| <i>Abbreviations</i> | 5 |
| 1 INTRODUCTION | 7 |
| BACKGROUND | 7 |
| 2 BIODIVERSITY IN VANUATU | 9 |
| TERRESTRIAL BIODIVERSITY | 9 |
| FRESHWATER BIODIVERSITY | 9 |
| COASTAL AND MARINE BIODIVERSITY | 10 |
| 3 SIGNIFICANT ELEMENTS IN VANUATU'S BIODIVERSITY | 11 |
| PLANT SPECIES OF CONSERVATION SIGNIFICANCE..... | 11 |
| ANIMAL SPECIES OF CONSERVATION SIGNIFICANCE | 12 |
| PLACES AND HABITATS OF CONSERVATION SIGNIFICANCE | 13 |
| BIODIVERSITY MANAGEMENT ISSUES..... | 14 |
| 4 BIODIVERSITY STRATEGY | 17 |
| OBJECTIVES | 17 |
| 1. <i>Protection and wise use of biodiversity</i> | 17 |
| 2. <i>Apply policy, planning and legal mechanisms to enable sustainable management of biodiversity</i> | 17 |
| 3. <i>Research, assessment and monitoring of biodiversity</i> | 18 |
| 4. <i>Capacity building for environmental management</i> | 18 |
| 5. <i>Environmental education, awareness and information sharing</i> | 18 |
| 6. <i>Participation of local communities in the management of biodiversity</i> | 18 |
| 5 BIODIVERSITY CONSERVATION ACTION PLANS | 19 |
| OBJECTIVE 1: BIODIVERSITY PROTECTION AND CONSERVATION | 19 |
| <i>Priority 1: Watershed Management</i> | 19 |
| <i>Priority 2: Management of introduced species</i> | 21 |
| <i>Priority 3: Used resources</i> | 23 |
| <i>Priority 4: Management of cultural heritage</i> | 25 |
| <i>Priority 5: Conservation of significant species and places</i> | 26 |
| OBJECTIVE 2: APPLY POLICY, PLANNING AND LEGAL MECHANISMS TO ENABLE SUSTAINABLE MANAGEMENT OF BIODIVERSITY | 30 |
| <i>Priority 1: Environment Impact Assessment (EIA)</i> | 30 |
| <i>Priority 2: Financing biodiversity</i> | 31 |
| <i>Priority 3: Intellectual property rights</i> | 31 |
| <i>Priority 4: Import and export of species</i> | 32 |
| <i>Priority 5: Establish a Scientific Research Council</i> | 33 |
| OBJECTIVE 3: RESEARCH, ASSESSMENT AND MONITORING OF BIODIVERSITY | 34 |
| <i>Priority 1: Establish and maintain a biodiversity data bank</i> | 34 |
| <i>Priority 2: Biodiversity monitoring</i> | 35 |
| <i>Priority 3: Research into priority species</i> | 36 |
| OBJECTIVE 4: CAPACITY BUILDING FOR ENVIRONMENTAL MANAGEMENT | 37 |
| <i>Priority 1: Improve access to technical resources necessary for biodiversity management</i> | 37 |
| <i>Priority 2: Establish a high level Environment Coordinating Committee</i> | 38 |
| <i>Priority 3: Technical and Management Training</i> | 38 |
| OBJECTIVE 5: ENVIRONMENTAL EDUCATION, AWARENESS AND INFORMATION SHARING | 39 |
| <i>Priority 1: Encourage local communities to share experiences of biodiversity conservation activities</i> | 39 |
| <i>Priority 2: Awareness of the value and importance of biodiversity</i> | 40 |
| <i>Priority 3: Improve awareness of the invasive risks of introduced species and their movement between islands</i> | 41 |
| <i>Priority 4: Raise community awareness of the provisions of environmental and natural resource legislation</i> | 41 |



Republic of Vanuatu

Torres Island



Uvea

Vanuakava

Morakava

TORSA

Gapa

SANMA

Santo

Maewo

PENAMA

Mak

Ambo

Pentecost

Malakula

Ambrym

MALAMPA

SHEFA

Efate

Erromanga

Aniwa

Tanna

Future

TAFEA

Ambrym



PRODUCTION AND MARKETING
LAND USE PLANNING
DATA IS PROVIDED BY THE
MINISTRY OF AGRICULTURE,
FISHERIES AND FORESTRY
FROM THE DATA OF THE
CUP REPRESENTATION



Foreword

If we as a nation are to conserve and manage Vanuatu's biological diversity it will depend upon the development choices we make today at a local and national level. In Vanuatu we rely on biological resources in all aspects of our life: for the food we grow in our gardens through to the agriculture products and livestock we market; for the building materials we use locally through to the timber we sell; for fish and shellfish that are gathered from our reefs; and in our custom and ceremonies. Consequently it is a high priority of the government to ensure that biodiversity is used in a sustainable way. Responsibility for achieving this goal, however, rests not only with the national government, but is shared with the provinces, ngos, the private sector, communities, landholders and individuals.

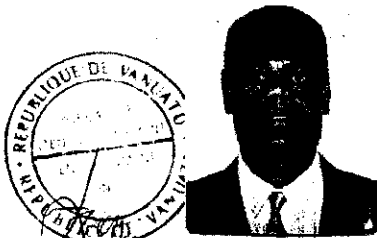
To enable us to conserve and manage biodiversity and to overcome existing problems, importance has been placed on identifying mechanisms that are affordable, culturally appropriate and within our capacity to implement. In the past many strategies have failed because they have been prepared by overseas experts with a limited understanding of our local situation and to meet the demands and expectations of international organisations. To avoid repeating this problem, this strategy has focused on conservation activities that are relevant to us all and that are clear and accessible to all ni-Vanuatu.

The strategy highlights six key objectives for effective management of biological resources:

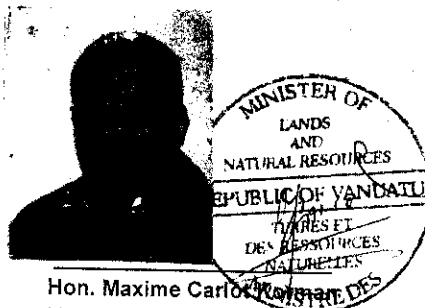
- ◆ Ensure sustainable management and conservation of Vanuatu's biodiversity.
- ◆ Develop appropriate policy, planning and legal mechanisms for the management of biodiversity.
- ◆ Improve our knowledge about biodiversity in Vanuatu.
- ◆ Improve the capacity of national, provincial, ngo and community organisations to manage biodiversity.
- ◆ Increase local awareness of the importance and value of biodiversity.
- ◆ Foster community participation in the management and conservation of biodiversity.

These ideas, together with the specific measures recommended in the action plan, have come out of the research and consultation work coordinated by the Environment Unit over a two and a half year period under the "National Biodiversity Strategy and Action Plan Project". My thanks go to the project team who have compiled this strategy together with all those who have contributed to their work

The Vanuatu Government looks forward to working closely with Provincial Authorities, non government organisations and local communities to implement the measures identified in the action plan to realise this strategy's aims.



Mr. Ernest Bani
Principal Environment Officer



Hon. Maxime Carlot
Minister for Natural Resources, Mines and Rural
Water Supply

Acknowledgment

The NBSAP project teams extends its thanks to the organisations and government departments who have contributed to the project. In particular we would like to mention the following organisations :

| | |
|--|--|
| Cultural Centre | AFPT (Future of the Rainforest People Project) |
| Forestry Department | MALAMPA Province |
| Fisheries Department | SANMA Province |
| Vanuatu Quarantine & Inspection Services | TORBA Province |
| Rural Water Supply Section | PENAMA Province |
| Department of Economic and Strategic Development | SHEFA Province |
| Statistics Office | TAFEA Province |
| ORSTOM | |

We also recognise the contribution of people who attended meetings of the Project Advisory Committee: Bai George Swua (Department of Agriculture, subsequently Vanuatu Quarantine and Inspection Service) ; Annie Walter (ORSTOM); Delphine Greindl (APFT Project); late Jean-Paul Batik, Ralph Regenvanu and Francis Hickey (Vanuatu Cultural Centre); Helen Corrigan and Chanel Sam (Forestry Department); Felix Nguyen and William Naviti (Fisheries Department); Charlie Falau (Wan Smol Bag); Ernest Bani and Russell Nari (Environment Unit); Benedict Wari (VEO); Pita Visser (Rural Water Supply Department) ; Peter Morris (Statistics Office); Johnson Naviti and Frank Lessa (NPO, subsequently Department of Economic and Social Development).

The project team appreciates the contributions of those women and men who raised important biodiversity conservation issues during the provincial consultation workshops, and those who assisted with the project's rapid assessment of freshwater ecosystems. Twenty eight people and organisations made suggestions on the draft copy of the strategy.

Thanks go to the staff of the Environment Unit, and especially Mr. Ernest Bani, the Principal Environment Officer, and Russell Nari, NBSAP Project Supervisor, for their support.

The project team and the Vanuatu Government also acknowledge the assistance of many organisations and individuals who helped in different ways with the development of this strategy. GEF was the funding source with UNEP the GEF implementing organisation. Bird Australia and Perry de Ribeira trained the field team in bird study and handling skills. The New Zealand Ministry of Foreign Affairs and Trade funded 3 freshwater scientists to provide training and advice for the rapid assessment of freshwater ecosystems: Dr Philippe Gerbeaux, Dr Lindsay Chatterton and Chris Richmond. Sam Channel and Philemon Ala assisted with identification of plant specimens. Gerard Marquet in New Caledonia assisted with identification of freshwater fish. Tony Whitaker of New Zealand assisted with identification of reptiles. Roger Jaensch of Wetlands International provided initial advice to the freshwater survey team.

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- * Donna Kalfatak, Project Coordinator
- * Jenny Whyte, part-time Advisor
- * Leah Nimoho, Project Officer and Field Survey Team Leader
- * Brian Phillips, Project Trainee and Field Survey Team Assistant
- * Katrina Sali , Project Administration Assistant

Abbreviations

| | |
|-------|---|
| ACIAR | Australian Centre for International Agricultural Research |
| APFT | Avenir des Peuples des Forêts Tropicales (Future of the Rainforest People) |
| CBD | Convention on Biological Diversity |
| CBEMP | Capacity Building for Environment Management in the Pacific |
| CDC | Curriculum Development Centre |
| CITES | Convention on International Trade of Endangered Species of Wild Flora and Fauna |
| COLP | Code of Logging Practices |
| DARD | Department of Agriculture and Rural Development |
| DESD | Department of Economic and Social Development |
| EEZ | Exclusive Economic Zone |
| EIA | Environmental Impact Assessment |
| FSPI | Foundation for the Peoples of the South Pacific International |
| GEF | Global Environment Facility |
| LUPO | Landuse Planning Office |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NGOs | Non-government Organisations |
| PGRF | Pacific German Regional Forestry Project |
| PRAP | Pacific Regional Agriculture Programme |
| SPBCP | South Pacific Biodiversity Conservation Programme |
| SPC | South Pacific Commission |
| SPRIG | South Pacific Regional Initiative on Forest Genetic Resources |
| UNEP | United Nations Environment Programme |
| VANGO | Vanuatu Association of Non-government Organisation |
| VCHSS | Vanuatu Cultural & Historic Sites Survey |
| VEO | Vanuatu Environment Organisation |
| VNCS | Vanuatu National Conservation Strategy |
| VQIS | Vanuatu Quarantine and Inspection Services |
| VSFUP | Vanuatu Sustainable Forest Utilisation Project |

What is an ecosystem?

The ecosystem is the community of living organisms (plants, animals and microorganisms) in an area together with their physical environment (weather, soil, water, etc.). Ecosystems are the result of the interaction of the living and non-living components of the environment. The living components are the plants, animals and microorganisms. The non-living components are the weather, soil, water, etc. The ecosystem is a complex system that is constantly changing and evolving.



1 INTRODUCTION

Background

The Vanuatu Government signed the CBD (Convention on Biological Diversity) at its launch in 1992 and ratified it in 1993. As a party to the CBD, the government is obliged to report to the other convention signatories on in-country biodiversity management activities and to develop a strategy and action plan to manage and conserve Vanuatu's biological diversity. The first national report was prepared by the NBSAP project team and was sent to the CBD Secretariat in December 1997. This paper is the first national biodiversity conservation strategy and action plan.

Each cultural group in Vanuatu has its own traditional approaches to the management and conservation of biological resources. These are still widely practiced, but in some areas are declining in influence as ni-Vanuatu society and culture change in response to introduced economic and social values and new technologies.

Since independence traditional approaches to conservation have been supplemented by a range of measures introduced by government and non-government organisations, and individuals in the private sector. Most of these have focused on species of commercial value within the development priorities of the key economic sectors of agriculture, forestry and fisheries.

Since signing the CBD Vanuatu has taken part in a number of regional environment programmes that have made a significant contribution toward meeting the requirements of the CBD. These include:

- The "State of the Environment Project" coordinated by the Statistics Office and the Environment Unit. This project is gathering statistical information about a range of natural and social environmental indicators including water quality, climate, soils, air quality etc.
- "Environmental and Education Awareness Project" that endeavoured to improve the understanding of key environmental issues among teachers, church leaders, NGOs and the media.
- "Environment Bibliography Programme" which has linked environmental libraries in SPREP member countries.
- SPBCP which is working with the people of Matantas and Sara villages in Santo to demonstrate sustainable community development and forest conservation alternatives.
- VSFUP project which has coordinated preparation of a Code of Logging Practice and strengthened the capacity of the Forestry Department to ensure logging activities are sustainable.
- SPRIG, a project conducted in association with the Department of Forestry and FSPI, that is documenting variations within selected tree species, identifying seed sources for different variants and developing conservation plans for tree species of priority to the Department of Forestry.
- SPC/PGRF project that is demonstrating sustainable agroforestry in association with local management of forest resources
- PRAP which is trialling sustainable gardening systems.
- ACIAR Trochus Project which is replenishing trochus stocks through captive rearing and release, in association with local management measures.

Project Activities

From 1997 to 1999 the National Biodiversity Strategy and Action Plan (NBSAP) project has implemented a number of activities to raise knowledge of Vanuatu's biodiversity so as to identify appropriate approaches to manage the use of the country's biological resources.

The project:

- Collected and collated research reports and publications on the biodiversity of Vanuatu.
- Conducted a rapid biodiversity assessment of freshwater and montane ecosystems.
- Conducted consultation workshops in each Province to identify community concerns and priorities for biodiversity conservation.
- Gathered information on traditional natural resource management to gain insights into appropriate biodiversity conservation mechanisms for Vanuatu.
- Assessed the status of tree fern and breadfruit on Ambrym due to the increased export of carvings from these species.
- Worked in parallel with the environmental law drafting consultancy to identify legal measures that would assist conservation of biodiversity.
- Gathered information about the use of biological resources in rural areas.

The Environment Unit holds copies of all reports prepared by the project team, and these provide documentation that supports and complements the actions identified in this strategy.

These include:

- Vanuatu Biodiversity Literature Report
- All Field Survey Reports
- All Provincial and National Biodiversity Consultation Workshop Reports
- Report on customary resource management mechanisms on Pentecost
- Report on the use and status of tree fern and breadfruit on Ambrym
- Reports on the use of biodiversity and its socioeconomic value

Strategy and Action Plans

The project team drew on information from all project activities to prepare this strategy and action plan. An important concept that prevailed throughout the work of the VNBSAP project is that the strategy and actions it recommends must be clear and meaningful to ni-Vanuatu. It must address recognisable issues, must be appropriate to our values and culture and be within national or local capacity to implement.

2 BIODIVERSITY IN VANUATU

Terrestrial Biodiversity

Vanuatu's islands are young in geological terms, small and highly disturbed as a result of natural cyclone, seismic and volcanic activity. As a consequence Vanuatu's biodiversity has been widely reported to be less rich than that of the two nearest neighbouring countries: New Caledonia and the Solomon Islands. However the NBSAP project has documented the scientific, cultural and economic significance of Vanuatu's biodiversity in two reports "Vanuatu Biodiversity Literature Review" and "The socio-economic value of biodiversity in Vanuatu". It has become clear that biodiversity in Vanuatu is richer than previously estimated and important in the following ways:

- because of the use of cultivated and wild biological resources by rural communities for food, firewood, medicine, construction materials, fodder for domestic animals etc.
- because of the restricted range of many species and significant level of endemism.
- because of the use of cultivated and wild biological resources for commercial purposes.
- because of the local custom importance of particular species and places.

The project also recorded threats that are impacting upon the status of biodiversity in Vanuatu. In particular :

- there is over-exploitation of many plant and animal resources causing a decline in the abundance and distribution of many species.
- degradation of ecosystems due to development practices.
- declining respect for traditional resource management systems and authority structures.

Freshwater biodiversity

The VNBSAP project studied the biodiversity of freshwater ecosystems because of the lack of information about these systems, their relatively high social and economic importance and their vulnerability under present land use systems.

The study showed that freshwater ecosystems are scattered, localised and small in extent. On islands with relatively undisturbed interiors (e.g. Aneityum and Erromango) freshwater systems remain healthy and demonstrate great variety. But in many other areas freshwater habitats have been degraded and diversity is much reduced as a result of

- clearing of vegetation and agricultural activities in the riparian zone.
- failure to manage use of key catchment areas such as springs and the headwaters of rivers.
- the clearing and subsequent heavy use of land within catchments for commercial or subsistence agriculture, leading to decline in water quality and reduced dry season water flows.
- Over extraction of water, primarily for irrigated taro gardens.
- Wild and domestic stock fouling rivers, streams and springs.
- The impacts of introduced species, and *Tilapia* and *Gambusia* in particular, on the distribution and abundance of native fauna.

Coastal and marine biodiversity

Vanuatu's 200 nautical mile exclusive economic zone is extensive and encompasses mangrove, sea grass, lagoon, coral and pelagic habitats. Consequently coastal and marine biodiversity are important national considerations.

Vanuatu's two towns and many villages are close to the coast. Fish, shellfish, crabs and other marine animals have become important components of subsistence diets and valuable economic commodities. There has been intensive subsistence and commercial land use in coastal areas of many islands and most national infrastructure (roads, ports, electricity supplies, airports, hospitals etc.) is located on the relatively flat coastal plains. These areas are vulnerable to cyclones and tidal waves. Mangroves, sea grass and other coastal ecosystems provide protective buffers that shelter land and human settlements from the full impacts of these storm events.

The NBSAP project identified over-harvesting of resources as the key management issue for marine ecosystems. This situation is exacerbated by the

- introduction of new technologies such as finer fishing nets and night time spear fishing
- increase in population in coastal areas creating additional demand for marine resources
- declining respect for traditional resource management systems and authority structures
- disregard for the resource conservation controls brought in under fisheries legislation.

On the following pages there are lists of priority plant and animal species and habitats. These are followed by priority biodiversity management problems identified by the project at a provincial level. Factors considered in compiling these priority listings include

- (a) endemism
- (b) economic importance
- (c) cultural significance
- (d) apparent decline in distribution and abundance
- (e) vulnerability

The strategy and action plans that follow endeavour to address these priority issues, enable conservation measures to be implemented where necessary and improve resource management so as to minimise threats to biodiversity at a national level.



Coral reefs support high diversity of marine life .

3 SIGNIFICANT ELEMENTS IN VANUATU'S BIODIVERSITY

The following lists identify plants, animals and habitat areas that are known to be significant elements within Vanuatu's biodiversity. They are listed in alphabetical order not in order of priority. The tables are not exhaustive and further research is likely to identify additional species of significance.

Plant species of conservation significance

| Endemic plant species | Plant species of cultural or economic value | Plant species that are rare or vulnerable |
|--|---|--|
| <i>Agathis silbae</i> (Kauri) | <i>Bambusa spp.</i> (Bamboo) | <i>Agathis macrophyllum</i> (Kauri) |
| <i>Calamus vanuatuensis</i> (Rattan) | <i>Cordyline fruticosa</i> (Nangaria) | <i>Agathis silbae</i> (Kauri) |
| <i>Callophyllum neo ebudica</i> (Tamanu) | <i>Cyatheaceae spp.</i> (Tree Ferns) | <i>Canarium harveyi</i> (Nangae) |
| <i>Carpoxyton macrospermum</i> (Palm) monospecific genus | <i>Cycas spp.</i> (Namele) | <i>Carpoxyton macrospermum</i> (Palm) |
| <i>Caryota ophiopellis</i> (Snakeskin Palm) | Fruit trees (Naos, breadfruit,) and their genetic variants | <i>Caryota ophiopellis</i> (Snakeskin Palm) |
| <i>Clinostigma harlandii</i> (Palm) | Medicinal plants | <i>Clinostigma harlandii</i> (Palm) |
| <i>Cyphosperma voutmelense</i> (Palm) | <i>Metroxylon warburgii</i> (Natangura) | <i>Cycas seemanii</i> (Cycad) |
| <i>Dioscorea hebridensis</i> (Yam) | <i>Pandanaceae spp.</i> (Pandanus) | <i>Cyphosperma voutmelense</i> (Palm) |
| <i>Ficus granatum</i> (Nabanga) | <i>Piper methysticum</i> (Kava) | <i>Gulubria cylindrocarpa</i> (Palm) |
| <i>Heterospathe uniformis</i> (Palm) | Root crops (yam, wild yam, taro, water taro, kumala) and their genetic variants | <i>Heterospathe uniformis</i> (Palm) |
| <i>Licuala cabalionii</i> (Palm) | Tree species used for local construction and canoes | <i>Licuala cabalionii</i> (Palm) |
| <i>Macaranga megacarpa</i> (Navenue) | Wild "cabbages" | <i>Metroxylon warburgii</i> (Natangura) |
| <i>Neoveitchia brunnea</i> (Palm) | Wild cane (<i>Saccharum maximum</i> .) | <i>Neoveitchia brunnea</i> (Palm) |
| <i>Orchidaceae spp.</i> (Orchids) | | <i>Orchidaceae spp.</i> (various orchids) |
| <i>Physokentia tete</i> (Palm) | | <i>Pelagodoxa henryana</i> (Palm) |
| <i>Veitchia spp.</i> (Palm) | | <i>Physokentia tete</i> (Palm) |
| | | <i>Santalum austrocaledonicum</i> (Sandlewood) |
| | | <i>Veitchia sp.</i> (Palm) |



Mountain Orchid (*Orchidaceae sp.*), Mount Tovio, Ambrym.

Animal species of conservation significance

| Endemic animal species | Animal species of cultural and economic value | Animal species locally vulnerable to over exploitation | Animal species that are rare or vulnerable |
|--|---|--|--|
| <p><i>Aplonis santovestris</i> (Santo Mountain Starling)</p> <p><i>Cryptobhepharus novohebridicus</i> (Beach Skink)</p> <p><i>Ducula bakeri</i> (Vanuatu Mountain Pigeon)</p> <p><i>Emoia anelytumensis</i> (Aneityum Skink)</p> <p><i>Emoia nigromarginata</i> (Pentecost Green Skink)</p> <p><i>Emoia sanfordi</i> (Vanuatu Skink)</p> <p><i>Emoia speiseri</i> (Speiser's Skink)</p> <p><i>Halcyon farquhari</i> (Vanuatu Kingfisher)</p> <p><i>Macrobrachium sp. nov.</i> (Freshwater Prawn)</p> <p><i>Megapodius freycinet</i> (Incubator Bird)</p> <p><i>Myeomeia cardinalensis</i> (Vanuatu Honeyeater)</p> <p>Narave Pig – genetic variant of <i>Sus scrota</i></p> <p><i>Neolalage banksiana</i> (Vanuatu Fly Catcher) endemic genus</p> <p><i>Perochirus guentheri</i> (Saw-tailed Gecko)</p> <p><i>Petula sp.</i> (Snail)</p> <p><i>Phylidonyris notabilis</i> (Vanuatu Mountain Honeyeater)</p> <p><i>Polyura sacco</i> and other butterfly species</p> <p><i>Pteropus anetianus</i> (White Flying Fox)</p> <p><i>Pteropus fundatus</i> (Banks Flying Fox)</p> <p><i>Stenogobius sp.</i>, <i>Sicyopterus sp.</i>, <i>Sicyopus sp.</i>, <i>Stiphodon sp.</i>, <i>Vivineala pryhotigris, sp. nov.</i> (Freshwater Fish)</p> <p><i>Zosterops flavifrons</i> (Yellow White- eye)</p> | <p>All shellfish</p> <p><i>Anguille sp.</i> (Eel)</p> <p><i>Birgus latro</i> (Coconut Crab)</p> <p><i>Cheloniidae</i> (All turtle species)</p> <p><i>Ducula bakeri</i> (Vanuatu Mountain Pigeon)</p> <p><i>Ducula pacifica</i> (Pacific Imperial Pigeon)</p> <p><i>Gallus gallus</i> (Red Jungle Fowl / Wild Fowl)</p> <p>Land Crabs</p> <p><i>Macrobrachium spp.</i> (Freshwater Prawns)</p> <p><i>Megapodius freycinet</i> (Incubator Bird)</p> <p><i>Panulirus spp. and Paribacus caledonicus...</i>Lobster</p> <p><i>Pteropus anetianus</i> (White Flying Fox)</p> <p><i>Pteropus tonganus</i> (Pacific Flying-fox)</p> <p><i>Puffinus lherminieri gunax</i> (Audubon's Shearwater)</p> <p><i>Puffinus pacificus</i> (Wedge-tailed Shearwater)</p> <p><i>Tridacna spp.</i> (Giant Clam)</p> <p><i>Trochus niloticus</i> (Trochus)</p> <p><i>Turbo marmoratus</i> (Green Snail)</p> | <p>All commercial sea cucumber species</p> <p>All land crabs</p> <p>All species of Flying-fox</p> <p><i>Birgus latro</i> (Coconut Crab)</p> <p><i>Charonia tritonis</i> (Triton Shell)</p> <p><i>Cheloniidae</i> (All turtle species)</p> <p><i>Ducula bakeri</i> (Vanuatu Mountain Pigeon)</p> <p><i>Ducula pacifica</i> (Pacific Imperial Pigeon)</p> <p><i>Macrobrachium spp</i> (Freshwater prawns)</p> <p><i>Megapodius freycinet</i> (Incubator Bird)</p> <p><i>Neritid spp</i> (freshwater shellfish, arsih)</p> <p><i>Panulirus spp. and Paribacus caledonicus...</i>Lobster</p> <p><i>Scylla sp.</i> (Mud Crab)</p> <p><i>Tridacnid spp.</i> (Giant Clam)</p> <p><i>Trochus niloticus</i> (Trochus)</p> <p><i>Turbo marmoratus</i> (Green Snail)</p> | <p>All Flying-fox species</p> <p><i>Birgus latro</i> (Coconut Crab)</p> <p><i>Brachylophus fasciatus</i> (Banded Iguana) Introduced from Fiji.</p> <p><i>Chaerephon bregullae</i> (bat)</p> <p><i>Charmosyna palmarum</i> (Green Palm Lorikeet) – Vanuatu and Santa Cruz Group</p> <p><i>Charonia tritonis</i> (Triton Shell)</p> <p><i>Cheloniidae</i> (All turtle species)</p> <p><i>Crocodylus porosus</i> (Saltwater crocodile)</p> <p><i>Ducula bakeri</i> (Vanuatu Mountain Pigeon)</p> <p><i>Ducula pacifica</i> (Pacific Imperial Pigeon)</p> <p><i>Dugon dugong</i> (Dugong)</p> <p><i>Erythrura cyaneovirens</i> (Royal Parrotfinch)</p> <p><i>Falco peregrinus</i> (Peregrine Falcon)</p> <p><i>Gallicolumba sanctaerucis</i> (Santa Cruz Ground Dove) Vanuatu with Santa Cruz Group</p> <p><i>Hippopus hippopus</i> (Giant Clam)</p> <p><i>Megapodius freycinet</i> (Incubator Bird)</p> <p><i>Tridacna spp</i> (Giant Clams)</p> |

Places and habitats of conservation significance

| Important places | Places that are damaged or degraded due to human impacts | Vulnerable places |
|---|--|--|
| <p>Bat caves - Malo, NW Malekula, Efate, Santo and Vanua Lava.</p> <p>Mangroves on Efate, Malekula, Santo and Vanua Lava.</p> <p>Coconut crab habitat on Hiu, Loh and Tegua, Torres islands.</p> <p>Lake Letas & adjacent areas, Gaua.</p> <p>Petaview waterfall, catchment and inland lakes, Epi.</p> <p>Rivers on Maewo, Tanna, Vanua Lava, Efate.</p> <p>Undisturbed forest between Homo Bay and Ranwas, South Pentecost.</p> <p>Creek Ai, Efate.</p> <p>Flying fox habitat Mota Lava.</p> | <p>Mangroves throughout Vanuatu</p> <p>Coconut crab habitat</p> <p>Rivers on Tanna, Efate, Maewo and Vanua Lava & elsewhere.</p> <p>Seagrass beds off Efate, Malekula and Santo.</p> <p>Remnant bush on Tanna</p> <p>Low-land forest ecosystems most islands.</p> <p>Coastline at Mele Bay and Samoa Point, Efate. (sand mining)</p> | <p>Coconut crab habitat</p> <p>Mangroves</p> <p>Rivers on Tanna, Efate & Maewo.</p> <p>Forest on South Pentecost.</p> <p>Petaview waterfall on Epi and surrounding areas.</p> <p>Bat caves on Santo, Malo and NW Malekula</p> <p>Seagrass beds on Efate, Malekula, Santo and Ureparapara.</p> <p>Low-land forest ecosystems most islands.</p> <p>Sea bird rookeries.</p> |



Mangrove community, Selva River, Vanua Lava. Mangrove ecosystem supports both marine and terrestrial wildlife and protects coastline.

Biodiversity Management Issues

The following table lists priority biodiversity management issues identified by the VNBSAP project. They are grouped by Province.

| Province | Problem |
|----------|--|
| TORBA | <p>Increased pressure on natural resources as a result of increases in the human population.</p> <p>Failure to respect size limits, closed seasons and traditional tabus set to ensure resource use is sustainable.</p> <p>Widespread use of local fish poisons.</p> <p>Shortage of water during extended dry seasons.</p> <p>Lack of community cooperation to address environment management issues.</p> <p>Disrespect for local community leaders and their resource management decisions.</p> <p>Over-exploitation of commercial resources due to the need for cash income.</p> <p>Deliberate lighting of bush-fires with no valid reason.</p> <p>Depletion of marine resources through uncontrolled use of newer fishing methods.</p> <p>Influence of commercial harvesting of resources such as beche-de-mer by non-local business men/women.</p> <p>Expansion of commercial agricultural activities including coconut and cattle plantations and pepper gardens and resultant conversion of forest and garden land.</p> <p>Cordia plantation (west Vanua Lava) dominates native plant species.</p> |
| SANMA | <p>Disrespect for local community leaders and their resource management decisions.</p> <p>Expansion of commercial agricultural activities such as coconut and cattle plantations and kava gardens and resultant conversion of forest and garden land.</p> <p>Impacts of logging on natural ecosystems and wildlife.</p> <p>Impacts of extraction of gravel for road constructions on natural ecosystems and wildlife.</p> <p>Kava (<i>Piper methysticum</i>) gardens.</p> |

| | |
|---------|---|
| PENAMA | <p>Reduced water flows in creeks and rivers.</p> <p>Decline in populations of marine resources, often as a result of over-harvesting.</p> <p>Disrespect for customary chiefs and their resource management decisions due to changing social values.</p> <p>Deliberate lighting of bush-fires with no valid reason.</p> <p>Increased pressure on natural resources due to increased human population.</p> <p>Lack of technical knowledge about local environments and species.</p> <p>Dumping of waste in coastal areas and lakes.</p> <p>Environmental impacts of infrastructure and development activities.</p> <p>Depletion of marine resource through indiscriminate use of newer fishing methods.</p> <p>Cordia plantations (Pentecost, Maewo and Ambae).</p> <p>Impacts of introduced freshwater species, <i>Gambusia</i> and <i>Poecilia sp.</i> on native fauna.</p> <p>Sand mining near Saratamata which is leading to saltwater intrusion.</p> <p>Loss of habitat for wildlife, especially banyan trees.</p> <p>Children using sling shots to shoot birds and other wildlife as a sport.</p> <p>New techniques for harvesting flying fox and birds.</p> <p>Use of local poisons to catch freshwater species.</p> <p>Impacts of development in the catchment of Lake Waimemea on water resources.</p> |
| MALAMPA | <p>Clearing of bush for subsistence and commercial agriculture.</p> <p>Widespread use of local fish poisons.</p> <p>Depletion of marine resources due to indiscriminate use of newer fishing methods.</p> <p>Shortage of water during extended dry seasons.</p> <p>Establishment of commercial timber plantations.</p> <p>Deliberate lighting of bush-fires with no valid reason.</p> <p>Disrespect for chiefs and other community leaders and their resource management decisions.</p> <p>Expansion of commercial agricultural activities such as coconut and cattle plantations and kava gardens and resultant conversion of forest and garden land.</p> <p>Increased pressure on natural resources due to increased human population.</p> <p>Impacts of introduced species, including African Snails.</p> <p>Destruction of mangroves.</p> <p>Impacts of volcanic ash on natural vegetation associated wild life on Ambrym.</p> <p>Impacts of soil erosion on Paama.</p> |

| | |
|-------|---|
| SHEFA | <p>Shortage of water during extended dry seasons.</p> <p>Clearing of primary forest for commercial and subsistence agriculture or by logging.</p> <p>Depletion of marine resources due to indiscriminate use of newer fishing methods.</p> <p>Increased pressure on natural resources due to increased human population.</p> <p>Deliberate lighting of bush-fires with no valid reason.</p> <p>Impacts of logging on wildlife and forest ecosystems.</p> <p>Expansion of commercial agricultural activities such as coconut and cattle plantations and market gardens and resultant conversion of forest and garden land.</p> <p>Disrespect for chiefs and other community leaders and their resource management decisions .</p> <p>Impacts of unfenced domestic stock and feral cattle and pigs.</p> <p>Use of riparian areas for gardening and grazing.</p> <p>Impacts of introduced freshwater species, <i>Gambusia</i> and <i>Poecilia sp.</i> on native fauna. Have become dominant fish fauna in Marona river, Efate.</p> |
| TAFEA | <p>Shortage of water during extended dry seasons and decrease in ambient flows of rivers.</p> <p>Increased pressure on natural resources due to increased human population.</p> <p>Impacts of introduced species, including Elephant Grass (<i>Panicum purpureum</i>), Agriculture Rope (<i>Glycine</i>) and <i>Cordia</i>.</p> <p>Disrespect for chiefs and other community leaders and their resource management decisions. Disrespect for custom restrictions relating to the environment.</p> <p>Use of riparian areas for gardening and grazing.</p> <p>Deliberate lighting of bush-fires with no valid reason.</p> <p>Expansion of commercial agricultural activities such as coconut and cattle plantations and market gardens, the resultant conversion of forest and garden land and their impacts on tabu places and water sources .</p> <p>Widespread use of local fish poisons.</p> <p>Over-exploitation of commercial resources due to the need for cash income.</p> <p>Impacts of soil erosion on denuded areas of Aneityum.</p> <p>The impacts of introduced species including <i>Gambusia sp.</i>, Tilapia (<i>Oreochromis sp.</i>), <i>Cordia allidora</i>, Indian Mynah Bird (<i>Acridothera tristis</i>), aquatic plant (<i>Salvinia sp.</i>) on biodiversity.</p> |

4 BIODIVERSITY STRATEGY

Mission Statement

1. To manage and safeguard biological resources through government, provinces and local communities so as to maintain fully our natural and cultural heritage for all ni-Vanuatu.
2. Guide government, provinces, local communities and landholders to sustainable management of Vanuatu's natural resources.
3. Ensure that all ni-Vanuatu, including future generations, are able to benefit from biodiversity and enjoy its use.
4. Protect the custom, intellectual and legal rights of ni-Vanuatu as resource custodians and users.

There are various measures that can be used to meet these goals. In developing this strategy and action plan priority has been given to activities that are affordable, within the capacity of existing government or community institutions and that meet established needs. It is also recognised that conservation of biodiversity is an ongoing and evolving process. This first biodiversity conservation strategy lays a foundation for additional work in the future.

Objectives

1. Protection and wise use of biodiversity

1. Better manage and more wisely use biodiversity, whether as species, varieties or ecosystems, for our benefit today and for the benefit of future generations.
2. Reduce threats to Vanuatu's biodiversity.
3. Protect indigenous biological resources.
4. Manage and protect endangered species and places that are under threat.

2. Application of policy, planning and legal mechanisms to enable sustainable management of biodiversity

1. Ensure all government planning documents, policies and laws recognise the importance and values of biodiversity.
2. Introduce environmental impact assessments for government or private development activities so as to minimise adverse affects on significant habitats or species.
3. Recognise the rights of all custom chiefs and local communities to safeguard biodiversity in the areas under their control for the benefit of present and future generations.
4. Protect the intellectual property rights of ni-Vanuatu to their knowledge and uses of biodiversity.
5. Establish local and national sources of funding to assist with the sustainable conservation of natural resources.

3. Research, assessment and monitoring of biodiversity

1. Increase knowledge of Vanuatu's biodiversity so that appropriate mechanisms for better management and conservation of biological diversity can be identified.
2. Collect information on changes that are taking place among species and their ecosystems so that appropriate management decisions can be made.
3. Monitor the impact of development activities on biodiversity including the success and failure of conservation programmes/projects.

4. Capacity building for environmental management

1. Improve the technical capacity of relevant sectors plus the resource people within government, provinces and the community to manage biodiversity.
2. Strengthen and support local communities and land owners so they are better able to execute sustainable biodiversity management activities.
3. Encourage strong local participation in activities that promote sustainable use of biodiversity.
4. Establish local or national funding sources to finance biodiversity conservation activities and to enhance the role of local communities in biodiversity conservation.
5. Secure access to international support for biodiversity conservation priorities within this strategy .
6. Support effective traditional biodiversity management systems.

5. Environmental education, awareness and information sharing

1. Improve environmental education within the school system.
2. Raise wider awareness of biodiversity and its values.
3. Encourage information sharing and cooperation within and between sectors and between local communities to conserve and wisely use natural resources.
4. Raise community awareness of the provisions of environmental and natural resource legislation.

6. Participation of local communities in the management of biodiversity

1. Support cooperation of chiefs, local communities, resource owners and users to better manage the biodiversity.
2. Recognise and strengthen local communities' rights and traditional conservation practices to manage and wisely use biodiversity.
3. Involve local communities with biodiversity field surveys and conservation programmes.
4. Strengthen and support local community decision making bodies.

5 BIODIVERSITY CONSERVATION ACTION PLANS

Objective 1: Biodiversity protection and conservation

Goals:

1. Better manage and more wisely use biodiversity, whether as species, varieties or ecosystems, for our benefit today and for the benefit of future generations.
2. Reduce threats to Vanuatu's biodiversity.
3. Protect indigenous biological resources.
4. Manage and protect endangered species and places that are under threat.

Objective 1: Biodiversity protection and conservation

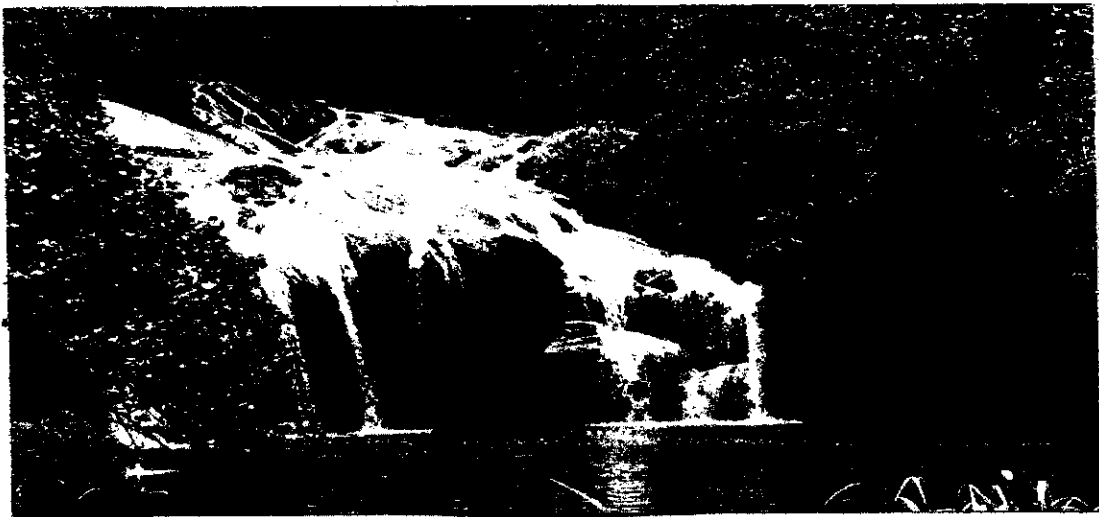
Priority 1: Watershed Management

All provincial and national consultation workshops together with the project's field surveys independently identified widespread disregard for freshwater systems as a threat to biodiversity, despite the importance of freshwater for wild and cultivated biodiversity and for rural and urban communities. A situation has arisen where individual landowners' rights to control, use and develop the resources on their land are considered by many paramount to the needs of their communities and the surrounding environment. This shift in values has fostered disregard for the "shared" or "communal" nature of resources like freshwater with a consequent degradation of freshwater biodiversity.

The NBSAP project team also observed that changes in freshwater biodiversity have been successfully used in other countries in the region as indicators of the environmental quality of surrounding ecosystems.

| Priority response | Responsibility | Proposed action | Time Frame |
|---|---|---|------------------|
| 1. Improve the capacity and commitment of custom chiefs, local communities and landowners to manage water catchment areas and foster cooperation among these groups for improved water management. Through: <ul style="list-style-type: none"> • Extension and training • Provincial demonstration projects • Preparation and distribution of information materials. | Environment Unit Department of Geology and Mines Provinces Forestry Department | Prepare proposals for a 3 year project to pilot demonstration projects in association with local communities and to establish extension and training programmes (including replanting damaged catchment areas). | A 3 year project |

| | | | |
|--|---|--|---|
| <p>2. Foster a culture of water shed management that incorporates the principals of</p> <ul style="list-style-type: none"> • Catchment area / water use plans • controls on over extraction of water and • penalties for damage or pollution of freshwater systems. • Management of bush clearance in riparian zones. <p>and incorporate these measures into national legislation so as to maintain freshwater quality & supply.</p> | <p>Department of Geology and Mines State Law Office Environment Unit Municipalities Public Works Provinces Forestry Department DARD</p> | <p>Work with concerned sectors and communities to prepare extension materials, water management plans, adopt water legislation and enforce water management and environmental laws.</p> | <p>On-going</p> |
| <p>3. Set up appropriate and participatory monitoring programmes to improve knowledge of freshwater systems and factors that affect their quality.</p> | <p>Environment Unit Department of Geology and Mines</p> | <p>Create a permanent position within the Environment Unit for a biologist to coordinate on-going studies.</p> <p>Identify appropriate indicator species for community-based monitoring.</p> <p>Set up a freshwater monitor network to collect monitoring data for analysis.</p> | <p>New position in year 2000 recurrent budget. On going</p> |



Maewo waterfall. Water systems such as this supports diverse aquatic and terrestrial wildlife.

Objective 1: Biodiversity protection and conservation

Priority 2: Management of introduced species

Many introduced species have been found to be invasive and pose threats to Vanuatu's native flora and fauna. These include *Cordia allidora* (Cordia), *Panicum maximum* (Elephant Grass), *Cyrtolobos sp.* (Agriculture Rope), the freshwater fish *Gambusia sp.* (Gambusia), *Oreochromis sp.* (Tilapia) and *Poecilia sp.*, *Acridothera tristis* (Indian Mynah Bird), *Euglandina rosea* (Predatory Snail) and the aquatic plant *Salvinia sp.*, etc. These species were brought to Vanuatu for commercial cultivation, biological control purposes or as curiosities or pets. Once in Vanuatu species are spread from one island to another for similar reasons.

It is a priority to develop ways of controlling future introductions. It is proposed to establish an administrative system requiring importers of living materials to apply for permits; provide background information on the species or variety; justify the import; and detail measures to prevent impacts on native biodiversity.

It is also a priority for landowners and the sectors and agencies concerned to find opportunities to use, manage or eradicate species that already threaten Vanuatu's biodiversity. The Government has particular responsibilities where species introduced as part of official development activities have become invasive or destructive to native species.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|---|---|-----------------------------------|
| <p>1. Include controls on the introduction of living materials within the proposed Environment Act. In processing any request for a permit to import consideration should be given to:</p> <ul style="list-style-type: none"> • Invasiveness, potential threats to biodiversity, and experiences from other countries. • Containment to prevent accidental release into the wild. • Control or eradication measures should the species or variety become a problem and the costs of these. <p>Environmental Inspectors should be empowered to enter and inspect sites where introduced species are held to ensure compliance with provisions of any import permit.</p> | <p>Environment Unit VQIS</p> <p>In consultation with other relevant organisations</p> | <p>Environment Unit to ensure that this is included in the version of the Environment Act that goes to Parliament and develop processes for permit issue.</p> <p>VQIS to intercept introduced species upon arrival.</p> | <p>Enforce law once gazetted.</p> |

| | | | |
|---|--|--|--|
| <p>2. Set up monitoring programmes to collect information and improve our knowledge of the impact, spread and management of introduced species.</p> | <p>Environment Unit In association with relevant departments such as DARD & Forestry</p> | <p>Create a permanent position within the Environment Unit for a biologist to coordinate on-going studies. Use NBSAP & other reports to select monitoring sites. Design appropriate monitoring programmes. Set up a local monitor network to collect data for analysis. Prepare project papers to seek funding to establish the project and to train monitors.</p> | <p>New position in year 2000 recurrent budget. Project funding for year 2000. Monitoring-ongoing</p> |
| <p>3. Establish demonstration projects with landholder communities as trials to control or find alternative uses for introduced species that have become problems .</p> | <p>Environment Unit In association with relevant departments such as DARD and Forestry</p> | <p>Department officers work with local communities to assess problems, and identify opportunities for species control or use. Cooperatively trial control measures and prepare extension materials to promote successful activities.</p> | <p>3 - 5 years</p> |



Tree Ferns. On Ambry Tree Ferns are carved as part o custom and increasingly for sale. Throughout Vanuatu Tree Ferns have many household uses.

Objective 1: Biodiversity protection and conservation

Priority 3: Used resources

Many socially or economically important resources are declining in abundance. Often this is a result of :

- Increased harvesting to meet the subsistence and commercial demands of greater human populations.
- The use of modern tools and equipment (e.g. fine meshed fishing nets) that allow increased catches for reduced effort and which fail to discriminate by species, physical size or maturity.
- Increased commercial harvesting of resources .

Consequent decline in resource stocks was reported on a local or island level at all consultation workshops, and by agencies responsible for resource management including the Department's of Fisheries and Forestry.

It is a priority to foster appropriate and sustainable resource harvesting and discourage practices that contribute to resource decline.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|---|---|--|
| <p>1. Amend Fisheries laws and regulations so that</p> <p>a) regulations can be used to control the use of modern fishing tools.</p> <p>b) regulations can address freshwater as well as saltwater species.</p> <p>c) harvesting controls (e.g. size limits, ban on harvest of egg-bearing prawns etc) can be set for freshwater prawns and eel fish as a matter of priority.</p> | <p>Fisheries Department with assistance from the State Law Office.</p> | <p>Develop and enforce new regulations under the Fisheries Act.</p> | <p>Immediate</p> |
| <p>2. Conduct research to improve knowledge of the status of species of concern and where appropriate identify management guidelines or regulations. Priority species include:</p> <ul style="list-style-type: none"> • Flying foxes • Freshwater prawns • Land crabs • Vanuatu Mountain Pigeon and Pacific Imperial Pigeon | <p>Environment Unit with Scientific staff of the Fisheries Department and Botany Section of the Forestry Department and DARD.</p> | <p>Create a permanent position within the Environment Unit for a biologist to coordinate on-going studies.</p> <p>Prepare project proposals to seek funds for research fieldwork.</p> | <p>Include new biologist position in year 2000 recurrent budget.</p> <p>Try to identify project funding for year 2001.</p> |
| <p>3. Improve enforcement of harvesting regulations for species such as Coconut Crab, Lobster, Green Snail, Trochus etc.</p> | <p>Fisheries Department Environment Unit</p> | <p>Fisheries Department should more strictly enforce existing fisheries laws.</p> | <p>Immediate</p> |

| | | | |
|---|---|---|---------------------------------------|
| <p>4. Conduct research to improve knowledge of the status of Tree Ferns and where appropriate identify management guidelines or regulations.</p> | <p>Cultural Centre Environment Unit VQIS Forestry Department</p> | <p>a) Identify the species of tree ferns present in Vanuatu, their distribution, status and use. b) Improve administration of exports of tree ferns and tree fern products. c) Identify management guidelines or conservation measures where appropriate</p> | <p>Immediate</p> |
| <p>5. All ni-Vanuatu children must have knowledge of widely used local species of flora and fauna, their habitat needs and life cycles.</p> | <p>Curriculum Development Centre Teacher Training Centre Education Department Cultural Centre</p> | <p>Strengthen the natural science component of the Primary School Curriculum. Include nature studies in teacher training programmes. Include scientific and traditional knowledge about ni-Vanuatu flora and fauna in education materials & booklets prepared for Vanuatu Schools for all subject areas including reading, maths, social studies etc.</p> | <p>On going</p> |
| <p>6. Include in the proposed Environment Law capacity to set management regulations for designated terrestrial species, including measures such as size limits and closed seasons for birds, flying foxes, crabs, freshwater prawns etc.</p> | <p>Environment Unit to coordinate</p> | <p>Request those drafting the proposed law to include appropriate clauses in the Act prior to its submission to Parliament.</p> | <p>Implementation from year 2000.</p> |



Coconut Crab, Birgus Latro, the largest land crab in the world. It is endangered.

Objective 1: Biodiversity protection and conservation

Priority 4: Management of cultural heritage

The biodiversity management mechanisms applied in other countries are not always culturally or technically appropriate for Vanuatu, or within the capacity of existing administrative agencies to implement. There is a need to integrate technical conservation knowledge with traditional management approaches and to strengthen traditional conservation mechanisms where they are effective.

Contributors to this action plan were also concerned at the amount of work that is still needed to adequately document and protect "tabu" places.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|---|---|-------------------------------|
| 1. Document the use of traditional resource management systems, their application and effectiveness. | Culture Centre in association with the Environment Unit, Forestry, Fisheries and DARD Departments | Seek funding to include this work within the proposed CBEMP project being coordinated by the Cultural Centre. | 3 year project |
| 2. Further the work of the VCHSS to document and record tabu places where wanted by local people. | Culture Centre | Support the Vanuatu Cultural Centre to identify sufficient funds and technical staff to continue this important work. | On going |
| 3. Document the traditional uses of important custom plants such as Nangaria , Namele, Sasa, Wildcane and Wild Kava. | Culture Centre Botany section of Forestry Department | Link this work with the CBEMP project if possible. | When CBEMP project commences. |



The endemic Vanuatu White-eye, *Zosterops flavifrons*. Found throughout the islands.

Objective 1: Biodiversity protection and conservation

Priority 5: Conservation of significant species and places

There are habitats and places throughout Vanuatu that have high conservation value. Places such as mangroves, remnant lowland bush, or key habitats for vulnerable species. Similarly, there are many plants and animals that are endemic and of restricted distribution and that are thought to be declining or vulnerable due to habitat loss, overharvesting or other factors. Identifying and implementing appropriate conservation measures for these species and places are important components of work to maintain Vanuatu's biodiversity.

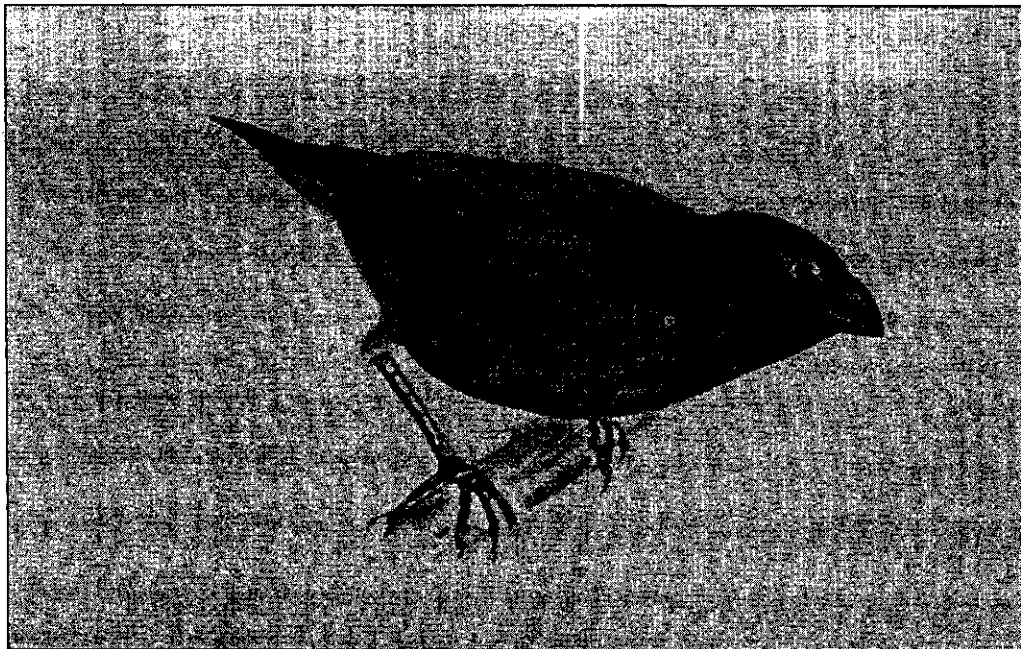
For practical reasons and to give focus to conservation efforts this strategy has set 13 priorities for initial response. There are many additional sites and species that will need consideration in years to come.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|--|---|------------|
| 1. Conservation of forest in the area of Homo Bay and Ranwas in South Pentecost. (High species diversity & vulnerable) | Environment Unit PENAMA Conservation Unit of the Forestry Department | The Biodiversity Conservation Officer within the Environment Unit should work through PENAMA and local landholders and chiefs to a) better assess the area b) identify local interest in conservation activities c) prepare local level conservation plans if appropriate | 2 years |
| 2. Document and describe remnant vegetation on Tanna and work with TAFEA and interested landowners to establish an appropriate conservation plan. (Vulnerable) | Environment Unit TAFEA Conservation Unit of the Forestry Department | The Biodiversity Conservation Officer within the Environment Unit should a) identify location and characteristics of remnant vegetation. b) work through TAFEA and local landholders and chiefs to convene a consultation workshop and prepare conservation plans. c) Give technical support to TAFEA and landholders to implement the plan. | 2 years |

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| <p>3. Establish a conservation plan for the Petaview catchment on Epi.</p> | <p>Environment Unit SHEFA Conservation Unit of the Forestry Department</p> | <p>The Biodiversity Conservation Officer within the Environment Unit should work through SHEFA and with local landholders and chiefs to prepare a community based conservation plan and give technical support to SHEFA and landholders for its implementation.</p> | <p>2 years</p> |
| <p>4. Prepare conservation and rehabilitation plans for mangroves on Malekula, Efate, Santo & Vanua Lava .</p> | <p>Environment Unit and the Fisheries Department Provinces concerned Forestry Department</p> | <p>The Biodiversity Conservation Officer within the Environment Unit should work through the provinces and with local landholders and chiefs to prepare community based mangrove conservation and rehabilitation plans and give technical support for their implementation.</p> | <p>2 years</p> |
| <p>5. Manage the catchment of Creek Ai, Efate, to protect its high biodiversity value.</p> | <p>Landholders SHEFA Environment Unit</p> | <p>The Biodiversity Conservation Officer within the Environment Unit should work through SHEFA Province and with local landholders and chiefs to facilitate a community based management plan for Creek Ai and give technical support for its implementation.</p> | <p>3 years</p> |
| <p>6. Royal Parrot-Finch within SHEFA Province.</p> <ul style="list-style-type: none"> • Raise awareness of its rarity and limited distribution • Encourage chiefs, community leaders and landholders to protect the bird and its habitat. | <p>Environment Unit SHEFA Province Chiefs, community leaders on the islands concerned</p> | <p>Information and education officer of the Environment Unit with the Biodiversity Conservation Officer to prepare information materials, tour relevant islands and work with the Province and Communities concerned.</p> | <p>2 years</p> |
| <p>7. Flying Foxes on Mota Lava</p> <ul style="list-style-type: none"> • Raise awareness of the Mota Lava community that it is the only island supporting 4 species of flying fox. • Encourage chiefs, community leaders and landholders to manage the flying foxes and their habitat | <p>Environment Unit TORBA Province Chiefs, community leaders on Mota Lava</p> | <p>Information and education officer of the Environment Unit with the Biodiversity Conservation Officer to prepare information materials, tour the island and work with the Province and communities concerned.</p> | <p>2 years</p> |

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|---|--|---|---------------------------------------|
| <p>8. Crocodile on Vanua Lava –</p> <ul style="list-style-type: none"> Facilitate local monitoring of the crocodile population Prepare a management plan that considers the needs of local people, financial resources and international scientific concerns. | <p>TORBA PROVINCE</p> <p>With technical support from the Environment Unit and Fisheries Department.</p> | <p>The Biologist and Biodiversity Conservation Officer within the Environment Unit should provide technical advice to TORBA Province and local communities.</p> <p>Facilitate a workshop in the Alligator River area to design a monitoring program and prepare a management plan.</p> | <p>2 years</p> |
| <p>9. Conduct community trials of small scale/low input aquaculture to promote sustainable subsistence and commercial harvesting of freshwater prawns, eels and fish species such as Khulia sp.</p> | <p>Environment Unit</p> <p>Fisheries Department</p> <p>Provinces</p> | <p>The Biodiversity Conservation Officer within the Environment Unit and relevant Officers within the Fisheries Department to:</p> <p>a) identify and assess potential trial sites on Santo, Maewo and the Banks Islands.</p> <p>b) assist communities and provinces to manage trials.</p> | <p>Seek funding in 2001.</p> |
| <p>10. Conservation of Coconut Crab habitat on Hiu, Tegua and Loh, Torres Group</p> | <p>TORBA Province</p> <p>With technical support from the Fisheries Department & Environment Unit</p> | <p>Apply for project funds to consult with landowners, document habitat & foster locally based conservation initiatives.</p> | <p>Seek funding in 2001.</p> |
| <p>11. Bat roosting and nursery caves on Malo, northwest Malekula, Vanua Lava, Santo and Efate.</p> | <p>SANMA, TORBA and MALAMPA Provinces</p> <p>With technical support from the Environment Unit</p> | <p>The biodiversity conservation officer in the Environment Unit should</p> <p>a) document the distribution of species and roosting/nursing caves.</p> <p>b) work through the Provinces and relevant landowners to raise awareness and prepare participatory conservation plans.</p> <p>c) provide technical assistance in implementation of the plans.</p> | <p>Apply for funding during 2000.</p> |

| | | | |
|---|--|---|--------------------------------------|
| <p>12. Assess feasibility of a conservation area on Gaua that includes Lake Letas, adjacent areas and swamps to protect biodiversity and cultural values.</p> | <p>TORBA Province with technical support from the Environment Unit, Forestry Department and Culture Centre</p> | <p>The Environment Unit's Biodiversity Conservation Officer should coordinate a conservation appraisal of the area.</p> <p>The Cultural Centre should liaise with local landholders over cultural sites in the vicinity.</p> <p>Work through the Province to consult with landowners and chiefs to develop a community based conservation plan.</p> | <p>Seek funds for study in 2001.</p> |
| <p>13. Distribution of plants and animals of conservation significance.</p> | <p>Environment Unit Forestry LUPO Fisheries</p> | <p>Finalise entries to both the herbarium and fauna databases.</p> <p>Map using VANRIS the distribution of plants and animals identified by this report as scientifically or socio-economically important.</p> <p>Update as additional surveys are completed.</p> | <p>On-going</p> |



Royal Parrotfinch, *Erythura cyaneovirens* only found on Tongoa and Epi and is classified as endangered. It is important that Tongoa and Epi islanders protect it.

Objective 2: Application of appropriate policy, planning and legal mechanisms to enable sustainable management of biodiversity

Goals:

1. Ensure all government planning documents, policies and laws recognise the importance and values of biodiversity.
2. Introduce environmental impact assessments for government or private development activities so as to minimise adverse affects on significant habitats or species.
3. Recognise the rights of all custom chiefs and local communities to safeguard biodiversity in the areas under their control for the benefit of present and future generations.
4. Protect the intellectual property rights of ni-Vanuatu to their knowledge and uses of biodiversity.

Laws are important to protect the rights of local communities, landowners, and governments to manage biodiversity, especially when they are threatened by the activities of others. Laws are also important to ensure that commercial and government development activities do not adversely impact upon natural environments or human communities.

Objective 2: Application of appropriate policy, planning and legal mechanisms to enable sustainable management of biodiversity

Priority 1: Environment Impact Assessment (EIA)

Environmental Impact Assessment is an internationally established process used to ensure decision-makers are fully advised of the economic, social and environmental consequences of a development project and its alternatives and able to take these issues into full consideration. It also enables government to impose restrictions or management guidelines on development activities so as to minimise adverse impacts and maximise benefits should the development proceed.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|---|---|----------------------------|
| 1. Establish under legislation an environmental impact assessment process that requires consideration of natural, social, cultural and economic impacts of both government and private development activities, while recognising the rights of landholders and their chiefs to manage resources. | Environment Unit to coordinate & administer. State Law Office to assist with drafting. | Draft legislation within the proposed Environment Act and submit to Parliament. | Implement in year 2000 |
| 2. Create new positions within the Environment Unit in both Luganville and Vila to administer EIA procedures, advise developers and advise the Foreign Investment Board. | Principal Environment Officer with the Public Service Department and Government Budget Committee. | Allocate funds for 2 new positions within the Environment Unit. | Year 2000 recurrent budget |
| 3. Allocate adequate resources to the Environment Unit to effectively administer and police EIA provisions. | Principal Environment Officer with the Public Service Department and Government Budget Committee. | Make budget provisions for adequate travel for site inspections & assessments and the technical equipment necessary to conduct this work. | Year 2000 recurrent budget |

Objective 2: Application of appropriate policy, planning and legal mechanisms to enable sustainable management of biodiversity

Priority 2: Financing biodiversity

The Environment Unit and other agencies lack capacity to manage biodiversity, with respect to adequate staffing, equipment and budgets. This can only be redressed by more adequate funding for environmental management. Consequently it is a priority to identify ways to locally fund biodiversity conservation work and to avoid undue dependence on the international donor community.

The option endorsed by this strategy is to introduce a 1000VT environment management levy on visitors to Vanuatu. This is based on the importance of strong natural and cultural environments to the tourism sector and successful experiences with such a levy in small island states in the Caribbean. Acceptance of such a scheme usually relies on funds being directly held for environment conservation work and held separately to general government revenue.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|---|---|--|
| 1. Establish a conservation/ environment trust fund to finance biodiversity research and conservation work. | Environment Unit with advice from the Department of Finance, DESD and State Law Office. | Draft legislation to establish an environmental trust fund, possibly in association with the draft environmental legislation . Make necessary legal provisions for a 1000VT environmental levy on all visitors to Vanuatu. Establish a system for collection of this levy at the airport or in association with ticket sales. | Planning during 2000. Introduce levy in the year 2001 |

Objective 2: Application of appropriate policy, planning and legal mechanisms to enable sustainable management of biodiversity

Priority 3: Intellectual Property rights

It is important for Vanuatu to develop a mechanism to protect the immense intellectual property of its citizens with respect to their knowledge and use of biodiversity. Other people and companies seeking to benefit from this knowledge must recognise the source of this knowledge and pay for rights to its use.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|--|---|-----------------|
| 1. Introduce a legal mechanism to protect the intellectual property rights of ni-Vanuatu with respect to their knowledge and use of biodiversity. | State Law Office with the Department of Culture; Cultural Centre; Malvatamauri; Environment Unit. | Consult over drafting of an appropriate law for introduction to Parliament. | 2 years |
| 2. Create a position for a Cultural Liaison Officer to administer provisions of this law. | Department of Culture, the Cultural Centre, Public Service Commission and the Government Budget Committee. | Include funds in the recurrent budget of the Department of Culture. | From year 2002. |

Objective 2: Application of appropriate policy, planning and legal mechanisms to enable sustainable management of biodiversity

Priority 4: Import and export of species

Introduced species have become a major threat to the integrity of Vanuatu's biodiversity. Before further species are introduced it is important to establish a mechanism to assess their potential environmental and economic impacts prior to allowing their importation.

On the other hand there is increasing demand to export (whether or not for commercial purposes) plant and animals that are endemic to Vanuatu or that may be locally or internationally rare. Policy and legal mechanisms to monitor and control such exports are equally important.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|--|--|------------------------------------|
| <p>1. Export controls</p> <p>a) One section of the proposed Environment Act should establish control mechanisms for the export of rare and endemic species or species of cultural significance.</p> <p>b) The export of rare and endemic species or species of cultural significance should only be allowed by a permit, whether for trade, research or personal souvenir.</p> <p>c) Authorities should be able to set conditions on their export or refuse permission for the export of species of concern.</p> <p>(note: CITES controls only apply to commercial exports of designated species.)</p> | <p>Environment Unit. Ministry of Lands and Natural Resources. State Law Office.</p> <p>VQIS</p> <p>DARD</p> | <p>Include appropriate controls on the import and export of species in the draft Environment Act.</p> <p>Establish an administrative systems with coordination by the Environment Unit.</p> <p>Liaise with VQIS to develop point of export checks.</p> | <p>Establish during year 2000.</p> |
| <p>2. Import Controls</p> <p>a) One section of the proposed Environment Act should establish control mechanisms for the import of living things and the safe handling and holding of imported living things.</p> <p>b) Controls should place onus on the importer to establish the bio-safety of any introduced species or variety.</p> <p>c) The authorities should be able to set conditions for the import, handling or holding of introduced species and to conduct inspections to ensure compliance with these conditions.</p> | <p>Environment Unit. Ministry of Lands and Natural Resources State Law Office</p> <p>VQIS</p> <p>and</p> <p>DARD</p> | <p>Include appropriate controls on the import and export of species in the draft Environment Act.</p> <p>Establish an administrative system with coordination by the Environment Unit.</p> <p>Liaise with VQIS to develop point of import checks.</p> | <p>Establish during year 2000.</p> |

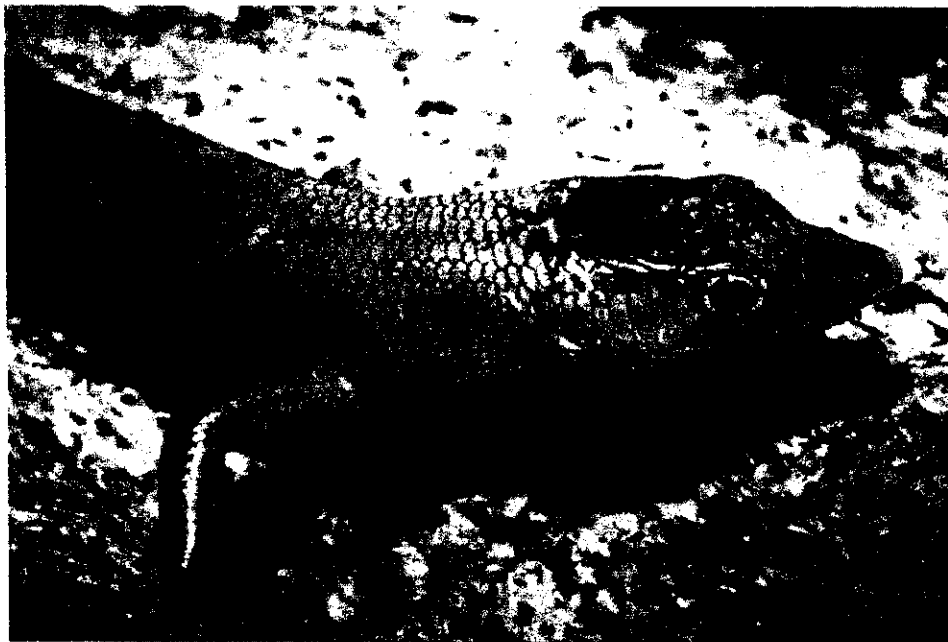
Objective 2: Application of appropriate policy, planning and legal mechanisms to enable sustainable management of biodiversity

Priority 5: Establish a Scientific Research Council

Currently biological research takes place in a fragmented and ad hoc manner, with many researchers failing to return reports of their work and findings and Department's failing to maintain permanent collections of research reports. On one hand this is a concern as important scientific knowledge is being lost to the country. On the other hand if intellectual property rights are to be protected it will be important to maintain documentation of who worked at what localities, when and in association with which landowners. To give better coordination to scientific research it has been proposed to establish a Scientific Research Council to parallel work of the existing Cultural Research Council.

Such a council should also be given responsibility for establishing appropriate research protocols.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|-------------------|---|------------|
| 1. The proposed Environment Act should establish a Scientific Research Council with responsibility to issue permits for environment and natural resource focused research within Vanuatu, and able to set conditions for the conduct of such research and to require a refundable deposit where environmental or social impacts of the research are of concern. | Environment Unit. | Environment Unit to ensure inclusion of appropriate provisions in the Environment Act prior to its submission to Parliament. The Research Council to establish its own procedural and permit system with administrative support from the Environment Unit. | Year 2000 |



Green Lizard, *Emoia sanfordi* is endemic to Vanuatu.

Objective 3: Research, assessment and monitoring of biodiversity

1. Increase knowledge of Vanuatu's biodiversity so that appropriate mechanisms for better management and conservation of biological diversity can be identified.
2. Collect information on changes that are taking place among species and their ecosystems so that appropriate management decisions can be made.
3. Monitor the impact of development activities on biodiversity including the success and failure of conservation programmes/projects.

Objective 3: Research, assessment and monitoring of biodiversity

Priority 1: Establish and maintain a biodiversity data bank

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|--|--|---------------------------------------|
| 1. Establish a centralised collection of information about Vanuatu's biodiversity. This should include preserved specimens, reference works, copies of research reports as well as computer based data on species records and their distribution throughout the country. | Environment Unit Forestry Fisheries Cultural Center DARD | Seek funds to construct a natural science annex adjacent to the National Museum to provide a collection site. Create a position for a natural science curator to manage data and collections held at the natural science annex. | Immediate Once annex is built. |
| 2. Repatriate collections of Vanuatu's biodiversity held overseas. | National Museum | Identify collections held overseas, establish protocols for repatriation of these collections and negotiate with relevant authorities overseas. | Once annex is built. |
| 3. Enter into an agreement with a regional museum to provide technical support during establishment of the natural science annex and to provide training to the natural science curator. | National Museum with Environment Unit and Forestry Department | Negotiate agreements for provision of technical assistance. | Once annex is built. |
| 4. Conduct additional research into the distribution, abundance and ecology of species occurring in Vanuatu. | Environment Unit, Fisheries Forestry and ARD Departments | The identified departments should jointly set priorities and seek research funding. | Once annex is built. |

Objective 3: Research, assessment and monitoring of biodiversity

Priority 2: Biodiversity monitoring

To enable government to make appropriate management decisions about the use of particular species and habitats it is necessary to build up a body of knowledge about resources and habitats, and the impacts of human activities, seasonal variations and introduced species.

While government departments have been identified to take a lead in this work, there is an important role for participation at a community level to incorporate local knowledge of biodiversity and to monitor changes on behalf of government .

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|---|--|--------------|
| <ol style="list-style-type: none"> 1. Monitoring of freshwater biodiversity and ecosystems to build on initial work conducted by the NBSAP project team with additional information on the ecology of species, seasonal variations etc. 2. Monitor changes in the distribution of introduced species: Cordia, Gampusia, Tilapia, etc. 3. Monitor the impacts of tropical cyclones on Vanuatu's biodiversity. 4. Monitor the impacts of fire on Vanuatu's biodiversity. 5. Monitor the impacts of clearing and logging activities on Vanuatu's biodiversity. 6. Monitor the impacts of the use of traditional fish traps and poisons on the freshwater systems of Vanua Lava and Gaua. | Environment Unit with Geology and Mines Department Fisheries Department Forestry Department DARD as appropriate | Seek funding to establish relevant monitoring programmes. This would include design of the monitoring programme, identification of indicators or indicator species, establishment of monitoring sites, training of local monitors and data collection and analysis procedures. | 2000 to 2005 |
| <ol style="list-style-type: none"> 7. Monitor the impacts of development activities and their compliance with EIA provisions. | Environment Unit | Establish procedures for routine monitoring of development activities. | On-going |

Objective 3: Research, assessment and monitoring of biodiversity

Priority 3: Research into priority species

In preparing for this VNBSAP the Environment Unit identified a number of species of concern for which there is inadequate information to set management guidelines. The eleven targets identified below are given initial priority for on-going biodiversity research.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|---|--|---|
| <p>1. Document the distribution, status and ecology of the following species with a view to identifying management needs:</p> <ul style="list-style-type: none"> • All species of flying fox • All species of freshwater prawn • All species of land crab except <i>Birgus latro</i>. • Pigeons • All species of freshwater eels. • <i>Neoveitchia brunnea</i> • A plant used on the Torres Islands as soap and bleach and raised as a local concern. • Green Palm Lorikeet • Blue variant of the Rainbow Lorikeet found on Lamén and Epi Islands • Sea birds nesting in Vanuatu. • Royal Parrot-finch • Wild "cabbage" species. | <p>Environment Unit with the Public Service Department and Budget Committee.</p> <p>Environment Unit in association with the Fisheries, Forestry and ARD Departments.</p> | <p>Establish a permanent position of Biologist within the Environment Unit with responsibility for coordinating on going biological research.</p> <p>Seek research funding and assist with research.</p> | <p>Include the biologist position in the year 2000 recurrent budget.</p> <p>Try to identify research funds for year 2001.</p> |
| <p>2. Trial and monitor small scale aquaculture on Maewo as a possible model of an environmentally sustainable productive system.</p> | <p>PENAMA province with technical assistance from the Fisheries Department and Environment Unit.</p> | <p>Establish a permanent position of "biologist" within the Environment Unit to coordinate the study.</p> <p>Identify funding for a trial project.</p> | <p>Include new biologist position in year 2000 recurrent budget.</p> <p>Try to identify trial funds for year 2001.</p> |

Objective 4: Capacity building for environmental management

1. Improve the technical capacity of relevant sectors plus the resource people within government, provinces and the community to manage biodiversity.
2. Strengthen and support local communities and land owners so they are better able to execute sustainable biodiversity management activities.
3. Encourage strong local participation in activities that promote sustainable use of biodiversity.
4. Establish local or national funding sources to finance biodiversity conservation activities and to enhance the role of local communities in biodiversity conservation.
5. Secure access to international support for biodiversity conservation priorities within this strategy .
6. Support effective traditional biodiversity management systems.

Objective 4: Capacity building for environmental management

Priority 1: Improve access to technical resources necessary for biodiversity management

The capacity of government departments to monitor and manage biodiversity is hampered by their limited access to laboratory facilities, technical equipment and reference collections. The greatest need is for a scientific laboratory that can be used not only for biodiversity and taxonomic work but for all environmental analyses. Secondly, priority is to improve capacity of staff to make optimum use of technical resources.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|-----------------------|---|-------------------|
| 1. Obtain laboratory and technical equipment necessary for the conduct of biodiversity assessments, and environmental monitoring. | Environment Unit | Seek funding to construct / renovate, and equip a laboratory for biological and environmental analyses that can be used by any Department according to need | 2000 to 2001 |
| 2. Improve staff capacity to conduct technical and scientific assessments. | Environment Unit | Identify funding and appropriate training providers for an on-the-job training programme for staff of appropriate departments. | 2000 to 2001 |

Objective 4: Capacity building for environmental management

Priority 2: Establish a high level Environment Coordinating Committee

Government organisations can avoid repetition or programming conflicts by working together for efficient, effective and coordinated management of the nation's biodiversity. To foster cooperative approaches between departments with responsibility for the use and management of biological resources it is recommended that an inter-agency environment committee be established.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|--------------------------------------|---|-----------------|
| 1. Establish an environment committee with representation from senior officers in departments with responsibility for use and management of biological resources. | Minister responsible for Environment | Establish the committee as a statutory body under the proposed Environment Act with secretarial support from the Environment Unit. Establish procedures for at least bimonthly meetings. | From year 2000. |

Objective 4: Capacity building for environmental management

Priority 3: Technical and Management Training

Responsibility for environmental conservation rests with a diversity of government and non-government organisations, with the Provincial Councils, private groups and landholders. These organisations presently lack adequate technical and managerial staff to most effectively fulfill their responsibilities. Consequently it is important to improve access to information, to increase the scientific and technical capacity of staff to manage use of environmental resources, and to identify adequate technical and financial resources to effectively manage biodiversity.

To meet the nation's need to increase capacity for effective environmental management it will be important to encourage students to consider environment and natural resource management as a sound career choice and to direct adequate scholarships towards professional studies in biological resource management. At the same time existing staff would benefit from in-service training in management and technical fields.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|-----------------------------------|---|------------|
| 1. Recognise Vanuatu's need for more scientifically trained personnel able to assist with biodiversity management and EIA. | Scholarship Unit. DESD. | Work with government agencies with environmental responsibilities to identify environmental training and scholarship needs. | Ongoing |
| 2. In-service training to increase the managerial capacity of relevant Departments. | Government Training Centre. DESD. | Work with government agencies with environmental responsibilities to identify training needs and conduct in-service training. | On going |
| 3. Provide training in EIA and biodiversity conservation to relevant government officers, the private sector and the provinces. | Environment Unit to coordinate | Identify funds to meet the costs of conducting relevant in-service training courses. | Year 2001 |

Objective 5: Environmental Education, Awareness and Information Sharing

1. Improve environmental education within the school system.
2. Raise wider awareness of biodiversity and its values.
3. Encourage information sharing and cooperation within and between sectors and between local communities to conserve and wisely use natural resources.
4. Raise community awareness of the provisions of environmental and natural resource legislation and why these provisions have been set.

To change community attitudes toward management of biodiversity there is a need to raise awareness of the importance and values of biodiversity. Particular attention needs to be paid to the design and conduct of environmental awareness programmes if they are to be effective agents for change. It is important that training and extension programmes are practical in orientation and relevant to the wider needs of local communities, and that opportunities for communities to learn from each other are maximised. A shift from once-off workshops to demonstration projects, trials and field days is recommended.

Objective 5: Environmental Education, Awareness and Information Sharing

Priority 1: Encourage local communities to share experiences of biodiversity conservation activities.

There are many on-going community-based conservation activities that contribute toward the management and wise use of biodiversity. Local communities should be encouraged to share and exchange biodiversity conservation experiences and ideas with other communities and islands.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|---|--|----------------------|
| <p>1. Set up an extension program through which local communities can share their conservation experiences with other communities.</p> <ul style="list-style-type: none"> • Coordinate meetings and workshops at village level. • Coordinate field visits and open days at conservation project sites. • Prepare and distribute resource materials on wise use of biodiversity. • Seek opportunities to work through theatre groups and video films. | <p>The Information and Extension Section of the Environment Unit in association with the Fishery, Forestry and ARD Departments.</p> | <p>Liaise with relevant departments and organisations to set up a coordinated biodiversity conservation extension program.</p> <p>Find funding to initiate this programme.</p> | <p>5 year target</p> |

Objective 5: Environmental Education, Awareness and Information Sharing

Priority 2: Awareness of the value and importance of biodiversity

With the growing importance of the cash economy many ni-Vanuatu have been led to believe that the environment can only be conserved at the expense of on-going human and economic development. This false view neglects the well-established need to maintain long term resource quality within a framework of sustainable development. Raising community awareness of the importance of maintaining biodiversity is consequently important, especially at senior levels of the government and in the private sector.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|---|---|-------------------|
| 1. Improve the awareness of political decision-makers and national leaders of the real values of biodiversity. | Extension and Information Section of the Environment Unit | Produce and distribute information materials for this target group. | Year 2000 to 2003 |
| 2. Encourage chiefs, community leaders and parents to teach children to respect living things and not to needlessly kill animals. | Extension and Information Section of the Environment Unit | Produce and distribute information materials for this target group. | On going |
| 3. Review content of the school curriculum to ensure the focus is on local and national environments, indigenous flora and fauna and local and national environment management issues. | Education Department and CDC | New school materials should emphasise knowledge of Vanuatu's species and environments. Wherever practical English and French names of plants and animals should be included and information provided on their use . | On going |
| 4. Nature studies should be a core subject in teacher training programmes at both a primary and secondary level. | Education Department with the Vanuatu Teachers College | Develop appropriate teacher training courses and prepare reference material and class room materials to assist in the delivery of nature studies. | On going |
| 5. Raise community appreciation of the high level of endemism within Vanuatu's biodiversity and the limited distribution of many of these species. | Education/Information Section of the Environment Unit | Prepare appropriate extension programmes and coordinate their delivery | Year 2000 to 2003 |
| 6. Develop new approaches to the delivery of environmental information based on practical demonstration activities, field days and site visits. | Education and Information Section of the Environment Unit | Liaise with skilled extension officers in other departments to develop an appropriate 5 year extension programme. | Year 2000 to 2005 |

Objective 5: Environmental Education, Awareness and Information Sharing

Priority 3: Improve awareness of the invasive risks of introduced species and their movement between islands.

Work leading to the preparation of this strategy noted that few people appreciate the invasiveness of many introduced species, and the risks of moving introduced species between islands in the archipelago. It is important to raise awareness of the threat invasive species make to productive and natural ecosystems within Vanuatu, and to promote greater care in the movement of species, produce and equipment between islands.

| Priority response | Responsibility | Proposed actions | Time Frame |
|---|--|--|------------|
| 1. Promote awareness of invasive species among both rural and urban ni-Vanuatu and discourage the movement of species to islands or areas where they are not already present. | VQIS DARD Environment Unit Forestry Department Fisheries Health | Prepare and distribute additional information materials about introduced species. Liaise to develop an on-going invasive species extension programme. | Year 2001 |
| 2. Raise awareness of the impacts of invasive species on the indigenous biodiversity of Vanuatu's islands. | Environment Unit DARD Forestry Fisheries Culture Centre | Prepare a documentary video about the impacts of introduced species including Gampusia, Poecilia, Tilapia, Mynah Bird, American Rope, Agriculture Rope and Cordia. | 2000 |

Objective 5: Environmental Education, Awareness and Information Sharing

Priority 4: Raise community awareness of the provisions of environmental and natural resource legislation.

There are many environment and natural resource laws that are in place to foster sustainable biodiversity management. Their effectiveness would be improved if there was better community understanding of their provisions and the reasoning behind the laws.

| Priority response | Responsibility | Proposed actions | Time Frame |
|--|--|---|-------------------|
| 1. Promote awareness of environment and natural resource laws and regulations using theatre, video, printed materials and media. | DARD and VQIS Environment Unit Forestry Department Fisheries Department Theatre groups | Prepare and distribute information materials. | Year 2001 onwards |

**VANUATU NASIONAL BIODIVERSITY STRATEJI MO
AKSEN PLAN PROJEK**

**NASONAL STRATEJI BLONG
LUKAOTEM GUD BIODIVERSITY**

Novemba 1999

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Wanem oli stap insaed long ripot

| | |
|---|-----------|
| <i>Fes toktok blong buk ia</i> | 3 |
| <i>Tok Tok Tankyu</i> | 4 |
| <i>Abbreviations</i> | 5 |
| INTRODAKSEN | 7 |
| FROM WANEM GAVMAN I MEKEM RIPOT IA..... | 7 |
| WANEM YUMI BIN WOKEM FASTAEM | 7 |
| WOK BLONG BIODIVERSITY PROJEK | 8 |
| STRATEJI MO AKSEN PLAN..... | 8 |
| BIODIVERSITY LONG VANUATU | 9 |
| BIODIVERSITY LONG OL AELAN | 9 |
| FRESWOTA MO BIODIVERSITY | 9 |
| BIODIVERSITY LONG SOLWORA MO PLES KOLOSAP LONG SOLWORA | 10 |
| BIODIVERSITY STRATEJI | 16 |
| OL OBJEKTIF LONG STRATEJI..... | 16 |
| <i>Protektem mo lukaotem gud biodiversity</i> | 16 |
| <i>Leftemap polisi, planing mo loa blong yumi save lukaotem gud biodiversity</i> | 16 |
| <i>Leftemap save long biodiversity</i> | 17 |
| <i>Bildemap kapasiti blong Vanuatu blong lukaotem gud biodiversity</i> | 17 |
| <i>Leftemap Envaeromental Edukesen, Awenes mo Serem Save</i> | 17 |
| <i>Sapotem patisipesen blong ol lokol komuniti</i> | 17 |
| OL AKSEN PLAN | 18 |
| OBJEKTIF 1: PROTEKTEM MO LUKAOTEM GUD BIODIVERSITY | 18 |
| <i>Objektif 1: Protektem mo lukaotem gud biodiversity</i> | 18 |
| <i>Prioriti 1: Manejem gud wota</i> | 18 |
| <i>Prioriti 2: Kontrol blong ol plant mo animol we oli karem i kam</i> | 20 |
| <i>Prioriti 3: Lukaotem gud moa ol biodiversity we yumi yusum</i> | 21 |
| <i>Prioriti 4: Kastom mo ol tabu ples (Kaljoral heritej)</i> | 23 |
| <i>Prioriti 5: Lukaotem gud ol impoten animol mo plant wetem ol ples</i> | 24 |
| OBJEKTIF 2: LEFTEMAP POLISI, PLANING MO LOA BLONG YUMI I SAVE LUKAOTEM GUD BIODIVERSITY | 27 |
| <i>Prioriti 1: Envaeromen Impakt Asesmen (EIA)</i> | 27 |
| <i>Prioriti 2: Setemap wan long term fund blong pem wok blong biodiversity</i> | 28 |
| <i>Prioriti 3: Loa blong holem taet raet blong save blong wan wan man</i> | 28 |
| <i>Prioriti 4: Loa blong impot mo expot blong ol laef samting</i> | 29 |
| <i>Prioriti 5: Setemap wan Saens Risej Kaonsel</i> | 30 |
| OBJEKTIF 3: LEFTEMAP SAVE LONG BIODIVERSITY | 31 |
| <i>Prioriti 1: Gat wan gud ples blong holem ol infomesen mo koleksen long biodiversity blong Vanuatu</i> | 31 |
| <i>Prioriti 2: Biodiversity monitoring</i> | 32 |
| OBJEKTIF 4: BILDEMAP KAPASITI BLONG LUKAOTEM GUD BIODIVERSITY | 34 |
| <i>Prioriti 1: Impruvum teknikel kapsiti blong ol staff mo tul blong ol dipatmen konsen</i> | 34 |
| <i>Prioriti 2: Setemap envaeromen komiti long wan hae level</i> | 34 |
| <i>Prioriti 3: Trening blong teknikel mo manajemen staf</i> | 35 |
| OBJEKTIF 5: ENVAEROMEN EDUKESEN, AWENES MO OL WOK BLONG SEREM SAVE..... | 36 |
| <i>Prioriti 1: Leftemap mo sapotem tingting blong ol komuniti blong serem save mo experiens blong ol long ol wok blong lukaotem biodiversity</i> | 36 |
| <i>Prioriti 2: Awenes long valiu mo impotens blong biodiversity</i> | 37 |
| <i>Prioriti 3: Impruvum awenes long ol risk blong muvum ol plant o animol long narafala kaontri i kam long Vanuatu o bitwin ol eria long Vanuatu nomo</i> | 38 |



Republic of Vanuatu

Torres Island



Oreanapara

Vantialava

Molalava

TORBA

Gana

SANMA

Santo

Mawa

PENAMA

Malo

Ambas

Pentecost

Malakua

Ambrim

MALAMPA

SHEFA

Efate

Erromango

Aniwa

Tanna

Futuna

TAFEA

Anataym



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WARRANTED.



Fes toktok blong buk ia

Konsevem mo manejmen blong biodiversity long Vanuatu i dipen long ol fasin blong developmen long ol ples blong yumi. Yumi ol manples i dipen bigwan long biodiversity from ol difren kaen yus olsem blong winim mane, yusum long kakae, meresin, wokem haos mo fanis, fidim ol animol, kastom yus, mo narafala samting moa. From ol risen ia hemi wan hae prioritri blong yumi mas konsevem biodiversity long evri level olsem long gavman dipatmen, non-gavman organaesesen, praevet sekta, ol provens mo komuniti. Blong yumi lukaotem gud biodiversity mo daonem ol problem we i stap, hemi impotan se yumi yusum ol fasin we oli no sas mo yumi iet ol manples i save wokem wetem ol manpaoa mo ol risos we yumi gat.

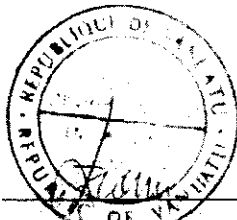
Long bifo i kam, ol man nara kaontri oli kam mo wokem ol strateji mo aksen plan we oli no fitim situesen blong yumi ol man ples, mo fulap taem ol strateji olsem oli no wok gud from we oli folem tingting mo situesen blong ol aotsaed kaontri o ol organaesesen we oli givim mani. From problem olsem, strateji ia hemi simpol nomo mo isi blong yumi ol man ples i save wokem ol aksen plan we oli stap long hem.

Strateji ia hemi haelaetem six impotan objektif blong wok folem mo ajvivim blong yumi save konsevem mo manejem gud biodiversity blong yumi tedei mo i go long fiuja. Ol objektif ia i gat:

- Sastenebol manejmen mo konsevesen blong biodiversity long Vanuatu
- Polisi, planing mo loa blong givhan long manejmen mo konsevesen blong biodiveristy
- Wok blong leftemap save long ol biodiversity long Vanuatu
- Bildemap kapasiti blong wan wan wokman mo ol gavman, non-gavman, praevet, provens mo lokol komuniti blong manejem gud biodiversity
- Blong leftemap save thru long envaeromen awenes thru aot long kaontri blong save impotens mo valiu blong biodiversity blong yumi, mo
- Sapotem mo beldemap ol lokol komuniti blong tek pat long aktiviti o wok blong lukaotem gud biodiversity long Vanuatu.

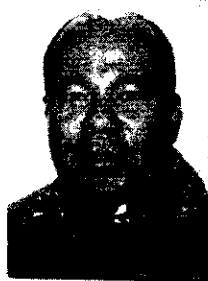
Ol stampa tingting ia i kamaot long ol wok blong "National Biodiversity Strategy and Action Plan Project" we Environment Unit i bin karemaot long yia 1997 kasem 1999. Fulap long ol wok projek i bin mekem long ol aelan mo wetem ol lokol pipol blong ol provens.

Vanuatu Gavman i luk fowad blong wok klosap wetem ol Provens, non-gavman organaesesen, mo ol lokol komuniti blong karemaot ol aksen plan we oli stap long strateji ia.



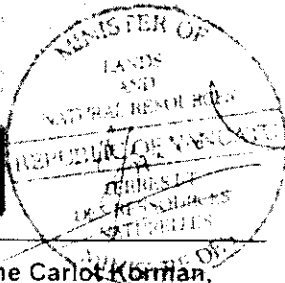
Mr Ernest Dani,

Hed blong Envaeromen Unit



Hon. Maxime Carol Korman,

Minista blong Najoral Risoses, Maens, & Rural Wota Suplae



Tok Tok Tankyu

Bigfala toktok blong tank yu i ko long ol organaesesen, ol dipatmen blong Vanuatu Gavman mo wan wan man mo woman we oli givhan blong NBSAP tim i save wokem biodiversity konsevesen strateji ia. Tok tok tank yu i go tu long wan wan man mo woman we oli givim ol gud tingting blong olgeta long taem blong Provens mo Nasonal biodiversity konsaltesen woksop. Ol dipatmen mo organaesesen ia i gat:

| | |
|--|--------------------------------|
| Forestri Dipatmen | ORSTOM |
| Fiseri Dipatmen | MALAMPA Provens |
| Vanuatu Kwarantini mo Inspeksen Sevis DARD | SANMA Provens TORBA Provens |
| Rural Wota Suplae | PENAMA Provens |
| Dipatmen blong Ekonomik mo Sosol Dipelopmen | SHEFA Provens TAFEA Provens |
| Kaljoral Senta | APFT Projek |
| Statistik Ofis | |

Toktok tank yu tu i ko tu long ol memba blong Advisori Komiti: Bai George Swua (Kwaratin), Annie Walters (ORSTOM), Delphine Greindl (APFT Projek), Late Jean Paul Batik, Ralph Reganvanu mo Francis Hickey (Kaljoral Senta), Hellen Corrigan mo Sam Chanel (Forestri Dipatmen) Felix Nguyen mo William Naviti (Fiseri dipatmen), Charlie Falau (Wan Smol Bag Theatre), Ernest Bani mo Russell Nari (Environment Unit), Johnson Naviti (Dipatmen blong Ekonomik mo Sosol Dipelopmen), Peter Morris (Ofis blong Statistik), Pita Visser (Rurol Wota Saplai) mo Benedict Wari (VEO).

Tankyu toktok i go tu long 28 pipol we oli bin sanem ol tingting i kam blong stretem draft strateji.

Bigfala tankyu toktok i go long ol wokman blong Envaeromen Unit, speseli Mr Ernest Bani, Prinsipal Envaeromen Ofisa, wetem Russell Nari, Projek Supavaesa, long ol kontribusen blong tufala long NBSAP Projek. Last fala toktok tank yu i go long ol wokman blong projek ia we oli givim plante taem blong olgeta blong karemaot wok blong Projek mo dipelopmen blong strateji ia:

- * Donna Kalfatak, olsem Projek Kodineta
- * Jenny Whyte, part time Advaes we hemi advaes long ol planing mo wok blong projek
- * Leah Nimoho, olsem Projek Ofisa mo lida blong suvei tim
- * Brian Phillips olsem Projek Trainee mo suvei tim assistent
- * Katrina Sali olsem Projek Administration Assistant

Lasfala tok tok tankyu i go long olgeta we oli bin sapatem projek ia. I go long UNEP from Vatu we oli bin givim blong projek ia i save go hed, long Bird Australia from trening oli bin oganaesem mo long Ministri blong Foren Afea mo Tred mo Dipatmen blong Konsevesen long New Zealand from advaes long freswota suvei.

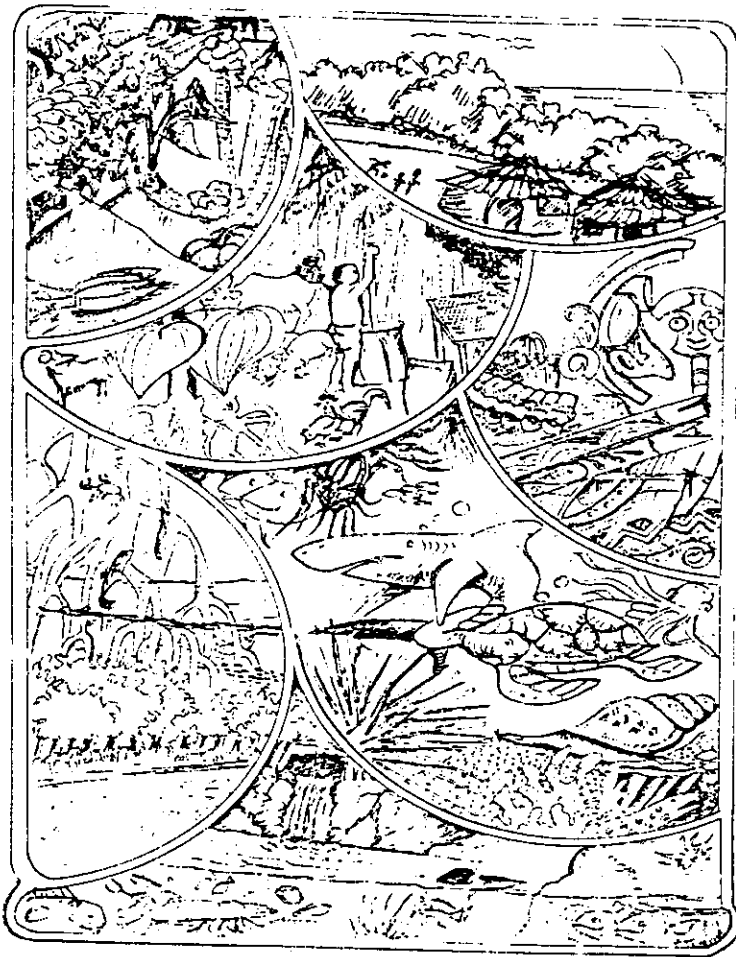
Abbreviations

| | |
|-------|---|
| ACIAR | Senta blong Agrikalja Risej long Australia |
| CBD | Intenasonal Agrimen blong lukaotem Biodiversity |
| CBEMP | Wan projek blong SPREP we hemi blong beldemap save blong pipol blong manejem envaeromen |
| CDC | Curriculum Developmen Centre |
| CITES | Intanasenal Loa blong kontrolem tred blong ol plant mo animol bitwin ol kaontri. |
| COLP | Gaedlaen blong stret fasin blong karemaot wan gud logging long Vanuatu |
| DARD | Dipatmen blong Akrikalja mo Rural Developmen |
| DESD | Dipatmen blong Ekonomik mo Sosol Developmen |
| EEZ | Eria blong solwora we wan wan kaontri i gat raet long hem |
| EIA | Stadi we i tek ples bifo wan developmen i save tek ples long lan o solwora blong mek sua se i no spoelem ol najoral risos mo ol pipol we oli liv raon long eria ia. |
| FSPI | Rijinal ofis blong faondesens blong pipol blong Saot Pasifik |
| LUPO | Landuse Planing Ofis |
| GEF | Wol organaesesen we hemi stap givim mani long evaeromen projek raon long wol |
| NBSAP | Nasonal Biodiversity Strateji mo aksens plan |
| NGOs | Non-gavman organaesesen |
| PGRF | Pasifik forestri projek we gavman blong German i givim mani from |
| PRAP | Pasifik Rijinal Akrikalja Prokram |
| SPBCP | Saot Pasifik Biodiversity Konsevesens Prokram |
| SPC | Saot Pasifik Komisen |
| SPREP | Saot Pasifik Rijinal Envaeromen Prokram |
| SPRIG | Saot Pasifik Rijinal Prokram we i lukluk long ol difren materiol insaed long wan plant |
| UNEP | United Neson Envaeromen Prokram |
| VANGO | Vanuatu Asosiesens blong ol non-gavman organaesesen |
| VCHSS | Vanuatu Kaljoral Historikol Saet Suvei |
| VKS | Vanuatu Kaljoral Senta |
| VNCS | Vanuatu Nasonal Konsevesens Strateji |
| VKIS | Vanuatu Kwarantins mo Inspeksens Sevis |
| VSFUP | Vanuatu Sastenebol Forest Utilisation Projek |

Wanem hemi biodiversity?

Biodiversity i minim ol dif difren kaen laef samting we oli liv, kakae mo gro long ol ples blong ol. Hemia i minim se evri animal mo plant we oli stap mo ol dif difren wan long saes, sep mo kala. Eksampol - olsem pijin oli pijin nomo be i gat ol dif difren kaen; kava emi kava nomo be i gat ol dif difren kaen; fis oli fis nomo be i gat ol dif difren kaen mo i semak wetem ol narafala laef samting too. Biodiversity hemi impotan from we:

- Biodiversity hem stampa blong envaeromen blong yumi.
- Yumi dipen long hem from kakae, merisen, fidim ol animol, wokem haos, mo nara samting moa.
- Hemi stampa blong kastom mo kalja blong yumi.
- Yumi dipen long hem blong winim watu.
- Sapotem laef blong ol narafala plant mo animol.
- Hemi mentenem klimet stabiliti.



INTRODAKSEN

From wanem gavman i mekem ripot ia

Vanuatu gavman i bin saenem agrimen blong CBD (Konvensen blong biodiversity) long 1992 mo i pasem agrimen ia i kam loa long 1993. Andanit long konvensen ia gavman i agri blong wokem ripot long ol wok we i stap gohed long konsevesen mo manejmen blong biodiversity long Vanuatu mo tu blong wokem wan plan blong lukaotem gud ol biolojikel risos blong kaontri. Ripot ia NBSAP Projek tim oli bin preperem finis mo sendem i ko long Ofis blong CBD long Disemba 1997. Buk ia hemi plan blong talemaot wok yumi save wokem blong lukaot gud ol biodiversity long ol yia bae i kam.

Wanem yumi bin wokem fastaem

Long taem finis i kam wan wan aelan blong Vanuatu i gat ol dif difren kaen tradisinal fasin we ol man oli bin yusum blong lukaotem gud mo protektem ol risos blong ol. Fasin olsem ol man ples oli stap praktisim iet, be samfala oli stat blong lus. Hemia from influens blong ol difren kaen sosol mo ekonomik problem mo ol niufala fasin blong laef mo wok we i kam insaed long ol aelan blong yumi tedei. Kam kasem tedei, i nogat wan stadi blong soemaot se ol tradisinal fasin blong konsevem ol risos i bin wok gud mo ol i wok olsem wanem.

Independens kam kasem tedei i gat tu ol prokram mo projek we ol gavman, non-gavman mo praevet sekta oli bin karemaot we oli givhan blong lukaotem gud envaeromen mo biodiversity blong kaontri. Fulap wok olsem we hemi bin kohed finis i bin bes long wok prioriti blong wan wan ofis, mo oli bin luk hevi nomo long ol animol mo plant we yumi yusum blong winim watu. I no olgeta we oli impoten from envaeromen o laef blong yumi ol man ples.

Folem saening blong CBD Vanuatu hemi bin karemaot ol rijinal prokram we oli leftemap fasin blong manejem gud biodiversity blong yumi. Kaen prokram olsem i gat:

- "State of the Envaeromen Project" we Envaeromen Unit mo Statistiks Ofis tufala tugeta oli karemaot. Hemia i blong karem wan ples ol save blong kwaliti blong wota, graon mo ea mo ol sosol envaeromen blong yumi, mo luk save se oli jenis olsem wanem long ol yia bae oli kam.
- "Environmental and Education Awareness Project", we i bin pasem save long saed blong envaeromen i go long ol skul tija, ol jioj lida, ol NGOs mo media.
- "Environment Bibliography Programme" we i helpem yumi blong lukaotem gud ol buk mo ripot blong envaeromen mo kodinet gud wetem ol nara Pasifik aelan kaontri.
- SPBCP we i wok wetem ol man blong Matantas mo Sara vilej long Santo blong manejem ol risos mo envaeromen blong olgeta mo sem taem mekem turis mo lukaotem gud.
- VSFUP we i preparem COLP mo bildimap Forestri Dipatmen blong i save lukaot se logging i no spoelem envaeromen tumas.
- SPRIG we FSPI mo Forestri Dipatmen oli karemaot. Projek hemi bin luk long ol impoten tri blong yumi mo karem plante tingting blong wokem plan blong lukaotem gud olgeta.
- SPC/PGRF projek we i promotem agroforestri (o fasin blong plantem kakae mo timba tugeta) mo soemaot hao blong yusum ol lokol fasin blong manejem logging.
- PRAP hemi promotem ol fasin blong karem kakae long karen blong yumi be save yusum wan smol pis kraon plante yia.
- ACIAR Troka Projek we i pasem save blong lukaotem ol smosmol troka mo putum bak olgeta i ko bakaken long ol rif we klosap evriwan i lus.

Wok blong biodiversity projek

Long 1997 kasem 1999 Nasonal Biodiversity Strateji mo Aksen Plan (NBSAP) projek i bin wok blong leftemap sam save long yumi long biodiversity blong Vanuatu mo sem taem i helpem yumi blong luk save wanem wok yumi mas mekem blong yusum stret mo manejem ol biodiversity we i stap. Hemia nao ol wok we projek i bin karemaot:

- Karem i kam wan ples ol save, buk mo ripot long saed long ol wael laef, bus mo solwora blong Vanuatu.
- Mekem stadi long ol samting we i laef long riva mo ples kiosap long riva mo tu long ol bigfala maonten.
- Holem ol woksop blong kasem tingting mo save long ol man mo woman long evri Provens long Vanuatu.
- Holem wan wan woksop blong luk save tradisinal fasin blong lukaotem ol risos mo kasem tingting olsem wanem yumi save mekem fasin olsem i kam strong moa.
- Luk save inkris long expot blong ol blak palm blong Ambrym.
- Luk luk long ol loa mo nara wok we i save helpem yumi blong lukaot gud ol biodiversity long evri aelan long Vanuatu.
- Yusum ol save mo ting ting we i kam from ol wok ia blong mekem wan aksen plan blong talem kliia wanem wok yumi mas mekem blong yusum biodiversity long wan waes fasin mo lukaotem gud long ol yia bae i kam.

Ofis blong Envaeromen i holem ol ripot blong ol wok blong Projek we oli sapotem tingting we i stap insaed long asken plan ia. Hemia ol ripot olsem:

- 'Vanuatu Biodiversity Literature Report'
- Ol fil wok ripot
- Ol ripot folem ol konsaltesen woksop wetem wan wan provens mo ol dipatmen
- Ripot blong kastom fasin blong lukaotem ol risos long Pentecost
- Ripot blong blak pam mo bredfrut long Ambrym
- Ripot blong ol sosol mo ekonomik valiu blong biodiversity long Vanuatu

Strateji mo aksen plan

Wan strong tingting we i kam thru long ol wok blong Projek ia hemi se ol wok we yumi putum long aksen plan i mas kliia, i mas stret long ting ting mo kalja blong ol man Vanuatu, mo i mas ol kaen wok we yumi nomo i luk save nid blong hem, mo save manejem mo wokem.

BIODIVERSITY LONG VANUATU

Biodiversity long ol aelan

Ol aelan blong Vanuatu oli yang bitim ol kaontri we oli stap klosap (olsem Solomon Aelan mo Niu Kaledonie), fulap long ol aelan blong yumi oli smol lelebet mo yumi gat fulap disturbans olsem hariken mo volkeno. Trifala samting ia i givim strong tingting se Vanuatu i nogat plante biodiversity olsem i stap long tufala kaontri ia. Nomata se ol difren kaen kaen plant mo animol oli no plante, tufala ripot blong Projek ia "Vanuatu Biodiversity Literature Report", mo "The socio-economic value of biodiversity in Vanuatu" i soem klia se ol biodiversity we i stap i impoten tumas:

- from we yumi nidim tumas: olsem kakae, faeawud, merisen, wokem haos mo fanis, fidim ol animol, yusum long saed blong kastom mo ol narafala samting moa.
- from we oli laef long wan wan ples blong yumi nomo.
- from we yumi yusum blong winim watu long ol.
- from we oli impoten insaed long kastom blong wan wan komuniti

Wok blong projek i bin soem tu se biodiversity blong yumi i stap long denja from we:

- i gat plante plant mo animol we yumi yusum bitim ol nara wan, mekem se namba blong ol i ko daon.
- yumi spoelem plante biodiversity folem ol dif difren fasin blong developem ples.
- mo from yumi lusum kastom respek we yumi bin gat bifo.

Freswota mo biodiversity

Projek hem i bin lukluk hevi long ol biodiversiti long ol riva, leik ,mo swamp from we i no bin gat fulap save long hem fastaem, mo from fulap difren kaen animol mo plant inkludum yumi man i dipen bigwan long hem.

Wok ia i bin luk se freswota sistem olsem riva, leik, mo swamp i smosmol olbaot mo i no plante. Long ol aelan olsem Aneityim mo Eromango ol riva oli gud i stap. Be long fulap nara aelan freswota i nomo klin olsem bifo o i ko drae from we:

- i gat tumas kliaring long bus klosap long ol riva, leik mo swamp.
- yumi no lukaotem gud ae blong wota o "katjmen" blong hem.
- long sam ples yumi yusum ol land mo kliarem bus bitim mak blong wokem karen, plantesen mo lukaotem ol buluk. Hevi yus olsem i mekem wota i toti long taem blong hevi ren; i save kilim ol animol we oli liv insaed long wota; mo tu oli mekem level blong wota i ko daon we i mekem se sam ples oli nogat wota saplae long taem blong drae sisen.
- long wan wan aelan oli karemaot wota long riva mo krik i ko long ol karen wota taro bitim mak mekem se riva i nomo save ron.
- ol man oli no lukaotem gud ol buluk mo pig blong olgeta mekem se oli save spoelem ol ae blong wota wetem ol riva.

Wok ia i luk tu se i gat sam fis we i no bin stap long Vanuatu bifo we yumi bin karem i kam long narafala kaontri mo putum long ol riva blong yumi. Long ol ples we kaen fis ia i stap, i bin gat ol fis ia nomo. Ol nara fis i no save laef wetem olgeta.

Biodiversity long solwora mo ples kolosap long solwora

Solwora i wan big pat blong biodiversity blong Vanuatu from we solwora blong yumi i bigwan bitim graon blong yumi. EEZ (we hemi eria blong solwora we wan wan kaontri i gat raet long hem) i kavremap samwe 200 miles i ko aot we i gat insaed long hem ol natongtong, si kras, lakun, korel rif mo dip solwora.

Fulap ol vilej mo taon blong yumi oli stap long ol ples we oli flat lelebet klosap long solwora, mo ol man oli kakae mo salem fulap fis, selfis mo ol nara animol aot long solwora. Ol eria klosap long solwora olgeta tu oli yusum plante long saed blong subsistans mo ol komesel akrikalja aktiviti. Ol infrastrukja blong yumi (ol rod, o elektrik paos, ol pot mo eapot, ol hospital, etc) olgeta tu i stap long kostal eria.

Ol ples olsem i save kasem hevi damej folem hariken o taedal wev. Ol biodiversity sistem olsem ol natongtong mo si kras oli save protektem graon mo ol ples blong yumi long oltaem olsem.

Projek ia i bin luk se ova havesting emi kamap olsem wan problem blong ol biodiversity long solwora. Problem ia i kam antap:

- folem ol niu havesting teknoloji olsem yus blong ol smosmol net mo daeva long naet.
- folem inkris long populesen long ol kostal eria we i mekem se nid blong karem ol risos blong solwora i kam bigwan moa blong kakae mo tu blong salem.
- from we yumi lusum kastom respek we yumi bin gat bifo.
- ol pipol i no folem ol fiseri loa we oli stap blong lukaotem ol risos blong solwora.

Long ol pej daon i gat ol nem blong wan wan plant, animol o ples we projek i bin luk se oli impoten.

- a) from we oli laef long Vanuatu nomo mo i nogat long ol nara ples long wol
- b) from we yumi dipen bigwan long olgeta long laef blong yumi
- c) from we oli pat blong kastom mo kalja blong yumi
- d) from we namba blong ol i go daon finis, from yumi no bin lukaotem gud olgeta
- e) from we long wol i gat fraed se maet oli lus from yumi no lukaotem gud olgeta

Bihaen i haelaetem wan wan eksampol long ol problem we i stap tedei long wan wan provens blong yumi. Strateji ia i blong soemaot wanem yumi save mekem blong daonem ol problem ia blong lukaotem gud biodiversity we i stap long graon, solwora mo freswota.



Korel rif i ples blong fulap difren kaen fis mo ol nara animol we oli liv long solwora.

OL ANIMOL, PLANT MO PLES WE OLI IMPOTAN LONG BIODIVERSITY BLONG VANUATU

Sam animol we i impotan blong lukaotem gud olgeta

| Ol animol we oli stap long Vanuatu nomo | Ol animol we ol i impoten tumas long laef blong yumi | Ol animol we yumi no bin lukaotem gud mekem se namba blong ol i ko daon | Ol animol we i gat fraed se maet oli lus. |
|---|--|---|---|
| 5 freswota fis (<i>Stenogobius sp.</i> , <i>Sicyopterus sp.</i> , <i>Sicyopus sp.</i> , <i>Stiphodon sp.</i> , <i>Vivineala prythotigris</i>) | Grin snel (<i>Turbo marmoratus</i>) | Bubu sel (<i>Charonis tritonis</i>) | Bubu sel (<i>Charonis tritonis</i>) |
| Bataflae (<i>Polyura sacco</i>) | Koroliko (<i>Puffinus pacificus</i>) | Flaen fokis (<i>Pteropus spp</i>) | Frut bat (<i>Chaerephon bregullae</i>) |
| Flaeng Fokis blong Banks(<i>Pteropus fandatus</i>) | Krab kokonas (<i>Birgus latro</i>) | Grin snel (<i>Turbo marmoratus</i>) | Grin Pam Lorikeet (<i>Chamosyna palmarium</i>) |
| Grin lised (<i>Emoia sanfordi</i>) | Namalao (<i>Megapodius freycinet</i>) | Krab Kaledoni | Hok (<i>Falco peregrinus</i>) |
| Lised (<i>Cryptobhepharus novohebridicus</i>) | Namarae blong freswota (<i>Anguille spp</i>) | Krab kokonas (<i>Birgus latro</i>) | Kaofis (<i>Dugong dugon</i>) |
| Lised (<i>Emoia aneityumensis</i>) | Namwimba (<i>Ducula pacifica</i>) | Namalao (<i>Megapodius sp.</i>) | Krab kokonas (<i>Birgus latro</i>) |
| Lised (<i>Emoia nigromarginata</i>) | Naora (<i>Panulirus penicillatus</i> , <i>Paribacus caledonicus</i>) | Naora | Krokodael (<i>Crocodylus porosus</i>) |
| Lised (<i>Emoia speiseria</i>) | Naora blong freswota (<i>Macrobrachium spp.</i>) | Natalae (<i>Tridacna spp</i>) | Lized blong Fiji long Mele Maat (<i>Brachylophus fasciatus</i>) |
| Lised (<i>Perochirus guendheri</i>) | Natalae (<i>Tridacna spp.</i>) | Nawimba (<i>Ducula pacifica</i>) | Namalao (<i>Megapodius freycinet</i>) |
| Mataweli (<i>Aplonis santovestris</i>) | Nawimba blong hill (<i>Ducula bakeri</i>) | Nawimba blong hil (<i>Ducula bakeri</i>) | Natalae (<i>Hippopus hippopus</i>) |
| Namalao (<i>Megapodius freycinet</i>) | Ol flaen foks (<i>Pteropus spp</i>) | Ol land krab | Nawimba blong hil (<i>Ducula bakeri</i>) |
| Naora blong freswota (<i>Macrobrachium sp.</i>) | Ol krab | Ol totel (<i>Chelonidae spp</i>) | Ol flaen fokis (<i>Pteropus spp</i>) |
| Narave pig | Ol selfis | Si-kukamba | Ol totel (<i>Chelonidae spp</i>) |
| Nawimba blong hill (<i>Ducula bakeri</i>) | Ol totel (<i>Chelonidae spp</i>) | Troka (<i>Trochus niloticus</i>) | Pijin (<i>Gallicolumba sanctaecrucis</i>) |
| Petyea (<i>Myeomeia cardinalensis</i>) | Pijin blong solwota (<i>Puffinus lberminieri gunax</i>) | Nasisa blong freswota (<i>Neritid spp -Arsih</i>) | Royal parrotfinch (<i>Erythrura cyaneovirens</i>) |
| Red Nasiko (<i>Halcyon farquhari</i>) | Troka (<i>Trochus niloticus</i>) | | |
| Vanuatu flae katja (<i>Neolalage banksians</i>) | Wael faol (<i>Galus galus</i>) | | |
| Waet bel Nalaklak blong hil (<i>Phylitonyris notabilis</i>) | | | |
| Waet Flaeng Fokis (<i>Pteropus anetianus</i>) | | | |
| Yelo nalaklak (<i>Zosterops flavifrons</i>) | | | |
| Land snel (<i>Patula spp.</i>) | | | |

Oi plant we i impotan blong lukaotem gud olgeta

| Oi plant we oli gru long Vanuatu nomo | Oi plant we oli impoten long laef blong yumi | Oi plant we i gat fraed se maet oli lus |
|--|---|--|
| Loeaken (<i>Calamus vanuatuensis</i>) | Bambu (<i>Bambusa sp.</i>) | Kauri (<i>Agathis macrophyllum</i>) |
| Loia ken (<i>Calamus vanuatuensis</i>) | Blak pam (<i>Cyatheaceae spp</i>) | Kauri (<i>Agathis silbae</i>) |
| Nabanga (<i>Ficus granatum</i>) | Evri kaen fruit tri | Namele (<i>Cycas seemannii</i>) |
| Navenue (<i>Macaranga megacarpa</i>) | Kava (<i>Piper methysticum</i>) | Natangura (<i>Metroxylon warburgii</i>) |
| Oi okid flaoa (<i>Orchidaceae spp</i>) | Natangura (<i>Metroxylon sp.)</i> | Nut (<i>Canarium harveyi</i>) |
| Pam tri (<i>Carpoxyton macrospermum</i>) | Oi kakae (yam, wael yam, taro, wota taro, kumala) mo evri difren kaen blong ol. | Oi okid flaoa (<i>Orchidaceae spp</i>) |
| Pam tri (<i>Caryota ophiopellis</i>) | | Pam tri (<i>Carpoxyton macrospermum</i>) |
| Pam tri (<i>Clinostigma harlantii</i>) | Oi plant we yumi yusum long kastom meresin | Pam tri (<i>Clinostigma harlantii</i>) |
| Pam tri (<i>Cyphosperma voutmelense</i>) | Oi tri blong wokem haos, fanis, mo kenu | Pam tri (<i>Cyphosperma voutmelensis</i>) |
| Pam tri (<i>Licuala cabalionii</i>) | Pandanus (<i>Pandanaceae spp</i>) | Pam tri (<i>Gulubria cylindroncarpa</i>) |
| Pam tri (<i>Neoveitchia brunnea</i>) | Wael ken (<i>Saccharum spp</i>) | Pam tri (<i>Heterospathe uniformis</i>) |
| Pam tri (<i>Physokentia tete</i>) | Namele (<i>Cycas spp</i>), Nangaria | Pam tri (<i>Licuala cabalionii</i>) |
| Pam tri (<i>Veitchia spp.</i>) | Wael kabis | Pam tri (<i>Neoveitchia brunnea</i>) |
| Santo Kauri (<i>Agathis sibae.</i>) | | Pam tri (<i>Pelagodoxa henryana</i>) |
| Tamanu (<i>Callophillum neo ebudica</i>) | | Pam tri (<i>Physokentia tete</i>) |
| Yam (<i>Dioscorea hebridensis</i>) | | Pam tri (<i>Veitchia spp.</i>) |
| | | Sandal wud (<i>Santalum austrocaledonicum</i>) |
| | | Snek-skin pam (<i>Caryota ophiopellis</i>) |



Okid flaoa (*Orchidaceae sp.*) we i stap gro nomo long dak bus antap long ol hil.

Ol ples we i impotan blong lukaotem gud olgeta

| Ol ples we oli impoten tumas | Ol ples we oli kasem damej from yumi yusum tumas o divelopem ples | Ol ples we i gat fraed se maet oli kam nogud olgeta sapos yumi no lukaot gud |
|---|--|--|
| <p>Ol kev blong bat long Vanua Lava, Malo, Santo, NW Malekula mo Efate.</p> <p>Natongtong long Efate, Malekula, Santo mo Vanua Lava.</p> <p>Ples blong ol kokonas krab long Hiu, Loh mo Tegua long Torres.</p> <p>Leik Letas long Gaua mo ol ples klosap long hem.</p> <p>Petaview wotafol long Epi mo ol leik long bus.</p> <p>Ol riva long Maewo, Tanna, Vanua Lava, Efate mo Epi.</p> <p>Krik Ai long Efate</p> <p>Bus (undisturbed forest) klosap long Homo Bay mo Ranwas long Saot Pentecost.</p> <p>Ples blong flaen fokis long Mota Lava</p> | <p>Ol natongtong</p> <p>Ples blong ol krab kokonas</p> <p>Ol riva blong Tanna, Efate, Pentecost, mo fulap nara ples.</p> <p>Ples blong si-kras long Efate, Malekula mo Santo.</p> <p>Bus long Tanna</p> <p>Bus long fulap aelan</p> <p>Sanbij long Mele Bay/Blak Sand eria mo Samoa Point.</p> | <p>Ples blong kokonas krab</p> <p>Natongtong</p> <p>Ol riva long Tanna, mo Maewo.</p> <p>Bus long Saot Pentecost.</p> <p>Petaview wotafol long Epi mo ples klosap long hem.</p> <p>Ol kev blong ol bat</p> <p>Ples blong si-kras long Efate, Malekula mo Santo.</p> <p>Ol ples blong pijin blong solwora</p> |



Natongtong long Selva riva, Vanua Lava. Natongtong hemi protektem ol smosmol fis blong liv mo gro i kam bigwan bifo oli muv i go long bigfala open wota, tu i ples blong ol nara animol olsem pijin, lizet mo ol narafala animol moa.

PROBLEM long wan wan Provens

Tebol ia i soem samfala problem we i bin kam ap long ol provincial konsaltesen woksop.

| Provens | Ol problem |
|---------|--|
| TORBA | <p>Populesen i ko antap tumas mekem se pipol oli ova yusum ol najoral risos.</p> <p>Ol pipol oli nogat respek long saes limit/kastom tabu long ol risos.</p> <p>Plante yus blong lokol fis poisen.</p> <p>Wota i sot long drae sisen.</p> <p>Nogat gud koperesen long komuniti mo ol lida blong lukaotem gud envaeromen.</p> <p>Fasin we i kam aotsaed, i mekem manples oli lusum respek long ol lida .</p> <p>Fasin blong wantem moa mani i mekem pipol oli havestem fulap biodiversity mo spoelem ples blong ol.</p> <p>Mekem bus faea i spoelem biodiversity.</p> <p>Marin risos i ko daon folem yus blong ol niu fasin blong kasem fis.</p> <p>Aotsaed investa oli havestem ol si-kukumba.</p> <p>Kokonas plantesen, buluk projek, mo pepa karen oli tekem fulap spes.</p> <p>Cordia plantesen (west Vanua Lava).</p> |
| SANMA | <p>Ol man oli nomo gat respek long ol lida blong komuniti.</p> <p>Tumas kokonas plantesen i tekemap bigfala eria.</p> <p>Logging kampani i spoelem ples mo wael laef.</p> <p>Ol buluk projek i tekemap bigfala ples.</p> <p>Fasin blong karem graon blong bildim rod i spoelem ples.</p> <p>Kava i tekemap tumas graon.</p> |
| PENAMA | <p>Wota long krik mo riva i stap go daon.</p> <p>Namba blong sam risos long solwora i stap go daon.</p> <p>Ol man oli nomo gat respek long ol jif.</p> <p>Ol man oli bonem tumas kras mo wud, mo plante oli mekem bus faea.</p> <p>Populesen i kam antap.</p> <p>I nogat inaf envaeromen awenes mo save long envaeromen mo biodiversity.</p> <p>Pipol oli sakem toti long ol leik mo solwora.</p> <p>Infrastrakja developmen i spoelem ples.</p> <p>Ol man oli yusum ol niufala tul blong kasem fis.</p> <p>Cordia plantesen (Pentecost, Maewo m Ambae).</p> <p>Fis we ol man oli putum (Gambusia mo Poecilia sp.) long ol riva long Maewo.</p> <p>From ol i karemaot fulap sanbij solwota i stap kam soa .</p> <p>Ol man ol i spoelem ol ples blong waellaef, especially ol nabanga.</p> <p>Ol pikinini ol i yusum elastik o katapult blong sutum ol animol mo pijin olsem wan plei plei.</p> <p>Ol niu teknik wea ol man ol i yusum blong kasem flaien fokus mo pijin.</p> <p>Ol man ol i yusum ol poison liif blong kasem ol naora blong freswota.</p> <p>Ol kliaring i spoelem wota blong Lake Waimemea.</p> |

| Provens | Ol problem |
|---------|---|
| MALAMPA | <p>Kam kasem tedei oli kliarem tumas bus.</p> <p>Ova havesting from yus blong lokol fising poisen mo ol niu fasin blong kasem fis.</p> <p>Wota i sot o wota level i ko daon long taem blong drae sisen.</p> <p>Plantesen blong ol timba tri i tekemap bigfala eria.</p> <p>Ol man oli mekem bus faea o bonem bigfala bus blong wokem karen.</p> <p>Ol man oli nogat respek long ol lida mo wan wan memba blong ol komuniti.</p> <p>Stael blong wokem bigfala karen.</p> <p>Ol Cattle projek, wetem kava, kakao mo kokonas i tekemap bigfala eria.</p> <p>Populesen i ko antap.</p> <p>Ol african snel oli spoelem ol aelan kakae.</p> <p>Bebet i damejem lif blong aelan kabis mo navel.</p> <p>Ol man oli spoelem natongtong.</p> <p>Toti blong volkeno i spoelem ples</p> <p>Soel erosen long Paama.</p> |
| SHEFA | <p>Level blong riva i stap ko daon mo wota i sot.</p> <p>Dak bus i stap lus.</p> <p>Ol marin risos i stap ko daon.</p> <p>Populesen i stap ko antap.</p> <p>Ol man oli mekem bus faea.</p> <p>Logging i stap spoelem ples.</p> <p>Bigfala buluk mo pig projek, wetem oli letem ol buluk mo pig i spoelem ples.</p> <p>Bigfala kokonas plantesen i tekemap bigfala eria.</p> <p>Ol man oli nogat respek long ol komuniti lida mo wan wan komuniti.</p> <p>Kliarem tumas ples klosap long riva.</p> <p>Ol fis olsem Gambusia mo Poecilia sp. we oli bin karem i kam oli kam ol mein fis long riva blong Marona.</p> |
| TAFEA | <p>Wota saplae mo riva i ko daon.</p> <p>Populesen i ko antap.</p> <p>Ol animol mo plant we oli karem i kam ovasi olsem agrikalja rop, elafant kras, Gambusia, Tilapia (<i>Oreochromis sp.</i>), Cordia, Indian Myna Bird (<i>Acridothera tristis</i>), aquatic plant (<i>Salvinia sp.</i>) i spoelem biodiversity.</p> <p>Ol man oli nogat respek long ol tabu blong envaeromen.</p> <p>Long Tanna oli kliarem tumas ples blong wokem karen mo oli kliarem klosap tumas long ol riva.</p> <p>Ol man oli mekem bus faea .</p> <p>Kokonas, coffee plantesen mo buluk projek oli tekemap fulap graon mo plante taem oli spoelem ol tabu ples, wota sos mo bus.</p> <p>Ova havesting blong ol fis mo selfis folem fasin blong yusum fis poisen mo ol niu fasin blong kasem fis.</p> <p>From ol man oli wantem moa Vatu oli ova yusum ol risos.</p> <p>Soel erosen long Aneityum.</p> |

BIODIVERSITY STRATEJI

Stampa tingting

1. Stampa blong strateji ia i blong yumi ol man Vanuatu thru long ol gavman, provens mo komuniti i save lukaotem gud ol laef risos blong yumi. Hemia i blong hol'em taet envaeromen, speseli we hemi stampa blong histri mo Kaljoral blong ol ni-Vanuatu bifo kasem naoia. [heritej]
2. blong gaedem yumi long stret fasin blong yusum ol risos we oli stap laef long ol ples blong yumi blong yumi no daonem/spoalem/lusum olgeta long ol yia bae i kam iet. [sastenebol manejmen]
3. blong luksave se evriwan inkludum fiuja jeneresen i save kasem ol risos ia olsem oli nidim. [fea sea]
4. Mo blong protektem ol man Vanuatu blong onem mo yusum ol risos ia.

I gat fulap rod yumi save folem blong lukaotem gud ol biodiversity long Vanuatu. Aksen plan ia i givim prioriti long olgeta we oli mitim nid blong ol pipol, we oli no sas tumas, mo we i luk se oli stret long ol komuniti blong yumi i save karemaot.

Ol objektif long strateji

Protektem mo lukaotem gud biodiversity

1. Lukaotem gud ol plant mo animol mo ples blong ol blong gudfala yus blong ol risos ia i save gohed mo givim benefit long yumi tedei mo long fiuja jeneresen.
2. Daonem ol problem we lukluk i stap se oli save spoalem biodiversity we i stap tedei.
3. Hol'em taet ol risos we oli blong Vanuatu.
4. Lukaotem gud ol risos we oli stap long denja from maet oli lus.

Leftemap polisi, planing mo loa blong yumi save lukaotem gud biodiversity

1. Evri plan, loa mo polisi blong gavman i mas save impotens mo valiu blong biodiversity.
2. Blong ol gavman mo praevet aktiviti mo developmen long Vanuatu i folem wan stret fasin blong no spoalem biodiversity we i stap long kaontri.
3. Blong ol loa mo polisi blong gavman i sapotem raet blong wan wan jif mo komuniti blong lukaotem gud ol risos long graon blong ol pipol blong hem.
4. Luk save raet blong ol manples long ol save we oli gat long wan wan laef risos long ples blong ol.
5. Faenem ol fund yumi nidim blong mekem wok blong lukaotem gud biodiversity.

Leftemap save long biodiversity

1. Leftemap save blong yumi long biodiversity we i stap long Vanuatu blong helpem yumi blong faenem stret fasin blong lukaotem gud wan wan plant mo animol.
2. Kasem save long ol jenis we i tek ples wetem biodiversity, mo olsem wanem yumi save wok blong manejem gud.
3. Lukim sapos ol konsevesen prokram/projek oli bin wok gud o nogat.

Bildemap kapasiti blong Vanuatu blong lukaotem gud biodiversity

1. Leftemap teknikel kapasiti blong yumi blong lukaotem gud biodiversity long saed blong skil blong wan wan wokman mo ol teknikel risos we yumi nidim, mo long level blong gavman, provens mo komuniti.
2. Bildemap save blong ol lokol risos pipol blong wok blong oli save kam strong mo gud moa.
3. Sapotem strong patisipesen blong ol lokol komuniti blong karemaot ol prokram blong sastenebol manejen blong ol laef risos blong yumi.
4. Divelopem ol lokol o nasonal sos blong fund blong pem ol wok mo prokram blong manejem mo lukaotem ol laef risos .
5. Faenem sapot from ol nara kaontri mo divelopmen projek we yumi nidim blong karemaot wan wan wok insaed long strateji ia.
6. Sapotem ol kastom fasin blong lukaotem biodiversity we oli stap finis mo olgeta we oli wok.

Leftemap Envaeromental Edukesen, Awenes mo Serem Save

1. Leftemap envaeromental edukesen long ol skul
2. Bildemap tingting blong wan wan man long saed long biodiversity long ples blong hem.
3. Sapotem fasin blong wok tugeta mo serem save bitwin wan wan sekta, wan wan dipatmen mo wan wan komuniti long konsevesen mo waes yus blong ol najoral risos.

Sapotem patisipesen blong ol lokol komuniti

1. Sapotem ol jif, ol lokol komuniti, wetem ol pipol we oli onem mo yusum ol laef risos, blong oli wok tugeta mo manejem gud ol laef risos.
2. Luksave, bildemap mo sapotem strong raet mo kastom blong ol man ples blong lukaotem gud mo yusum biodiversity long stret fasin.
3. Involvem ol man ples insaed long ol wok blong leftemap save blong biodiversity mo ol wok blong lukaotem gud.
4. Bildemap gud ol grup blong komuniti we oli stap mekem disisen blong ol.

OL AKSEN PLAN

Objektif 1: Protektem mo lukaotem gud biodiversity

Stampa ting ting blong objektif ia i blong:

1. Lukaotem gud ol plant mo animol mo ples blong ol blong gudfala yus blong ol risos ia i save gohed mo givim benefit long yumi tedei mo long fiuja.
2. Daonem ol problem we lukluk i stap se i save spoelem biodiversity we i stap.
3. Holem taet ol risos we oli stap long Vanuatu nomo.
4. Lukaotem gud ol risos we oli stap long denja from maet oli lus.

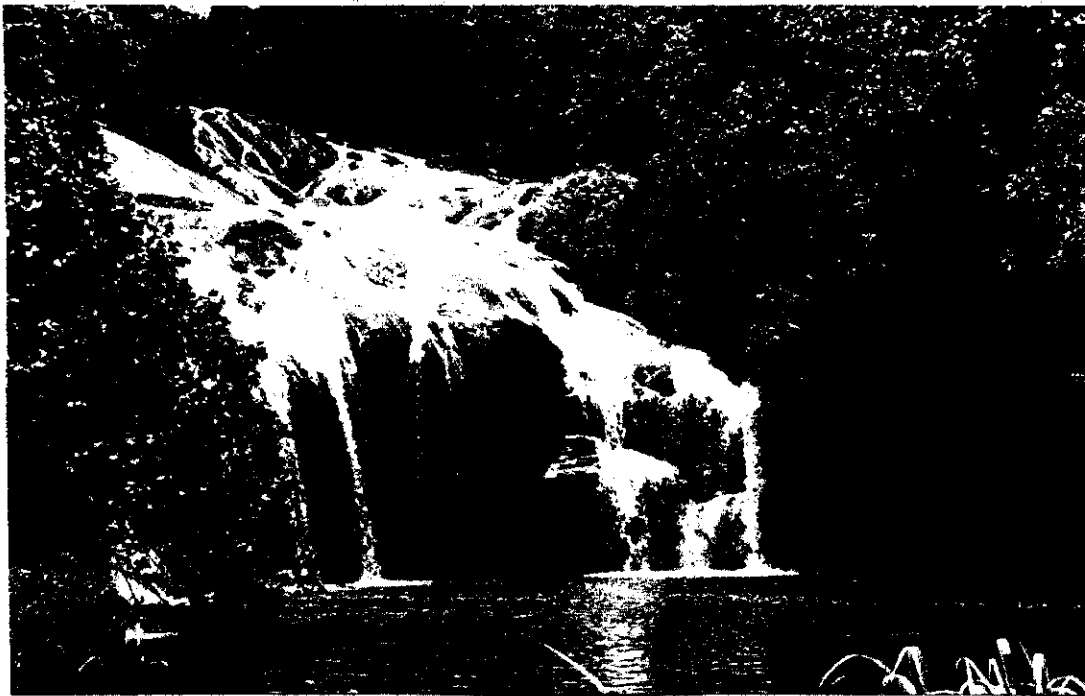
Objektif 1: Protektem mo lukaotem gud biodiversity

Prioriti 1: Manejem gud wota

Ol tingting we i kamaot long ol konsaltesen woksop wetem ol fil wok i soem klia se tedei i no gat respek long ol freswota sistem nomata se yumi mo evri laef risos i dipen long wota. Tedei interes blong wan wan lanona i kam antap bitim interes blong komuniti mo envaeromen blong hem, mo samting ia i gat tumas impakt long saed blong ol freswota risos. Projek i bin luk tu se ol wok ovasis i soem se yu save yusum freswota sistem olsem wan skel blong mesarem kwaliti blong envaeromen.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|--|--|----------------------|
| <p>1. Leftemap komitmen mo kapasiti blong wan wan jif, komuniti mo lanona blong lukaotem gud ol wota katjmen long eria blong ol mo blong impruvum koperesen blong ol thru long</p> <ul style="list-style-type: none"> • extensen mo trening • demonstresen projek long evri provens • preparesen blong ol infomesen materiol | <p>Envaeromen Unit Dipatmen blong Jioloji mo Maens Provens Foresri</p> | <p>Lukaotem fund blong wan 3 yia projek blong wok wetem ol pipol blong leftemap save blong stret fasin blong lukaotem gud ol riva, leik mo ae blong wota. (Hemi gat wok tu blong planem tri long ol ples we oli bin lus festaem mo lus blong oli spoelem wota) Appendix 1.</p> | <p>3 yia projek</p> |
| <p>2. Bildem tingting blong i go long ol nasonal loa blong mentenem kwaliti mo saplae blong wota:</p> <ul style="list-style-type: none"> • ol katjmen wota yus plan • manejem wok blong karemaot wota long wan wan riva o ae blong wota • panisim ol pipol we oli sakem toti o wokem ol nara samting we i spoelem freswota • manejem kliaring i no ko klosap tumas long ol riva, lek mo swamp. | <p>Dipatmen blong Jioloji mo Maens Ofis blong Loea blong Gavman Tufala Munisipal Publik Woks Provens Forestri DARD</p> | <p>Wok wetem ol dipatmen mo komuniti konsen blong preperem ol plan blong lukaotem gud yus blong wota mo enfosem loa blong manejem wota.</p> | <p>Yia 2000 i go</p> |

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|--|--|--|
| 3. Setemap ol monitoring prokram long wan wan aelan blong leftemap save blong freswota mo kwaliti blong ol. | Envaeromen Unit wetem Dipatmen blong Jioloji mo Maens | Gat wan permanent posisen blong biologist insaed long Envaeromen Unit blong kodinetem ol stadi olsem. Go ahed wetem wok blong identifiaem ol animol o plant we yumi save yusum ol blong mesarem kwaliti blong wota. Setemap wan netwok blong provaedem ol dipatmen konsen wetem wota kwaliti data. | Karem sapot blong gat posisen long yia 2000 budget. Yia 2000 i go |



Wotafol long Maewo. Wota sistem olsem i sapotem fulap animol mo plant we oli liv insaed mo kolosap long hem so hemi impotan blong lukaotem gud.

Objektif 1: Protektem mo lukaotem gud biodiversity

Prioriti 2: Kontrol blong ol plant mo animol we oli karem i kam

Plante long ol plant mo animol we oli kam ovasis oli kam wan problem long wan wan eria blong yumi tedei: olsem Cordia, elefant gras, akrikalja rop, gambusia fis mo ol narafala moa. Sam oli bin karem i kam from oli ting se oli yusuf, be sam oli karem ikam from ovasis o from wan aelan i go long nara wan from ting ting se i naes o i difren nomo. Hemi kam wan prioriti blong gat kontrol long wanem man i save karem ikam, mo wanem ol man i mas mekem blong ol animol o plant ia oli no save kam antap olsem wan problem. I impoten tu blong luk save olsem wanem gavman mo lanona oli save wok tugeta blong yusum mo kontrolem ol plant mo animol we oli bin kam wan problem finis.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|---|---|---|
| <p>1. Gat kontrol blong ol kaen plant mo animol ia andanit long envaeromen loa. Taem oli givim permit blong man i save karem samting i kam oli mas lukiuk long:</p> <ul style="list-style-type: none"> • hao oli save afektem biodiversity blong yumi • hao yumi save kontrolem olgeta • raet blong ol Envaeromen ofisa i save registerem mo inspektem wan ples we oli holem ol niu animol o plant olsem mo save panisim man sapos hem i no kontrolem gud. | <p>Envaeromen Unit VQIS Wetem konsaitesen long ol nara dipatmen</p> | <p>Envaeromen Unit i risponsibol blong mekem redi ol loa mo ol wok blong givim permit. VQIS i responsibol blong kasem ol animol mo plant taem man oli karem i kam.</p> | <p>Oli loa oli sud redi blong mekem se pipol oli stat folem long yia 2000.</p> |
| <p>2. Setemap ol monita prokram long wan wan aelan blong leftemap save long impak blong ol plant mo animol ia.</p> | <p>Envaeromen Unit Kwarentin Forestri</p> | <p>Gat wan permanent posisen blong biologist insaed long Envaeromen Unit blong kodinetem ol stadi olsem. Yusum save we i bin kam from projek fil suvei blong faenem ol ples blong wokem monitoring. Setmap wan netwok blong pipol blong provaedem mo serem save we i kam long prokram blong monita. Faenem dona blong givhan blong statem fes trening blong monita prokram mo setemap gud ol wok ia.</p> | <p>Karem sapot blong gat posisen long yia 2000 budget. Faenem mani aotsaed long kaontri blong projek i tek ples long yia 2000. Monita prokram – i stat long yia 2000 i go</p> |
| <p>3. Gat trial demonstresen projek blong kontrolem mo yusum wan wan animol o plant we i kam problem finis, mo blong serem save wetem ol laona long hao blong kontrolem ol.</p> | <p>Envaeromen Unit wetem wan wan diptamen olsem DARD mo Forestri</p> | <p>Oli dipatmen ia oli sud wok wetem ol komuniti blong daonem, kontrolem o mekem yus long Cordia, Gambusia, Tilapia, Mynah bird, mo ol nara wan we oli kam ol problem finis.</p> | <p>3 yia kasem 5 yia</p> |

Objektif 1: Protektem mo lukaotem gud biodiversity

Prioriti 3: Lukaotem gud moa ol biodiversity we yumi yusum

Ol konsaltesen woksop blong projek ia oli raisem bigfala konsen se wan wan animol mo plant i nomo plante from we yumi karem tumas long olgeta. Problem ia i kam bigwan from:

- Populesen i kam antap mekem se nid blong yusum ol risos i kam antap.
- Ol niu tul blong karem ol risos (olsem ol smosmol net blong fis) we oli karem tumas mo kasem evri saes wan taem.
- Tedei yumi dipen long ol risos blong salem, i no blong kakae nomo.

Folem ol problem ia yumi nid blong luk save ol stret fasin blong yusum mo lukaotem ol risos we yumi yusum long vilej o blong salem.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|--|---|---|
| 1. a) Karem ol niu loa blong fiseri blong kontrolem saes blong net, saes blong huk mo ol samting olsem we man i save yusum blong kasem ol marin risos. b) amendem loa blong Fiseri blong i save kavremap ol fis blong freswota wetem ol niu saes limit blong naora blong freswota mo namarae mo blong no karem ol mama naora mo fis taem oli gat ek. | Fiseri Dipatmen | Mekem mo enfosem ol niu regulesen andanit long Fiseri Act. | Kwik taem |
| 2. Karemaot wan stadi blong leftemap save blong wan wan animol o plant mo karem tingting long stret fasin blong lukaotem olgeta. Hemia ol plant mo animol olsem: <ul style="list-style-type: none">• ol flaen fokus• ol naora blong freswota• ol krab• ol blak pam | Envaeromen Unit wetem wan wan nara dipatmen olsem Fiseri, Forestri mo DARD taem i kam long saed blong wok blong ol. | Gat wan posisen blong biologist insaed long Envaeromen Unit long yia 2000 i go blong kodinetem ol stadi olsem. Lukaotem mani blong karemaot stadi. | Karem sapot blong gat posisen long yia 2000 budget. Projek funding for yia 2001. |
| 3. Impruvum fasin blong enfosem ol loa blong lukaotem ol krab kokonas, ol naora, ol grin snel, ol troka, mo narafala moa. | Fiseri Dipatmen Envaeromen Unit | Fiseri Dipatmen i mas kam strikt blong enfosmen ol loa we i stap finis. | Kwik taem |

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|---|---|----------------------------------|
| <p>4. Blak pam</p> <p>a) karem save long ol dif difren kaen blak pam long Vanuatu mo ol kaen we ol manples i yusum long ol difren kaen samting.</p> <p>b) Ol dipatmen konsen i sud gat stret rekoding long olgeta we oli kavem mo sanem i go ovasi.</p> <p>c) Luk save nid blong gat konsevesen plan o sam regulesen blong givhan long manjemen blong ol.</p> | <p>Kaljoral Senta</p> <p>Envaeromen Unit</p> <p>VQIS</p> <p>Forestri</p> | <p>Mekem wan stadi blong faenemaot wanem kaen blak pam i stap long Vanuatu mo ol yus blong ol.</p> <p>Faenemaot mo rikodem ol kastom praktis blong kaving.</p> <p>Envaeromen Unit, Kaljoral Senta mo Kwarantini oli mas wok tugeta blong setemap wan stret sistem blong gat rikod blong hamas oli sanem i go ovasis mo hu i responsibol blong givim permit.</p> | <p>Kwik taem</p> |
| <p>5. Evri pikinini i sud karem save long laef long ol mein plant mo animol blong Vanuatu taem oli stap long primaeri skul.</p> | <p>Kurikulum</p> <p>Divelopmen</p> <p>Senta</p> <p>Edukesen</p> <p>Dipatmen</p> <p>Kaljoral Senta</p> | <p>Leftemap kapasiti blong najoral saens insaed long ol skul kurikulum we i stret wetem envaeromen mo laef blong yumi.</p> <p>Putum saens mo tradisinal save long laef blong ol plant mo animol insaed long ol niu buk mo tijing kos.</p> | <p>Yia 2000 i go</p> |
| <p>6. Putum long envaeromen loa ol manejen tul olsem saes limit mo klos sisen blong ol animol olsem pijin, flaen fokus wetem naora blong freswota.</p> | <p>Envaeromen Unit</p> <p>blong kodinetem</p> | <p>Konsalt wetem advaesa we i draftern loa ia blong luk save i strong long saed ia.</p> | <p>Statem long yia 2000 i go</p> |



Bus blong Blak Pam. Pipol blong Ambrym oli yusum fulap long kaving long saed blong kastom mo tu blong winim vatu. Oli gat ol narafala yus long ol nara aelan.

Objektif 1: Protektem mo lukaotem gud biodiversity

Prioriti 4: Kastom mo ol tabu ples (Kaljoral heritej)

Kaen kontrol long yus blong biodiversity we oli gat long wan wan nara kaontri i no olweis stret long yumi, from risos, finans mo staf we yumi gat blong mekem wok i go ahed mo manejem. Plante pipol oli tok strong se yumi sud folem ol kastom fasin blong lukaotem ol risos.. iet long plante ples olgeta oli nomo strong, mo i no olweis klia se kaen fasin olsem oli wok gud o nogat.

I klia tu se i gat fulap wok yumi nid iet blong mekem blong holem taet ol tabu ples blong yumi.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|---|---|---------------------------|
| 1. Mekem stadi mo putum daon long pepa ol difren kaen tradisinal fasin blong lukaotem biodiversity, hao yumi yusum olgeta mo weta oli wok gud o nogat. | Kaljoral Senta wetem Envaeromen, Forestri, Fiseri mo DARD | Lukaotem Vatu blong blong karemaot ol wok ia we i save go wetem CBEMP projek we Kaljoral Senta i stap wok long hem. | 3 yia projek |
| 2. Extendem wok blong VCHSS blong rikodem long pepa ol difren tabu ples we ol man ples oli wantem. | Kaljoral Senta | Lukaot vatu blong Kaljoral Senta i gat mani mo teknikel staff inaf blong karemaot wok ia. | Yia 2000 i go |
| 3. a) Mekem stadi mo putum long pepa ol kastom yus blong ol impoten plants olsem nangaria, namele, sasa, wael ken mo wael kava. Espesli olgeta we ol manples oli yusum blong lukaotem gud Envaeromen blong ol. | Kaljoral Senta | Luk se wok ia i save go ahed olsem wan pat blong wok blong CBEMP Projek we Kaljoral Senta i kodinetem. | Taem CBEMP Projek i stat. |



Grin Totel (*Chelona mydas*). I gat faev kaen totel long solwora blong Vanuatu, be namba blong ol i stap go daon. Hemi impotan blong yumi lukaotem gud olgeta.

Objektif 1: Protektem mo lukaotem gud biodiversity

Prioriti 5: Lukaotem gud ol impoten animol mo plant wetem ol ples

Yumi gat samfala ples we oli impotan blong lukaotem gud olgeta olsem las ples blong dak bus o natongtong we i stap long wan wan aelan blong yumi. Semak long ol animol mo plant we oli spesel long wan wan ples, we oli blong Vanuatu nomo o we oli no plante, mo tu olgeta we namba blong ol i stap go daon o i gat fraed se oli kam klosap long oli finis olgeta.

Ol ripot blong projek oli gat save long fulap kaen. Bae strateji ia i lukluk long 10 animol, plant mo ples we i impotan blong lukaotem gud olgeta festaem mo ol narafala bae oli kam bihaen.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|---|---|-----------|
| 1. Luk save se i posibol blong konsevem bus long eria blong Homo Bay mo Ranwas, Saot Pentecost | PENAMA wetem Envaeromen Unit mo Konsevesen Unit blong Forestri Dipatmen | Biodiversity Konsevesen Ofisa blong Envaeromen Unit i sud wok wetem ol risponsibol pipol blong Saot Pentecost thru long PENAMA Provens, mo mekem sam stadi long hem. Afta PENAMA bae i organaesem ol konsaltesen woksop wetem ol pipol blong oli wokem wan konsevesen plan. | 2 yia |
| 2. Luk luk long ol last dak bus long Tanna mo wok wetem ol lanona blong gat wan konsevesen plan blong ol mo blong gat wan wan konsevesen eria. | TAFEA wetem Envaeromen Unit mo Konsevesen Unit blong Forestri Dipatmen | Biodiversity Konsevesen Ofisa blong Envaeromen Unit i sud lukluk long ol last dak bus we oli stap mo mekem sam stadi long ol. Afta TAFEA bae i organaesem wan konsaltesen woksop wetem ol jif mo lanona blong wokem wan konsevesen plan. | 2 yia |
| 3. Epi- Petaview wotafol Setemap wan manejmen plan blong wotafol mo "katjmen" blong hem. | Envaeromen Unit Forestri Dipatmen SHEFA Province | Biodiversity Konsevesen Ofisa blong Envaeromen Unit i sud wok wetem provens blong organaesem wan konsaltesen woksop wetem ol lanona konsen blong wokem konsevesen plan. | 2 yia |
| 4. Setemap wan manejmen plan blong natongtong long Efate, Malekula, Santo, Malo mo Vanua Lava mo wok wetem ol lanona blong lukaotem gud ol natongtong. | Envaeromen Unit mo Fiseri Ol provens Forestri | Biodiversity Konsevesen Ofisa blong Envaeromen Unit i sud selektem ol mo mekem stadi long ol natongtong we oli stap. Afta wok thru long provens blong organaesem wan konsaltesen woksop wetem ol manples blong wokem wan wan plan blong konsevem mo planem bak. | 2 yia |
| 5. Krik Ai Riva long Efate Setemap wan manejmen plan blong riva ia mo wok wetem ol lanona blong lukaotem gud ol natongtong. | Envaeromen Unit mo Fiseri Shefa Provens | Biodiversity Konsevesen Ofisa blong Envaeromen Unit i sud wokem wetem provens mo ol lanona blong developem wan manejmen plan blong lukaotem gud riva ia. | |

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|--|--|---|
| <p>6. Royal Parrotfinch - Shefa Provens</p> <ul style="list-style-type: none"> Mekem awenes long ol pipol konsen long ol ples we oli stap. Enkarejem ol komuniti lida wetem ol jif blong mekem sam konsevesen plan blong lukaotem gud ol. | <p>Envaeromen Unit SHEFA Provens</p> <p>Ol komuniti lida long ol aelan konsen</p> | <p>Edukesen mo Biodiversity seksen blong Environment Unit blong wok wetem Provens wetem ol komuniti lida blong mekem awenes ia.</p> | <p>2 yia</p> |
| <p>7. Fo kaen Flaen foks long Mota Lava</p> <ul style="list-style-type: none"> Mekem awenes long ol pipol konsen long ol ples we oli stap. Enkarejem ol komuniti lida wetem ol jif blong mekem sam konsevesen plan blong lukaotem gud ol. | <p>Envaeromen Unit TORBA Provens</p> <p>Ol komuniti lida long aelan konsen</p> | <p>Edukesen mo Biodiversity seksen blong Environment Unit blong wok wetem Provens wetem ol komuniti lida blong mekem awenes ia.</p> | <p>2 yia</p> |
| <p>8. Krokodael long Vanua Lava</p> <ul style="list-style-type: none"> sapodem ol man we oli laef klosap long Sulfa River blong monita krokodael populesen developem wan manejen plan we i luk luk long nid blong ol lokol pipol, finaensol risos blong yumi mo ol saentifik konsen. | <p>TORBA Provens</p> <p>Wetem teknikel sapot from Envaeromen Unit mo Fiseri Dipatmen</p> | <p>Gat wan posisen blong wan biologist insaed long Envaeromen Unit long yia 2000 i go blong provaedem teknikel advaes olsem.</p> <p>Faenem watu blong holem wan woksop long Alligator Riva blong setemap monita prokram mo wokem manejen plan.</p> | <p>Karem sapot blong gat posisen long yia 2000 budget.</p> <p>Woksop funding long yia 2000.</p> |
| <p>9. Mekem ol trial o risej long ol smol skel fasin blong famem ol fis mo naora blong freswota blong inkrisim namba blong ol naora, namarae mo fis olsem Khulia blong ol man ples i save kakae mo salem be no daonem namba blong ol.</p> | <p>Envaeromen Unit mo Fiseri Dipatmen mo Provens</p> | <p>Biodiversity Konsevesen Ofisa blong Envaeromen Unit mo konsen Fiseri Ofisa i sud selektem mo mekem stadi long freswota sistem we trial i sud tek ples long hem. Provens blong wok wetem ol komuniti konsen blong manejen trial.</p> | <p>Mekem plan mo lukaotem Vatu blong wok olsem i save stat long yia 2001</p> |
| <p>9. Ples blong krab kokonas long Hiu, Tegua mo Loh long Torres.</p> <p>Sapodem ol man aelan ia blong mekem wan stadi long ol ples blong krab kokonas ia mo pasem save long olgeta long hao blong lukaotem gud ples blong ol.</p> | <p>TORBA Provens</p> <p>wetem teknikel sapot from Fiseri Dipatmen mo Envaeromen Unit</p> | <p>Faenem mani blong mekem stadi mo mekem wan kosaltesen woksop blong helpem ol blong lukaot gud ples blong krab kokonas.</p> | <p>Mekem plan mo lukaotem Vatu blong wok olsem i save stat long midel yia 2000</p> |

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|--|--|---|
| 10. Ol kev blong ol bat long notwes Malekula, Malo, Vanua Lava, Santo mo Efate. | SANMA mo MALAMPA Wetem teknikel sapot from Envaeromen Unit | Biodiversity Konsevesen Ofisa blong Envaeromen Unit i sud mekem stadi long ol kev mo wanem kaen bat oli stap. Afta wok thru long provens blong organaesem wan konsaltesen woksop wetem ol jif mo lanona blong wokem wan konsevesen plan. | Mekem plan mo lukaotem Vatu blong wok olsem i save stat long yia 2001 |
| 11. Luk possibiliti blong protektem Lek Letas long Gaua mo ol eria klosap long hem from kaljoral risen mo blong lukaotem biodiversity blong hem. | TORBA wetem Teknikel sapot from Envaeromen Unit, Forestri mo Kaljoral Senta. | Biodiversity Konsevesen Ofisa blong Envaeromen wetem Forestri Ofisa sud mekem stadi long lek ia mo biodiversity klosap. Afta wok thru long provens blong organaesem wan konsaltesen woksop wetem ol lanona mo jif blong wokem wan konsevesen plan. | Mekem plan mo lukaotem Vatu blong wok olsem i save stat long yia 2001 |
| 12. Ol ples blong ol impoten animol mo plant | Envaeromen Unit Forestri LUPO Fiseri | Finisim animol mo plant databes long komputa mo mapem ol ples blong ol animol ia. | I stap gohed naoia |



Krab Kokonas (*Birgus latro*) hemi bigfala krab long land we yumi save faenem long wol. Namba blong ol i stap go daon. Hemi impotan blong yumi lukaotem gud olgeta.

Objektif 2: Leftemap polisi, planing mo loa blong yumi i save lukaotem gud biodiversity

Stampa ting ting blong objektif ia i blong

1. Evri plan, loa mo polisi blong gavman i mas luk save impotens mo valiu blong biodiversity.
2. Blong ol gavman mo praevet aktiviti mo developmen long Vanuatu i folem wan stret fasin blong no spoelem biodiversity we i stap long kaontri.
3. Blong ol loa mo polisi blong gavman i sapotem raet blong wan wan jif mo komuniti blong lukaotem gud ol risos long graon blong ol pipol blong hem.
4. Luk save raet blong ol man ples long ol save we oli gat long wan wan laef risos long ples blong ol.
5. Faenem ol fund we yumi nidim blong mekem wok blong lukaotem gud biodiversity.

Loa emi impotan blong protektem raet blong ol lokol komuniti, lanona mo gavman blong lukaotem biodiversity mo ol najoral risos taem pipol oli no wok tugeta gud blong protektem ol risos we i stap. Ol loa tu oli save givhan blong yumi sua se ol rod mo fasin blong developem ples o yusum wan risos i no save afektem ol wael laef wetem ples blong ol mo pipol we oli onem.

Objektif 2: Leftemap polisi, planing mo loa blong yumi i save lukaotem gud biodiversity

Prioriti 1: Envaeromen Impakt Asesmen (EIA)

| Wanem yumi sud mekem | Hu i responsbol | Wanem ol i sud mekem | Taem frem |
|--|--|---|------------------------|
| 1. Gat wan loa we i talem se evri developmen oli mas gat ful EIA we i luk long najoral, sosol, kaljoral mo ekonomik impakt blong wan wan developmen. Loa i mas go long ol developmen aktiviti blong gavman mo praevet. | Envaeromen Unit blong kodinetem mo mekem se loa i wok | Luk save se loa we oli draftem i strikt be semtaem i givim spes blong protektem raet blong komuniti blong manejem ol risos blong hem. | Long yia 2000 i go. |
| 2. I mas gat wokman long Luganville mo Vila blong lukaotem loa ia mo givim advaes long ol divelopa. Wokman ia hemi sud kam memba long Foren Invesment Bod blong advaesem olgeta mo tu polisem akt ia. | Prinsipal Envaeromen Ofisa wetem Publik Servis Dipatmen mo Budget Komiti | Gat 2 niu posisen long Envaeromen Unit stat long Januari 2000 o 2001 blong kodinetem implementesen mo asesmen blong ol EIA. | Yia 2000 gavman budget |
| 3. Evaeromen Unit i mas gat risos blong enfosem akt ia we hem inkludim ol wok tul blong 2 wokman (Luganville mo Vila) wetem trak o moto blong oli save luk luk ol developmen saet. | Prinsipal Envaeromen Ofisa wetem Publik Servis Dipatmen mo Budget Komiti | Mekem stret provisen insaed long 2000 o 2001 gavman budget. | Yia 2000 gavman budget |

Objektif 2: Leftemap polisi, planing mo loa blong yumi i save lukaotem gud biodiversity

Prioriti 2: Setemap wan long term fund blong pem wok blong biodiversity

Kam kasem tedei i had blong karemaot ol wok blong lukaotem biodiversity from problem blong mani. Hemi impoten blong faenem wan rod we yumi nomo i save karem inaf mani blong karem aot ol wok blong envaeromen mo i no blong dipen oltaem long mani blong ol dona kaontri mo organaesesen.

Projek ia i luk se ol turis oli kam from envaeromen blong yumi i gud tumas, mo experiens long ol nara smol aelan kaontri i se i no wan problem blong gat wan 1000VT envaeromen fi, sapos ol turis oli save klia se takis i no blong jeneral revenu be blong pem wok blong konsevem mo lukaotem gud najoral envaeromen blong yumi.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|---|---|--|
| 1. Setemap Konsevesen/ Envaeromen trust fund blong pem biodiversiti konsevesen mo risej wok. | Envaeromen Unit wetem DESD mo Finans Dipatmen | Luk luk long wan loa we i putum wan 1000VT envaeromen fi long ol visita we oli kam long Vanuatu long sip mo plen. Setemap wan sistem we fi ia oli kolektem thru long ol ofis long aepot mo waf sem taem oli kolektem ol aepot fi o insaed ol tiket we oli pem. | Tok mo plan from long yia 2000 Introdusum long yia 2001 |

Objektif 2: Leftemap polisi, planing mo loa blong yumi i save lukaotem gud biodiversity

Prioriti 3: Loa blong holem taet raet blong save blong wan wan man.

Ting ting ia i blong protektem wanem oli singaotem "Intellectual Property Right" blong ol man ples blong eni man we yumi pasem save long hem i no save stilim save ia be hem i mas luk raet blong yumi festaem, mo pem raet blong yusum save blong yumi.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|---|--|---------------|
| 1. Luk luk long wan loa we i protektem raet blong wan wan man Vanuatu, mo spesli save blong wan wan man long saed blong ol yus blong wan wan plant mo animol. | Attorney Jeneral wetem Kaljoral, Relijen mo Arkaev Unit long Dipatmen blong Kaljoral; Kaljoralrol Senta; Malvatamauri; Envaeromen Unit. | Draftem loa mo putum i go long Palamen. | 2 yia |
| 2. Yumi nidim wan Kaljoral Liason Ofisa blong manejem loa ia. | Kaljoral, Rilijen mo Arkaev Unit long Dipatmen blong Kaljoral mo Kaljoral Senta. | Inkludum long gavman budget blong Dipatmen blong Kaljoral long yia 2001 i go | Yia 2001 i go |

Objektif 2: Leftemap polisi, planing mo loa blong yumi i save lukaotem gud biodiversity

Prioriti 4: Loa blong impot mo expot blong ol laef samting

Plante long ol plant mo animol we oli no bin stap long Vanuatu festaem be ol man oli bin karem i kam oli bin kam wan problem tedei. Yumi nid blong ting ting hevi bifo sam moa i save kam thru. Long nara saed i gat wan wan plant mo animol we i blong Vanuatu nomo, o we yumi fraed from namba blong ol i go daon, mo yumi nid blong manejem taem man i save karem i go aot.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|---|---|----------------------|
| <p>1. a) Wan seksen blong envaeromen loa i mas givim kontrol long expot blong ol laef samting we yumi luk se oli impoten long Vanuatu.</p> <p>b) Andanit long loa ia ol man oli mas gat permit nomo blong expotem ol spesol plant o animol blong Vanuatu, hemi i kavremap ol expot blong mekem risej, tred o suvania. (CITES i kontrolem trade nomo)</p> | <p>Envaeromen Unit. Ministri of Land mo Najoral Risos. Attorney Jeneral Kwarantín DARD</p> | <p>Konsalt wetem advaesa we i draftern loa ia blong luk save i strong long saed ia.</p> | <p>Yia 2000 i go</p> |
| <p>2. a) Wan seksen blong envaeromen loa i mas givim kontrol long import blong ol laef samting, mo save mekem se wan wan man we i wantem holem ol laef animol mo plant we maet ol i go wael oli mas gat wan permit we yu rinuем evri yia blong holem.</p> <p>b) Andanit long loa ia ol man oli mas gat permit blong impotem ol laef samting mo oli mas provaedem ol infomesen we dipatmen i askem festaem.</p> <p>c) Gavman i save mekem se wan wan man we i wantem wan wan animol o plant olsem i mas gat wan permit blong holem mo hemi mas lukaotem folem kondisen blong permit.</p> <p>d) Wok blong givimaot permit i sud stap wetem Envaeromen Unit.</p> | <p>Envaeromen Unit. Ministri of Lands and Najoral Risos Ofis blong Loea blong Gavman Kwarantín mo DARD</p> | <p>Konsalt wetem advaesa we i draftern loa ia blong luk save i strong long saed ia.</p> | <p>Yia 2000 i go</p> |

Objektif 2: Leftemap polisi, planing mo loa blong yumi i save lukaotem gud biodiversity

Prioriti 5: Setemap wan Saens Risej Kaonsel

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|-------------------------------------|--|----------------------|
| <p>1. Niu loa blong Envaeromen i mas talemot se bae i gat wan komiti we i responsibol blong givim risej permit blong wan wan man o pati we i wantem mekem risej blong envaeromen, plant o animol long Vanuatu. Lao ia i inkludum risej long kastom yus o save long biodiversity. Komiti ia i gat raet blong putum kondisen long wan wan risej, o blong oli putum diposit kasem taem oli givim ripot long yumi.</p> | <p>Envaeromen Unit i kodinetem.</p> | <p>Konsalt wetem advaesa we i draftem envaeromen loa</p> | <p>Yia 2000 i go</p> |

Grin Lizet (*Emoia sanfordi*) ia i spesel long Vanuatu from i nogat long ol narafala kaontri long wol.. (Photo i kam long Smithsonian Institute).



Objektif 3: Leftemap save long biodiversity

1. Leftemap save blong yumi long biodiversity we i stap long Vanuatu blong helpem yumi blong faenem stret fasin blong lukaotem gud wan wan plant mo animol.
2. Kasem save long ol jenis we i tek ples wetem biodiversity, mo olsem wanem yumi save mekem wok blong manejem gud
3. Lukim sapos ol konsevesen prokram/projek oli bin wok gud o nogat.

Objektif 3: Leftemap save long biodiversity

Prioriti 1: Gat wan gud ples blong holem ol infomesen mo koleksen long biodiversity blong Vanuatu

| Wanem yuml sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|--|---|---|
| 1. Gat wan ples blong holem taet ol koleksen blong plant mo animol blong Vanuatu, wetem kopi blong ol risej ripot, mo komputa database blong ol rikod blong difren kaen animol mo plant. | Envaeromen Unit Forestri Fiseri Cultural Center DARD | Faenem fund blong beldem wan najoral saens haos neks long Nasonal Museum blong kipim koleksen blong ol plant mo animal. Krietem wan posisen blong najoral saens curator blong i manejem mo lukaotem koleksen. (I sud inkludum long Nasonal Museum recurrent budget) | Immediate Afta we oli beldem najoral saens haos. |
| 2. Tekem i kam bak ol koleksen blong Vanuatu we oli stap ovasis. | Nasonal museum | Faenemaot ol museum ovasis we ol koleksen i stap mo konsalt wetem ol blong tekem ol i kam bak. | Stat afta we oli beldem najoral saens haos. |
| 3. Fomem agrimen wetem wan wan rijinal museum blong provaedem teknikel sapot blong setemap gud ol koleksen mo trenem gud Curator. | Nasonal museum Envaeromen Unit | Nasonal Mueseum mo Envaeromen Unit tufala i wok tugeta long developmen blong kaen agrimen ia. | Olsem antap |
| 4. Karem aot ol stadi blong karem moa save long ol kaen animol mo plant we oli stap long vanuatu mo wanem eria long ol aelan mo wanem kaen ples oli liv mo gro long hem. | Envaeromen Unit, Fiseri Forestri mo DARD | Ol dipatmen konsen oli wok tugeta blong luk ol eria we i nidim moa stadi mo faenem mani blong hem. | Olsem antap |

Objektif 3: Leftemap save long biodiversity

Prioriti 2: Biodiversity monitoring

Blong givhan long gavman blong mekem stret disisen blong manejem yus blong sam animol mo plan wetem ples blong ol, hemi impotan blong kasem mo putum tugeta ol moden mo lokol save long ol plant mo animol ia mo ol impakt blong pipol long ol.

Ol gavman dipatmen mo samfala organisation oli gat save blong developem ol tingting long hao blong kipim rikod long ol jensis we i stap tekem ples wetem biodiversity oli sud kasem ol lokol save from lokol pipol long saed ia tu blong givhan long ol.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|---|--|---------------------|
| 1. Freswota monitoring | Envaeromen Unit Dipatmen blong Jiołoji mo Maens | Faenem fund long ol dona blong wokem sekond pat blong biodiversity monitoring prokram. Hemi inkludum hao blong disaenem monitoring prokram ia, setemap ples blong ol stadi, trenem ol lokol pipol blong wok olsem ol monitor, wetem samfala wok moa. | Yia 2000 kasem 2005 |
| 2. Monitorem spread blong ol introduced species: Cordia, Gampusia, Tilapia, etc. | Envaeromen Unit wetem help blong Forestri mo Fiseri | Olsem antap | 2000 kasem 2005 |
| 3. Monitorem impakt blong harikin long biodiversity | Envaeromen Unit wetem help blong DARD | Olsem antap | 2000 kasem 2005 |
| 4. Monitorem impakt blong faea long biodiversity | Envaeromen Unit, wetem help blong Forestri mo DARD | Olsem antap | 2000 kasem 2005 |
| 5. Monitorem impakt blong kliaring mo logging long biodiversity. | Envaeromen Unit, Forestri, DARD | Olsem antap | 2000 kasem 2005 |
| 6. Monitorem impakt blong ol yus blong ol lokol trap blong kasem freswota animol long Vanua Lava mo Gaua | Envaeromen Unit wetem Fiseri | Olsem antap | 2000 kasem 2005 |
| 7. Folem implementesen blong EIA monitorem impakt blong wan wan developmen. | Ol Ofisa blong EIA Envaeromen Unit | Ol ofisa risponsibol long EIA wetem biologist. | Yia 2000 i go |

Objektif 3: Leftemap save long biodiversity

Prioriti 3: Risej blong helpem yumi lukaotem gud ol prioriti animol mo plant

Wok blong Projek ia i soemaot se save blong yumi long wan wan long ol prioriti animol mo plant mo, ples blong ol i no naf blong setem ol majemen gaedlaen. Yumi nidim risej blong leftemap save blong yumi fastaem.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|---|--|--|
| <p>1. Karemaot stadi blong wan wan animol mo plant mo karem tingting long stret fasin blong lukaotem olgeta. Hemia ol animol mo plant olsem:</p> <ul style="list-style-type: none"> • ol flaen fokus • ol naora blong freswota • ol land krab • ol nawimba • namarae blong freswota • <i>Neoveitchia brunnea</i> long pentecost • wan plant long Torres Islands we oli yusum olsem soap mo losavel. • Green palm looriket • Blue parrot • Ol pijin blong solwora olsem Koroliko • Wael kabis • Royal Parrotfinch | <p>Envaeromen Unit Wetem Fiseri mo Forestry Dipatmen</p> | <p>Gat wan permanen posisen blong wan biologist long Envaeromen Unit blong kodinetem ol stadi olsem. Lukaotem funding blong mekem ol risej.</p> <p>Blong faenem ol breeding eria blong ol pijin blong solwora.</p> | <p>New position long yia 2000 i sud stap long recurrent fund.</p> <p>Projek funding long yia 2001.</p> |
| <p>2. Monitorem trial blong fis faming long Maewo blong setemap wan prodaktiv sistem we i no daonem kwaliti blong ol riva.</p> | <p>Provens wetem teknikel advaes long Envaeromen Unit mo Fiseri dipatmen.</p> | <p>Gat wan permanen posisen blong wan biologist long Envaeromen Unit blong kodinetem ol stadi olsem. Lukaotem funding blong mekem ol risej.</p> | <p>Niu posisen long yia 2000 i sud stap long recurrent fund.</p> <p>Projek funding long yia 2001</p> |

Objektif 4: Bildemap kapasiti blong lukaotem gud biodiversity

Stampa ting ting blong objektif ia i blong:

1. Leftemap teknikal kapasiti blong yumi blong lukaotem gud biodiversity long saed blong skil blong wan wan wokman mo ol teknikal risos we yumi nidim, mo long level blong gavman, provens mo komuniti.
2. Bildemap ol lokol risos pipol blong karemaot ol prokram blong sastenebol manejem blong ol laef risos blong yumi.
3. Dvelopem ol lokol o nasonal sos blong fund blong pem ol wok mo prokram blong manejem mo lukaotem ol laef risos .
4. Sapotem mo strengthenem ol kastom fasin blong lukaotem gud ol laef risos blong yumi.

Objektif 4: Bildemap kapasiti blong lukaotem gud biodiversity

Prioriti 1: Impruvum teknikal kapsiti blong ol staff mo tul blong ol dipatmen konsen

Fulap taem i had blong ol dipatmen konsen oli manejem mo monitorem biodiversity from i nogat inaf mo prapa laborator, teknikal tul mo reference koleksen. Bigfala nid tedei hemi blong gat wan saens laborator blong yusum long evri kaen envaeromen analysis.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|------------------|---|---------------------|
| 1. Kasem stret kaen laborator mo teknikal tul blong mekem wok blong biodiversity mo envaeromen monitoring. | Environment Unit | Developem projek proposal blong kasem sam fund blong beldem o apkradem wan laborator wetem koleksen blong ol stret tul blong ol konsen dipatmen oli save yusum. | Yia 2000 kasem 2001 |
| 2. Impruvum kapasiti blong ol ofisa blong karemaot teknikal mo saentifik wok. | Environment Unit | Faenem sos blong fund mo stret pipol blong givim in-sevis trening long ol staff blong stret dipatmen. | Yia 2000 kasem 2001 |

Prioriti 2: Setemap envaeromen komiti long wan hae level

Ol organaesesen oli mas wok tugeta blong no riptim ol wok o prokram we yumi wantem tekmap, be blong oli mas serem skil mo infomesen mo blong manejem wok blong ol. I nid blong gat gud kodinesen bitwin ol organaesesen konsen blong helpem yumi long efektif manejem blong biodiversity.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|---|---|----------------|
| 1. Setemap wan envaeromen komiti wetem ol hae level representativ blong wan wan dipatmen blong kodinesen mo serem save i save kam gud moa. | Minista blong Envaeromen blong setemap. | Mekem komiti i statutori bodi andanit long Envaeromen Act. Luk se komiti i mas mit evri 2 manis o moa sapos oli gat fulap samting blong tok from. | Yia 2000 i go. |

Objektif 4: Bildemap kapasiti blong lukaotem gud biodiversity 3:

Prioriti 3: Trening blong teknikel mo manejmen staf

Responsibiliti blong konsevesen hemi stap long ol dif difren gavman, non-gavman, privaet, provens mo ol komuniti organaesesen. Fulap long ol organaesesen ia oli nogat inaf staff, o maet oli gat staff be olgeta we oli stap oli nogat skil mo strong tingting inaf blong karem aot evri responsibiliti blong ol, mo tu se oli nogat ol ekwipmen we oli nidim blong mekem wok.

Hemi impoten blong yumi gat infomesen, teknikel kapasiti mo komited staff, wetem finans mo manpaoa inaf blong karemaot responsibiliti blong yumi blong manejmen mo konsevem biodiversity blong yumi.

Hemi impoten tu blong leftemap mo sapotem tingting blong ol yangfala we oli wantem ko skul from envaeromen blong ko kasem trening long ol stret kos we yumi nidim long eria blong mekem wok blong biodiversity mo manejmen blong hem i kam gud moa. Ol staff we oli stap wok finis oli nid blong kasem ol niu trening blong impruvum eria blong wok blong ol i kam gud moa, mo blong leftemap skil blong olgeta long saed blong teknikel mo tu long manejmen.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|---|---|---------------|
| 1. Kaontri i nidim pipol wetem inaf sientifik skil blong karem aot wok olsem kasem moa save mo tingting long biodiversity mo konsevesen wetem ol wok blong EIA. | Skolarsip Unit mo DESD | Wok wetem ol dipatmen konsen blong direktem ol yangfala blong kasem trening long eria we ol dipatmen oli nidim. | Yia 2000 i ko |
| 2. Leftemap manejmen skil long wan wan dipatmen tru long trening prokram mo kos. | Gavman Trening Senta, Skolarsip Unit wetem DESD | Luk luk nid blong wan wan dipatmen mo gat ol in sevis trening kos. | Yia 2000 i ko |
| 3. Givim trening long ol gavman ofisa mo provens, mo tu long praevet sekta long ol wok blong karemaot EIA mo lukaotem biodiversity olsem ol niu loa blong Envaeromen i talem aot. | Envaeromen Unit blong kodinetem | Faenem fund blong givim ol trening. | Yia 2000 i ko |



Grin Nasiviru (*Charmosyna palmarum*) i stap long samfala aelan long Vanuatu nomo, olsem Ermae i go antap long not kasem ol aelan blong Banks. Nasiviru ia i stap long Vanuatu mo ol aelan blong Santa Cruz nomo. Hemi impotan blong lukaotem gud olgeta.

Objektif 5: Envaeromen Edukesen, Awenes mo ol wok blong Serem Save

Stampa ting ting blong objektif ia i blong:

1. Leftemap envaeromenal edukesen long ol skul
2. Bildemap tingting blong wan wan man long saed long biodiversity long ples blong hem.
3. Sapotem fasin blong wok tugeta mo serem save bitwin wan wan sekta, wan wan dipatmen mo wan wan komuniti blong konsevem mo waes yus blong ol najoral risos.
4. Leftemap awenes long ol difren loa long manejem biodiversity.

Blong mekem pipol oli jenisem tingting blong olgeta mo blong lukaotem gud biodiversity blong yumi, i nid blong oli save gud hao biodiversity i impoten long laef mo ekonomi blong yumi. Blong mekem awenes mo leftemap save i kam antap blong ol manples oli kasem save mo tingting we oli nidim, i dipen tu long hao yumi disaenem mo karemaot awenes program. Toktok i kam antap se ol trening mo extensen wok i mas kam praktikel mo helpem ol pipol blong daonem ol problem, i no blong save ol problem oli stap nomo. I gat toktok tu se extensen mo trening program blong lukaot biodiversity i sud yusum ol demonstresen projek mo fil trip i no ol kos mo tok save nomo. Wetem kaen wok ia save blong lukaot envaeromen i save kam moa bitim sam nara fasin blong serem save.

Objektif 5: Envaeromen Edukesen, Awenes mo ol wok blong Serem Save

Prioriti 1: Leftemap mo sapotem tingting blong ol komuniti blong serem save mo experiens blong ol long ol wok blong lukaotem biodiversity

I gat fulap smosmol wok we i go ahed tedei long level blong wan wan komuniti blong lukaotem gud biodiversity. I gud se wan wan komuniti oli serem save blong wok blong ol long ol nara komuniti mo aelan.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|--|--|--------------|
| <p>1. Setemap wan extensen program we ol komuniti we oli gat ol konsevesen experiens oli serem wetem ol narafala komuniti.</p> <ul style="list-style-type: none"> • Serem ol experiens thru long miting mo wokshop long vilej level nomo. • Visitim ol narafala konseven o protekted eria. • Developem mo distributim ol risos materiol we i tokbaot waes yus blong biodiversity. • Yusum ol play play mo video. | <p>Infomesen/Extensen Seksen blong Evaeromen Unit wetem Fiseri Forestri mo wan wan NGO</p> | <p>Tok wetem ol dipatmen konsen, ol narafala organaesesen mo komuniti blong setemap wan kodineted biodiversity konsevesen extensen program.</p> <p>Lukaotem fund blong karemaot ol wok ia.</p> | <p>5 yia</p> |

Objektif 5: Envaeromen Edukesen, Awenes mo ol wok blong Serem Save

Prioriti 2: Awenes long valiu mo impotens blong biodiversity

Impotens blong vatu i kam antap tedei mo fulap man oli gat rong tingting se envaeromen i wan samting mo developmen i wan nara samting olgeta. Kaen tingting ia i putum se yu no save gat developmen wetem ol vatu blong hem sapos yu lukaotem gud envaeromen. Tingting ia i no tru, mo i gat nid blong jenjim tingting ia, espesli long ol hae level long gavman mo praevet sekta.

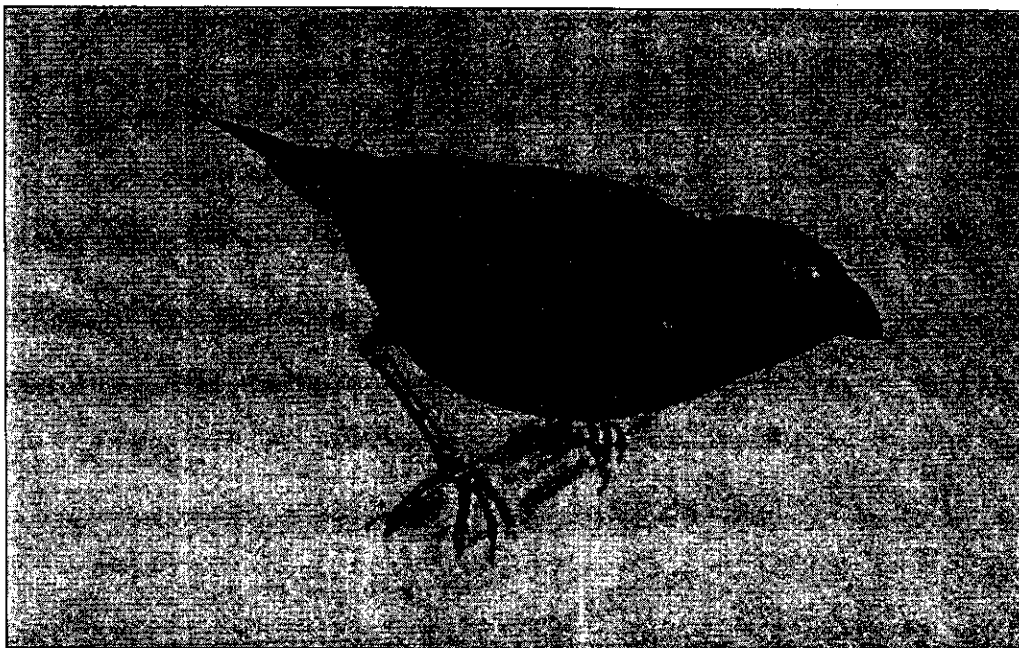
| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|---|---|----------------|
| 1. Mekem ol man blong politik we oli stap mekem developmen disisen mo ol lida oli save gud long ol tru valiu blong biodiversity. | Extensen/Infomesen Seksen blong Envaeromen Unit | Produsum sam infomesen materiol mo prokram long ol pipol konsen. | 3 yia |
| 2. Enkarejem ol komuniti lida wetem ol papa mo mama blong tijim ol pikini blong no kilim ol animol olsem pleiplei nomo. | Extensen/Infomesen Seksen blong Envaeromen Unit | Produsum sam infomesen materiol mo prokram long ol pipol konsen. | 3 yia |
| 3. Luk luk long kontent blong skul kurikulum blong i mas givim save festaem long ol plant, animol mo envaeromen blong yumi, mo ol problems blong ol. | Edukesen Dipatmen mo CDC | Ol niu skul materiol oli sud strong long save blong ol animol mo plant mo envaeromen blong yumi. Insaed long ol meteriol ia i sud inkludum nem blong ol animol mo plant ia long french mo english mo ol yus blong ol. | Yia 2000 i ko. |
| 4. Putum neja stadi insaed long trening blong ol Praemari mo Sekonderi tija. | Edukesen Dipatmen wetem Tija Kolej | Dvelopem ol kos blong tija olsem mo ol buk ol tija i save yusum we oli pasem save long ol animol mo plant mo Envaeromen blong Vanuatu. | Yia 2000 i ko. |
| 5. Mekem lokol pipol oli save mo glad from ol spesel plant mo animol we yumi gat nomo long Vanuatu, o long samfala aelan nomo long kaontri. | Extensen/Infomesen Seksen blong Envaeromen Unit | Wokem sam risos materiol long ol mo givim aot long ol lokol pipol mo jeneral pablik. | Yia 2000 i ko |
| 6. Dvelopem sam niu fasin blong karemaot o serem save blong biodiversity. | Extensen/Infomesen Seksen blong Envaeromen Unit | Konsaltem ol pipol/sekta we oli gat fulap skil mo experiens long eria ia blong givhan long tingting blong wokem ol niu fasin blong wok. | Yia 2000 |

Objektif 5: Envaeromen Edukesen, Awenes mo ol wok blong Serem Save

Prioriti 3: Impruvum awenes long ol risk blong muvum ol plant o animol long narafala kaontri i kam long Vanuatu o bitwin ol eria long Vanuatu nomo.

Projek i bin luksave se ol man mo woman oli no tingting hevi taem oli karem wan niu plant o animol i kam long Vanuatu; o taem oli karem wan samting i go long wan nara aelan. Oli luk o ting se janis blong gat wan niu samting nomo. Hemi i impoten blong leftemap awenes long ol risk i save kam antap long taem olsem.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|--|--|--|-----------------|
| 1. Mekem ol manples oli save gud long ol impakt blong ol kaen plant o animol we yumi tekem i kam long Vanuatu o muvum olgeta bitwin ol aelan o eria. | VQIS DARD Envaeromen Unit Forestri Fiseri Helt Dipatmen | Developem mo givim aot plenti moa infomesen materiol abaot ol plant mo animol ia. | Yia 2001 |
| 2. Leftemap save blong ol manples long ol problem we ol niu plant o animol we yumi karem i kam oli kosem long biodiversity blong yumi. | Envaeromen Unit DARD Forestri Fiseri Kaljoral Senta | Mekem wan video long ol niu plant mo animol olsem; Gambusia, Poecilia, Tilapia, Mynah bird, Amerikan rop, Akrikalja rop mo Cordia. | Yia 2000 - 2001 |



Royal Parrotfinch (*Erythrura cyaneovirens*). Pijin ia i stap long Tongoa mo Epi nomo. Namba blong ol i, stap go daon so hemi impotan se ol pipol blong tufala aelan ia i lukaotem gud olgeta.

Objektif 5: Envaeromen Edukesen, Awenes mo ol wok blong Serem Save

Prioriti 4: Leftemap awenes long ol difren loa mo polisi long manejmen blong biodiversity

I gat ol difren loa we oli stap blong helpem ol pipol blong Vanuatu blong menejem mo protektem gud biodiversity blong yumi. Be ol pipol oli no save gud long ol. So hemi impotan blong mekem pipol i save long saed ia.

| Wanem yumi sud mekem | Hu i responsibol | Wanem ol i sud mekem | Taem frem |
|---|--|---|--------------|
| 1. Leftemap save blong ol difren loa ia thru long video, redio, threatre, infomesen meteriol. | Agrikalja & VQIS Envaeromen Unit Forestri Fiseri Ol Theatre Grup | Developem mo givim aot ol infomesen materiol. | Yia 2001 igo |



Ol skul pikinini oli maj long wan envaeromen wik wetem toktok blong lukaotem mo protektem gud ol animol mo plant blong Vanuatu.