



**Supporting Country Action on the CBD Programme of
Work on Protected Areas**

PAPUA NEW GUINEA

Department of Environment and Conservation

December 2009

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Acknowledgement

Profound thanks first to United Nations Development Program (UNDP) and the Global Environment Facilities (GEF) for the grant to Supporting Papua New Guinea Action on the CBD Programme of Work on Protected Areas (POWPA). This funding has now made it possible to start an establishment of a Comprehensive, Adequate, Representative and Resilient (CARR) Protected Area System for Papua New Guinea.

Special thanks are due to the Secretary, Dr. Wari Iamo, for his leadership and vision in the endorsement of the funding; and Gunther Joku and Andrew Taplin in preparing the department to take upon the CBD Programme of Work on Protected Areas especially in providing advise and the direction needed to be taken and the critical role in securing the services of the Bishop Museum and the Nature Conservancy.

The important role that the Sustainable Environment Program leadership Kumaras Kalim and staff have undertaken in the implementing this project; namely, John Michael for taking the lead, Rose Singadan as the project Coordinator and the POWPA Taskforce; Yvonne Tio, James Sabi, Bernard Suruman, Jim Onga, Bense Thomas, Roselyn Gwaibo, Fredrick Ohmana, Malcom Keako, and C Jonduo.

Acronyms

CA	Conservation Area
CARR	Comprehensive, Adequate, Representative and Resilient
CBD	Convention on Biological Diversity
CBO	Community Based Organisation
CI	Conservation International
CITES	Convention on the International Trade in Endangered Species
CAN	Conservation Needs Assessment
DEC	Department of Environment and Conservation
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DNP&M	Department of National Planning and Monitoring
GEF	Global Environment Facility
GOPNG	Government of Papua New Guinea
ILG	Incorporated Landowner Group
IUCN	World Conservation Society
LLG	Local Level Government
MPA	Marine Protected Area
NCC	National Conservation Council
NEC	National Executive Council
NFA	National Fisheries Authority
NFB	National Fisheries Board
NGO	Non-Governmental Organisation
OLPG&LLG	Organic Law on Provincial Governments & Local-Level Governments
OEC	Office of Environment and Conservation
PDF	Project Development Facility
PEC	Provincial Executive Council
PIP	Public Investment Program
PNG	Papua New Guinea
PRA	Participatory Rural Appraisal
SES	Social Evaluation Study
SFS	Social Feasibility Study
SPP	Stakeholder Participation Plan
TKCP	Tree Kangaroo Conservation Project
TNC	The Nature Conservancy
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Program
UNESCO	United Nations Education, Scientific and Cultural Organisation
UNOPS	United Nations Office of Project Support
WMA	Wildlife Management Area
WMC	Wildlife Management Committee
WPZ	Woodland Park Zoo
WWF	World Wildlife Fund

Executive Summary

The Fourth Goal of the Papua New Guinea National Constitution directs the PNG Forestry Authority (PNGFA), National Fisheries Authority (NFA), Department of Mining (DoM), Department Lands and Physical Planning (DLPP) other sectors the mandate to manage and protect the PNG's natural resources and environment. The Department of Environment and Conservation (DEC) is the key government agency responsible in environment conservation management issues in the country.

The formal Protected Areas (PA) in Papua New Guinea cover less than 3% of land area (1,642,826 ha) well short of the CBD target of 10%. Importantly, much still remains to be done, in particularly regarding, development of appropriate national conservation plan, policies, strategies and processes to integrate protected areas into the broader landscape, seascape and sectoral plans.

The report investigated into the mainstreaming policies and existing legislation to examine the status and develop the necessary policies and suggest amendments to legislation to implement the PNG obligations to the implementation of the CBD and achieving the Millennium Development Goal 7 (MDG7) – Environment Sustainable Economic Growth (ESEG) effectively.

Firstly, protected area integration entails a two-fold process. The first involves linking protected areas within a broader network of protected and managed lands and waters in order to maintain ecological processes, functions and services and the second involves incorporating protected area design and management into a broader framework of national and regional land-use plans and natural resource laws and policies. The report identifies the following planning framework that requires strengthening;

- Eco-regional Framework, currently undated and further developed by The Nature Conservancy (TNC) and the DEC staff,
- Customary framework – in this case the Language map provided, and
- Administrative framework with national, provincial and local level planning framework promoted by the new Organic law on Provincial and Local Level Governments (OPLL&G).

In so doing, the report provides a methodology for the way forward in addressing the twofold process in mainstreaming protected areas into wider landscape. Two case studies are presented to illustrate the processes in mainstreaming.

Secondly, there are no protected area policies and the three main pieces of PNG conservation legislation existing are old, confusing and unstructured. After reviewing the reviews undertaken by the various reviewer, the report was able to structure a way forward and recommends to bring them together into one piece of conservation and protection legislation. This includes the following legislation;

- Conservation Area Act, (CA)
- Fauna (Protection and Control) Act, (FPCA) and
- National Parks Act (NPA).

Recommendations

1. Integrate Biodiversity Conservation into the National and Provincial Planning Process Framework as promoted by the Organic law on Provincial and Local Level Governments (OPLL&G).
2. Having to go through the three main pieces legislation one way to approach the confusions and provide structure on the current legislation, would be to incorporate all protected area mechanisms into one Act.
3. Establish a Programme of Work on Protected Areas (POWPA) Taskforce to implement the above recommendations as detailed in the report.
4. Incorporate the PNG National Biodiversity Strategy and Action Plan (NBSAP) Goals into the next Medium Term Development Strategy 2010 – 2015.

INTRODUCTION

Life on Earth is disappearing fast and will continue to do so unless urgent action is taken. Much has been written about the decline of the biodiversity. Under the World Conservation Society (IUCN) Red List program 44,837 species have been assessed; at least 38% of these have been classified as threatened and 804 classified as Extinct². From the same database, the status of the PNG threatened species is as follows with 18,894 of plant species (142 threatened), 277 of reptile species (9 threatened), 266 of amphibian species (10 threatened), 271 of mammal species (60 threatened) and 719 of Bird species (33 threatened)¹. Given the high number of assessed species, the number of species assessed as Extinct is minute for Papua New Guinea².

Papua New Guinea is a signatory to the Convention on Biological Diversity. An international convention that promotes “*to conserve biological diversity, promote the sustainable use of its components, and encourage equitable sharing of the benefits arising out of the utilization of genetic resources*”. Such equitable sharing includes appropriate access to genetic resources, as well as appropriate transfer of technology, taking into account existing rights over such resources and such technology.

An important component of the CBD is the Programme of Works on Protected Areas (POWPA) which requires that countries take action to effectively establish and manage protected areas.

In 2008, the Department of Environment and Conservation in conjunction with the United Nation Development Programme (UNDP) Country Office in PNG secured funding from the Global Environment Facility (GEF) to address the priority barriers that stand in the way of the establishment and effective management of a Protected Areas System in Papua New Guinea. The main project objective is; “To strengthen PNG’s implementation of the POWPA, and thus contribute to further consolidation of the country’s PA system. This corresponds with the PNG-NBSAP Goal 4 which is; “*To strengthen existing protected areas and ensure that protected areas for terrestrial species and marine species are increased to 10% by 2010 and 2012 respectively*”³, and supports the Millennium Development Goal 7 and contributes to the DEC ESEG policy..

This project targets three Outcomes in Phase One which includes:

1. Outcome 1: The degree of representativeness of the existing PA System, the gaps that remains and opportunities for addressing them, assessed.
2. Outcome 2: The extent of mainstreaming of PAs into national and provincial strategic documents, such as for poverty alleviation, determined, and proposals put forward to improve the situation.
3. Outcome 3: Legislative and institutional gaps and barriers hindering the establishment and effective management of PAs, identified

¹ http://cmsdata.iucn.org/downloads/papua_new_guinea.pdf

² http://cmsdata.iucn.org/downloads/papua_new_guinea.pdf

³ Papua New Guinea National Biodiversity Strategy 2007.

This report primarily addresses Outcome 2 and 3, while Outcome 1 report will be submitted separately by The Nature Conservancy. This report is organised into two parts;

1. Chapter 1. The extent of mainstreaming of PAs into national and provincial strategic documents, such as for poverty alleviation, determined, and proposals put forward to improve the situation, and
2. Chapter 2. Legislative and institutional gaps and barriers hindering the establishment and effective management of PAs, identified

Papua New Guinea at a glance

PNG comprises of half of the island of New Guinea world's largest tropical island and the islands of New Britain, New Ireland, Autonomous Region of Bougainville, and Manus and thousands of smaller islands. It lies between the equator and 12° latitude south and 141° and 160° E longitude. PNG has a land area of 462,243 km² and a total coastline of approximately 17,110 km.

The island of New Guinea accounts for over seven percent of the world's biodiversity in less than one per cent of its land area. The island as a whole currently supports the largest contiguous area of tropical rainforests in the Asia Pacific region.

These forests are home to an estimated 20-25,000 species of higher plants, 740 bird species and 220 species of mammals, the majority of which are endemic to the island. Almost all of the remarkable birds of paradise and tree kangaroos are found in New Guinea and its islands and it boasts more orchids than any other part of the planet.

PNG waters are considered part of the coral triangle, the area of highest known marine biological diversity. Its coral reefs are amongst the most diverse in the world and support an abundance of coral reef associated fauna. Almost all reef types found in PNG waters are within fringing and/or barrier reefs, with an estimated area of 40,000 km². In addition, PNG has some of the largest unpolluted tropical freshwater systems in the Asia Pacific region.

PNG's economy has a dual economy; a 'modern' economy based on mining (gold, silver, copper, nickel) and petroleum and natural gas production, and a 'traditional' one based on fishing, forestry, coffee, palm oil, copra, cocoa and vanilla. The major trading partners are, Australia, Japan, China, Germany, USA, UK, Singapore, New Zealand and South Korea

Papua New Guinea has an estimated population of 6 million, and the Capital city is Port Moresby with estimated population of 400,000 in the National Capital District. The people are mainly Melanesian, but some Polynesian and Micronesian. There are over 820 different languages with English, Pidgin and Hiri Motu the most widely spoken.⁴

⁴ <http://www.fco.gov.uk/en/travel-and-living-abroad/travel-advice-by-country/country-profile/asia-oceania/papua-new-guinea?profile=all>

97% of the land is owned by the people of Papua New Guinea and is managed under customary tenure.

The Fourth Goal of the Papua New Guinea Constitution provides directions to the Forest, Fisheries, Mining sectors and Department of Environment and Conservation the mandate to manage and protect the PNG's natural resources and environment⁵ and promotes the following directive principles;

- Wise use to be made our natural resources and environment in and on land or sea bed, under the land and in the air, in the interest of our development and in trust for future generations;
- The conservation and replenishment for the benefit of ourselves and prosperity, of the environment and its sacred, scenic and historical qualities; and
- All necessary steps to be taken to give adequate protection to our valuable birds, animals, insects, plants and trees.

PNG has adopted and developed important programmes and strategies and these include the followings;

- The 50 years vision only recently launched this year, 2009
- Millennium Development Goals (MDGs) and Medium Term Development Strategy (MTDS) are consonant with the development values enshrined in the Constitution of PNG,
- PNG National Biodiversity Strategy - outcome of the Convention on Biological Diversity,
- Medium-Term Development Strategy 2005-2010 (MTDS) recognize and have incorporated the commitment made by the PNG government, as part of the global community, at the Millennium Summit in September 2000. The development of the MTDS 2010 -2015 is currently undertaken.

The Department of Environment and Conservation is the key government agency in environment conservation management issues in the country. The other key sectors include; forestry, agriculture, fisheries and mining and others those legal mandates allows them to develop strategies and actions plans that have impact on biodiversity one way or the other and are important for consideration in environmental issues.

⁵ Department of Environment and Conservation Corporate Plan 2009 - 2012

CHAPTER 1: REVIEW OF THE EXTENT OF MAINSTREAMING OF PROTECTED AREAS INTO NATIONAL AND PROVINCIAL STRATEGIC DOCUMENTS AND RECOMMENDATIONS FOR EFFECTIVE IMPLEMENTATION.

By Gaikovina Kula⁶, John Michael⁷ and Geoff Lipsett-Moore³

Mainstreaming Protected Areas

Protected area integration entails a two-fold process. The first involves linking protected areas within a broader network of protected and managed lands and waters in order to maintain ecological processes, functions and services. The second involves incorporating protected area design and management into a broader framework of national and regional land-use plans and natural resource laws and policies in order to maximize benefits from, and mitigate threats to, biodiversity. In so doing, successfully integrating protected areas can enable protected area practitioners and policy makers to:

- Aid species conservation through improved connectivity and reduced fragmentation;
- Better adapt policies and programs to respond to the impacts of climate change;
- Achieve additional conservation benefits outside of protected areas;
- Manage ecological processes that occur over large spatial scales, such as hydrological processes, pollination, larval dispersal in marine systems;
- Enhance the provision of ecosystem services;
- Increase resilience to climate change;
- Tackle drivers of change that occur at large scales, such as economic, demographic and political factors;
- Strengthen relationships between conservation practitioners and other stakeholders, in particular with local communities, as well as other government agencies responsible for the management of land and marine resources across the broader landscape;
- Build wider support for protected areas within communities living in and adjacent to protected areas;
- Develop a robust, broadly-based policy framework that combines the needs of multiple stakeholders and is therefore more likely to stand the test of time; and;
- Ensure more effective and sustainable financing opportunities for protected areas and for broader conservation work across the landscape.

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⁷ Executive Manager, Sustainable Terrestrial Division, DEC

³ Director Conservation Strategies, Melanesia Program, The Nature Conservancy

CBD Programme of Work on Protected Areas

The CBD Programme of Work on Protected Areas (PoWPA), whose overall purpose is to support the establishment and maintenance of comprehensive, ecologically representative, effectively managed, and sustainably funded national and regional systems of protected areas⁸ by 2010 for terrestrial areas and 2012 for marine areas. This program is organized into four elements:

- a) actions aimed at planning, selecting, establishing, strengthening and managing protected area systems and sites;
- b) actions aimed at improving governance, participation, equity and benefit sharing;
- c) actions aimed at improving the enabling environment for protected areas; and
- d) actions aimed at developing standards for assessment and monitoring (CBD, 2004).

It is the first target, specifically Target 1.2, that has the greatest relevance to this report. The goal of Target 1.2 is “*To integrate protected areas into broader land- and seascapes and sectors so as to maintain ecological structure and function,*” with the aim being that by 2015, all protected areas and protected area systems are integrated into the wider landscape and seascape, and into relevant sectors⁹.

Box 1: Specific actions of Target 1.2 of the POWPA

- Evaluate by 2006 national and sub-national experiences and lessons learned on specific efforts to integrate protected areas into broader land- and seascapes and sectoral plans and strategies such as poverty reduction strategies.
- Identify and implement, by 2008, practical steps for improving the integration of protected areas into broader land- and seascapes, including policy, legal, planning and other measures.
- Integrate regional, national and sub-national systems of protected areas into broader land- and seascape, inter alia by establishing and managing ecological networks, ecological corridors and/or buffer zones, where appropriate, to maintain ecological processes and also taking into account the needs of migratory species.
- Develop tools of ecological connectivity, such as ecological corridors, linking together protected areas where necessary or beneficial as determined by national priorities for the conservation of biodiversity.
- Rehabilitate and restore habitats and degraded ecosystems, as appropriate, as a contribution to building ecological networks, ecological corridors and/or buffer zones.

It is noted that PNG did not develop a National Programme of Work on Protected Areas and so the above specific actions on Target 1.2 were not accomplished and are

⁸ See CBD Decision VII/15 and VIII/30 at www.cbd.int.

⁹ Convention on Biological Diversity (CBD), 2004.

outstanding. However, this report will no doubt will start the process and will lead to achieving the appropriate activities under CBD POWPA.

Protected Areas in PNG

Formal Protected Areas in Papua New Guinea cover less than 3% of land area (1,642,826 ha) well short of the CBD target of 10%. Moreover, few of these are effectively managed¹⁰. Having to say that, the bulk of land and the sea are managed under the customary means and recognised by the PNG Constitution. Other sectors like the National Forest Authority, National Fisheries Authority and the Mining and by other sectors also set aside areas and are not considered as part of the PNG formal protected area system.

PNG has three main conservation and protection legislation and these are¹¹;

Legislation	Type of Protected Areas ¹²
1. Fauna(Protection and Control) Act	Sanctuary, Protected Areas, Wildlife Management areas,
2. National Parks Act	Reserves, Sanctuary, Historical Parks, National Parks, Provincial Parks
3. Conservation Areas Act	Conservation Areas

Challenges and Opportunities

There are many reasons for the slow progress in creating and managing protected areas in Papua New Guinea. These include;

- 1) Complex social and land and sea tenure system,
- 2) There is no incentives for protection and management,
- 3) There is ever increasing demand for natural resources including: logging, mining, industrial agriculture which are more attracted as they provide incentives,
- 4) There are limited resources dedicated to the establishment of protected areas, especially in terms of capacity and funding,
- 5) A centralized National Government and highly decentralized population, and the needs of rapidly expanding largely rural population (85%) who still lead largely subsistence existence supplemented by cash crops.

Importantly, much still remains to be done, in particularly regarding the development of appropriate national conservation plan, policies, strategies and processes to integrate protected areas into the broader landscape, seascape and sectoral plans. Such integration is essential if protected areas are to become relevant in PNG and seen as essential elements of the country's effort to achieve sustainable development. The next section attempts to explore some of the current PNG planning framework that are important for consideration in developing a suitable planning framework.

¹⁰ RAPAM – fully reference it

¹¹ A separate detail report on the legislation review is presented in this report.

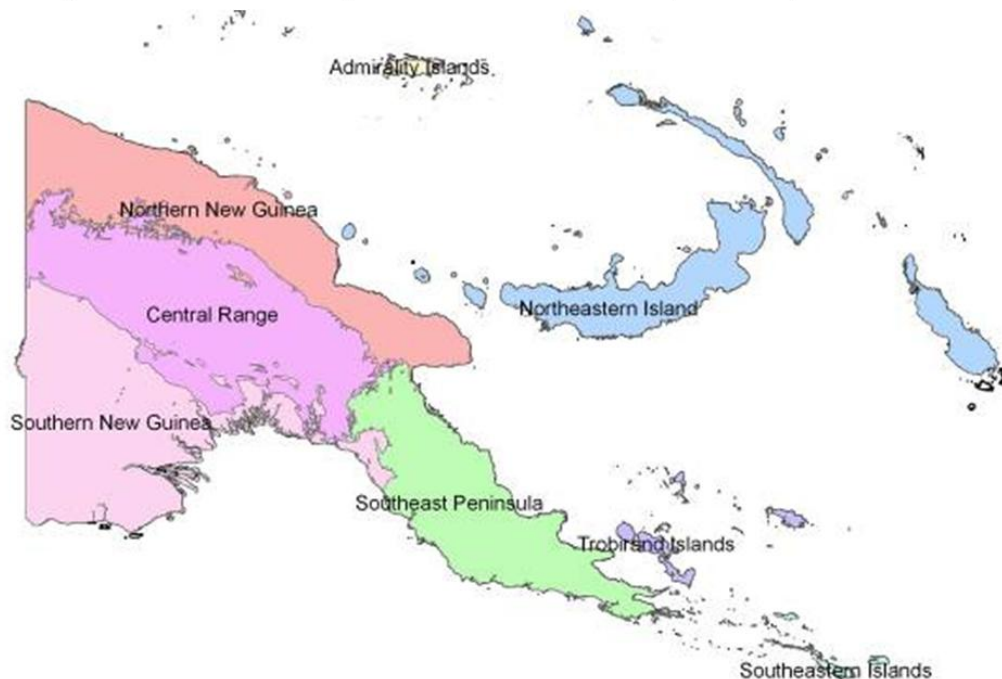
¹² DEC has not adopted the IUCN categories into any of its legislation.

A Regional Approach to conservation and other key planning frameworks.

1. Eco-regional Framework

Globally, WWF Eco-regions and similar Eco-regional Classifications have provided the overall planning frameworks for conservation planning¹³. As part of an earlier Gap Analysis process, these were refined by DEC in collaboration with World Wildlife Funds (WWF), and further refined by TNC as part of recent gap analysis efforts to define biodiversity priority areas for protection and management under a National Framework for PNG¹⁴ (see figure 1).

Fig 1 - An Interim Eco-regional framework for PNG (TNC 2010)



2. Customary Framework

The regional approach to identifying priority areas for protection and management in PNG also needs to ensure the effective consideration of the PNG people, the traditional and customary landowners of PNG¹⁵. Customary Landowners in PNG own the land and sea and are an integral part of the landscapes and seascapes of the Nation. An equal consideration when identifying priorities for protection and management is to ensure the effective consideration of the customary land owners. As a

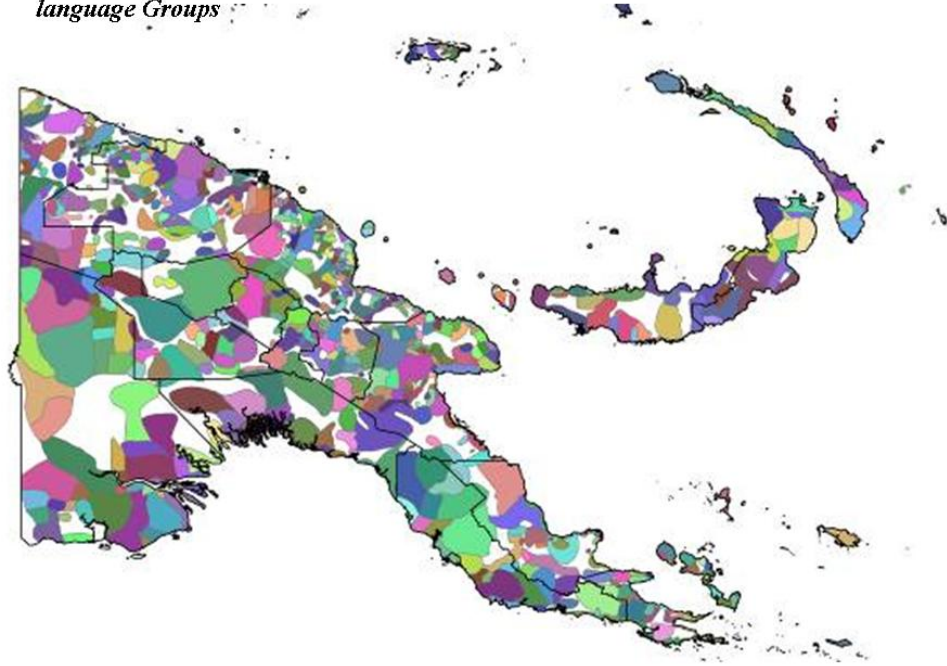
¹³ Terrestrial Ecoregions of the World: A New Map of Life on Earth (Olson et al. 2001)
Vol. 51 No. 11 • BioScience 933

¹⁴ Preliminary National Gap Analysis for the Terrestrial Areas of PNG (Lipsett-Moore et al 2009) in press.

¹⁵ Alcorn, Janis B., Beehler, Bruce McP., PNG Conservation Needs Assessment volume 1. Biodiversity Support Program, Papua New Guinea. Dept. of Environment and Conservation.

first step towards this, a second framework is also crucial when considering implementing outcomes in PNG - a customary ownership Framework. To date 815 language groups have been mapped across PNG ¹⁶(see Figure 2 below).

Fig 2 – An Interim Customary Framework for PNG based on identified language Groups

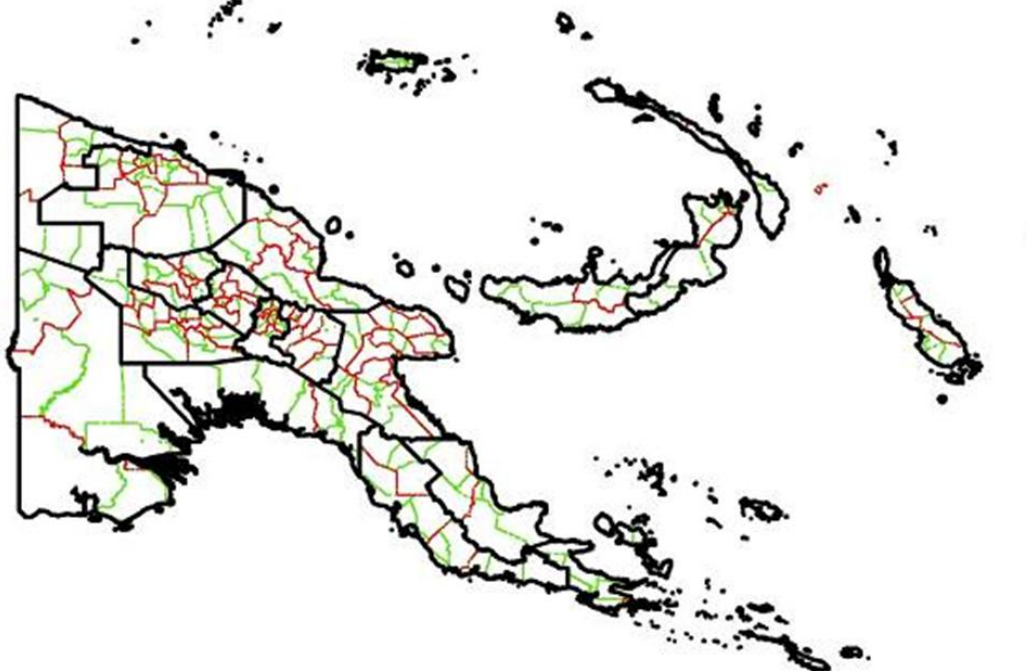


3. Administrative Framework

A Final Framework National framework, adding to the complexity of PNG’s biodiversity, cultural and social frameworks, is the existing administrative framework which includes: Province – District –LLG and Ward levels of Administration (see Figure 3 above). This administrative structure was developed in an attempt to support the highly decentralized nature of the PNG rural community.

¹⁶ Language Groups of the world database

Fig 3 – PNG Administrative Framework (PNGRIS v3)



The New Organic Law on Provincial and Local-Level Governments (NOL) provides the institutional framework for the planning process in Papua New Guinea. It provides the foundation for a system of bottom-up planning for provinces, to ensure the delivery of better and more appropriate services to the local people in a more efficient manner. The reforms brought in by the new law are aimed at:

- ✓ Improving the delivery of services, particularly in the rural areas;
- ✓ Increasing participation in government at the community and local levels;
- ✓ Strengthening local government by decentralising powers and responsibilities to the local levels of government;
- ✓ Increasing funding to local levels of governments to support this strengthening;

Below shows the structure and flow of inter-relations of the national planning system¹⁷.

Level	Relevant Laws	Sections
Provincial	OLPG&LLG 1995	S.25
↓		
District	OLPG&LLG 1995	S.33A
↑		
Local Level Government	OLPG&LLG 1995	S.38
↑		
Ward	OLPG&LLG 1997	S.34

¹⁷ Guidelines for preparation of five year district development plans

At the national level, the sectoral agencies including the NFA, PNGNFA, Mining, Lands and Physical Planning are responsible for implementing their legislative planning framework are supported by the followings;

Sectoral Legislative Planning Framework

Agency	Responsibility	Legislation	Section	Level
National Planning and Monitoring	National Planning Guideline	<ul style="list-style-type: none"> ▪ OLPG&LLG 1995 ▪ OLPG&LLG 1995 ▪ OLPG&LLG 1995 ▪ OLPG&LLG 1997 	<ul style="list-style-type: none"> ✓ S25 ✓ S33A ✓ S38 ✓ S34 	<ul style="list-style-type: none"> ✓ Provincial ✓ District ✓ LLG ✓ Ward
Dept. Lands & Physical Planning	Lands	<ul style="list-style-type: none"> ▪ Physical Planning Act 1989 	Part VII Section 67	<ul style="list-style-type: none"> ✓ National ✓ Provincial
DEC	Environment & Conservation (Protected Areas)	<ul style="list-style-type: none"> ▪ Fauna(Protection & Control) Act 	Part IV, V & VI	<ul style="list-style-type: none"> ✓ National
		<ul style="list-style-type: none"> ▪ Conservation Areas Act 	Part III Section 12-17	<ul style="list-style-type: none"> ✓ National
		<ul style="list-style-type: none"> ▪ National Parks Act 	Section 4 & 5	<ul style="list-style-type: none"> ✓ Provincial ✓ National
		<ul style="list-style-type: none"> ▪ Environment Act 2000 	Part 5, Division 1 Section 41	<ul style="list-style-type: none"> ✓ National
PNGNFA	Forest	<ul style="list-style-type: none"> ▪ Forest Act 	Part III, Section 48 Section 49	<ul style="list-style-type: none"> ✓ National ✓ Provincial
NFA	Fisheries	<ul style="list-style-type: none"> ▪ Fisheries Act 	Part III, Section 28	<ul style="list-style-type: none"> ✓ National ✓ Provincial
Department of Mining	Mining	Mining Act	Section 3 Section 7 & 8	<ul style="list-style-type: none"> ✓ National

Strengths and Weaknesses

The effective implementation of any protected areas network outcome in PNG requires recognition and consideration of the complex suite of biodiversity, cultural, social and administrative and legislative frameworks that exist. Biodiversity priorities are set in an eco-regional framework, but the implementation of outcomes is set firmly in a cultural, social, administrative and legislative context.

There are a number of case studies currently operating within PNG that provide options for integrating and implementing protected areas outcomes at scale in PNG. See appendix 1 and these include:

1. Kokoda Track and Owen Stanley Ranges Mapping (DEC and TNC)
2. The Bismarck Sustainable Development Planning Process (TNC) and
3. YUS Conservation Area (CI and Tree Kangaroo Project)

While many of these case studies are in their early stages of development and implementation, they provide available options. Unfortunately, they cannot be evaluated to determine their respective strengths and weaknesses in delivering the required outcomes.

How-ever, one could use certain principles to assess the planning process frame work for each case studies and evaluate the strengths and weaknesses. In general, this assessment used some of these following principles to guide in developing the most appropriate planning process;

1. promotes Landowners involvement and participation,
2. promotes Livelihood activities,
3. Legally recognised planning process framework, Conservation Areas Act, OLPLLG, etc,
4. provide Sustainable opportunities and benefits,
5. Clear planning process and accountability,
6. promotes Governance in protected area management

Already, the Organic Law and other related legislation call for planning systems to be in place within the framework of government. In-addition, the general functions of national departments under the reforms are outlined under Section 80 of the Organic Law on Provincial Governments and Local-level Governments. The role of the departmental head of each national department meanwhile is to:

- ✓ Formulate the national policies and co-ordinate the implementation of those policies in the provinces and local-level government areas,
- ✓ Provide support to Provincial and District Administrators with planning, professional services and consultancies,
- ✓ Maintain standards as prescribed by the national laws,
- ✓ Support in research, training, and professional development,
- ✓ Provide support in capacity building so that provinces can carry out the public Investment Programme,
- ✓ Provide technical support to the extended service in the provinces and districts

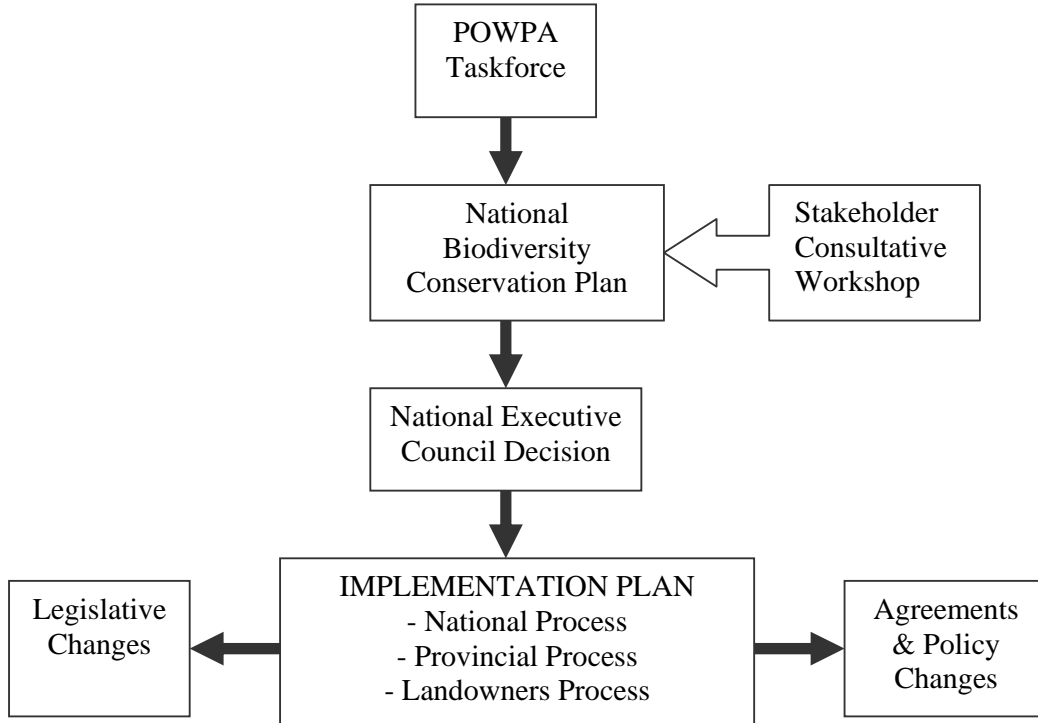
METHODOLOGY AND THE PROCESS

The Department of Environment is yet to develop a clear process for effectively implementing and integrating protected areas outcomes into the wider landscape, seascape and sectoral plans and strategies framework as required by the CBD Programme of Work on Protected Areas and the Millennium Goal 7 and on sustainable development. Given the complexity of PNG's social, cultural, legislative and administrative setting, without an effective planning and implementation framework and process it would be impossible to deliver such outcomes.

The POWPA Team comprising of the technical team and the Policy team of DEC, TNC, WWF staff and myself were able to come up with the following summary products developed under the POWPA project funded by UNDP/GEF. The detail report is under preparations by TNC and will go through consultative process before finalised and endorsed by the National Executive.

The proposed DEC Planning framework was discussed by the POWPA Policy Group. In summary, DEC needs to establish a POWPA Taskforce who will be responsible for completing the process as shown below.

Fig 4. Proposed DEC Planning Framework process for Mainstreaming Protected Areas into wider landscape.



RECOMMENDATIONS

- ✓ Establish a POWPA Taskforce in the department to implement the process above
- ✓ Integrating Biodiversity Conservation into the National and Provincial Planning Process Framework,
 - Incorporate the PNG National Biodiversity Strategy and Action Plan Goals into the next Medium Term Development Strategy 2010 – 2015.
- ✓ Integrating Protected Areas into Sectoral Development Strategies and Action Plans by taking into account the followings;
 - DEC Regional ecoregional planning framework, (see TNC and DEC map),
 - The administrative management framework, and
 - Culture in recognising the scared sites and other important land scape features.
- ✓ Maintenance of a good database system equipped with capable and efficient capacity and funding,
- ✓ Support and provide funding for the management of these areas,
- ✓ Monitoring and Evaluation the achievement of ecoregional planning framework

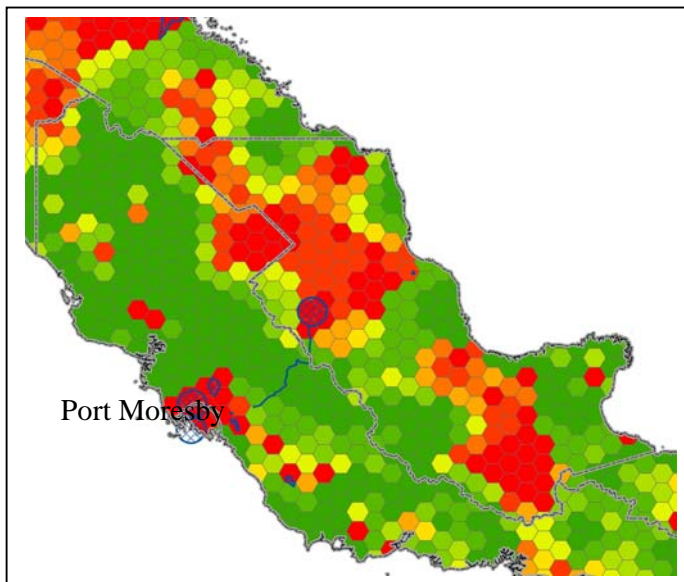
Case Study 1: Owen Stanley Ranges Landscape

By John Michael, Gaikovina Kula, Geoff Lipsett Moore

This study case was developed by the POWPA Working Group comprising of the TNC and DEC staff as a desktop analysis exercise on the Southeast Peninsula eco-regional landscape.

Background Information

The Kokoda Track and Owen Stanley Initiative (see map below) is very important undertaken by the Department of Environment and Conservation on behalf of the Government of Papua New Guinea and Australia.



Map 2. Part of Central, Milne Bay and Oro Provinces covered by South-east Papua eco-region and Kokoda Track and Owen Stanley Range as a high priority biodiversity conservation area.

In 2008, a Joint Understanding between PNG and Australia on the Kokoda Track and the Owen Stanley Ranges was signed. The Kokoda Track and Owen Stanley hold a special importance for Papua New Guinea and

Australia.

- The Kokoda Track has iconic status for the people of both PNG and Australia. It represents the bond forged between our people at a time of war
- The Kokoda Track has contemporary significance as a tourist attraction, has potential to widen the base of PNG's tourism industry, and is an important person-to-person linkage between people from PNG and Australia,
- The Owen Stanley Range region, including the Brown River Catchment, is important as a future water and power supply opportunity for Port Moresby.
- The Owen Stanley Ranges are one of PNG's carbon stores and will be assessed along with other locations as a potential sites for demonstration Reduced Emissions from Deforestation and Degradation (REDD) activities within Papua New Guinea – Australia Forest Carbon Partnership.
- The Owen Stanley Ranges are significant from a World Heritage perspective, and were included by the PNG Government on its World Heritage Tentative List in 2006.

Box1. Kokoda Track and Owen Stanley Ranges Initiative.

The Government of Papua New Guinea and Australia are the core group to this initiative.

Both Governments have very clear vision and guiding principles and objectives for the region as captured in the Joint Understanding of the Kokoda Track and Owen Ranges.

✓ Vision

The five components the vision includes;

1. Sustainable development for the people and communities along the Kokoda Track corridor including improved economic opportunities and livelihoods, health, education, transport and related services;
2. Preservation of the historic values of the Kokoda Track and maintenance of the integrity of the Track and of the special qualities of the trekking experience;
3. Preservation of the water catchments in Owen Stanley Ranges for future power and water supply for Port Moresby;
4. Maximising the potential forest carbon benefits; and
5. Recognition of the world Heritage cultural and biodiversity values of the Owen Stanley Ranges.

✓ Guiding Principles

1. support environmentally sustainable development that delivers real benefits to local communities,
2. the understanding of the PNG – Australia Development Strategy 2006 – 2010 and recognises the PNG and Australia Forest Carbon Partnership
3. Partnership between the 2 Governments, engagement process with landowners and communities,
4. PNG process and systems recognised and used

Box 1.1 Additional Stakeholders and Composition

1. Kokoda Development Program Coordination Committee (KDP) comprises of the following key stakeholders,
 - ✓ Papua New Guinea Government agencies, DEC, DNPM, etc
 - ✓ Australian Government agency – DEWHA
 - ✓ Donors – AUS AID
 - ✓ District Administration, Kairuku/Hiri, Sohe, Central and Oro
 - ✓ Local Level Government, Koiari, Kokoda,
 - ✓ Tourism – national and local operators (KTA,KTF)
2. Kokoda Track Technical Working Group
 - ✓ Government agencies, MRA, PNGNFA, DAL,NCC, DEC, TPA, DOL,
 - ✓ Kokoda Track Authority
3. Landowner Representative Committee
 - ✓ Kodu-Naoro, Mt. Kodu, Koiari, Depo/Owers Corner, Kagi, Efogi 1 &2,
 - ✓ LLG – Kokoda, Koiari

1. ASSESSING THE BRODER CONTEXT

For the purpose of this study, a draft Kokoda Planning Process for mainstreaming of Protected Areas into the Southeast Peninsula landscape was chosen to trial out the planning process.

In 1995 the GoPNG endorsed a 20% of the PNG forest to be set-a- side for protection. In so doing a gap analysis was conducted in terms of what conservation features were met and identify what other areas are important to meet the 10% and 20% target respectively.

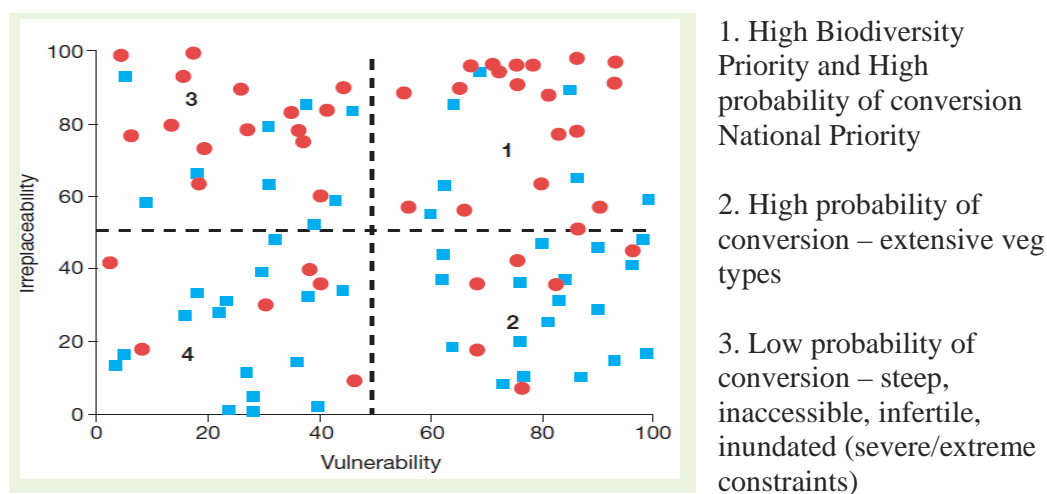
Table 1: Where are the existing gaps – Geoff Lipsett Moore 2009

Conservation Feature	1975 Extent (ha)	10% Target (ha)	20% Target (ha)	Target met in existing PA's	Target Remaining 10%	Target remaining 20%
ABIOTIC (A-Type)						
BIOTIC (V-Type)						
Hm - Medium Crowned Forest	7,850,178	785,018	1,570,036	300,000	485,018	1,270,036
L - Small Crowned Forest	3,146,026	314,603	629,205	100,000	214,603	529,205
LN - Small Crowned Forest with Nothofa	1,986,593	198,659	397,319	50,000	148,659	347,319
SPECIES (S-Type)						

It is important to note that the target remaining especially the from the forest data of 1975 as the baseline. Exp3a5n the tab3e above

Setting the Priority

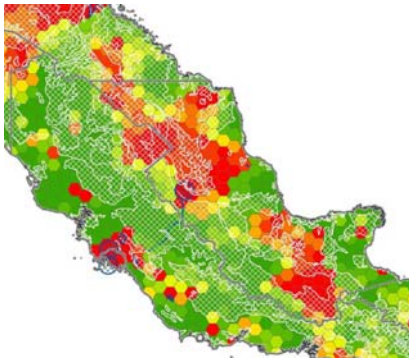
The irreplaceability and vulnerability were able to set the priority for the areas planned. The graph below illustrated the process.



4 Low probability of conversion and degradation

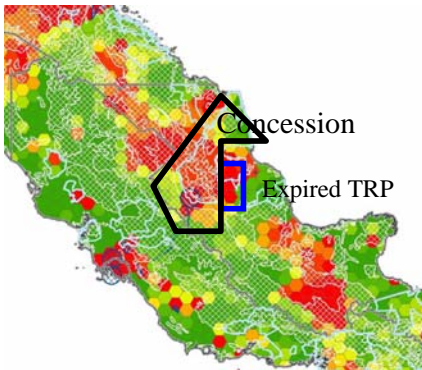
Focussing on the national priority for 20% set-aside, the team was able to focus on the agreed landscape as it is a high priority for the department and also because of the current Papua New Guinea and Australian Joint Understanding within the Kokoda Track and Owen Stanley Range Initiative.

The below diagram illustrate the possible steps to be taken as an entry point for discussions with the relevant sectors and landowners.



Step 1 – Overlay Severe and Extreme constraints to identify:

- Areas of “self protecting” which include steep slopes and unindated areas
- Areas vulnerable to conversion/degradation



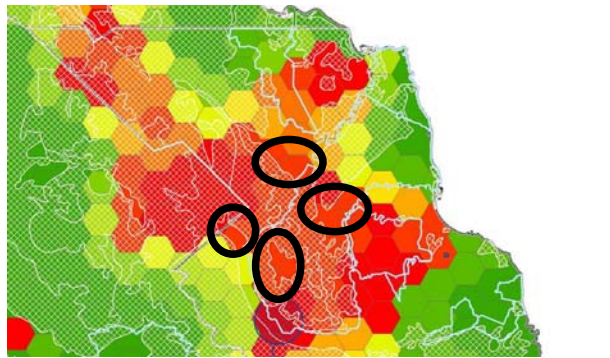
Step 2 – Overlay FMA's

Expired TRP

- Expired when?
- What is the current condition of the TRP, is it suitable for protection

Proposed FMA

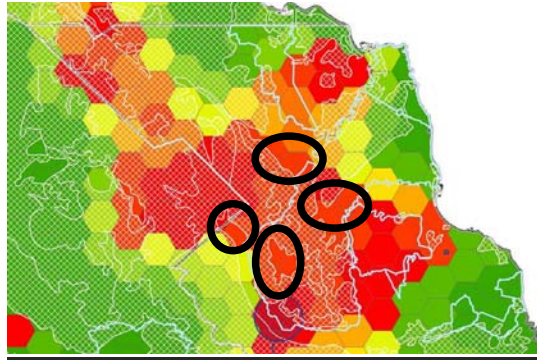
- Severe + extreme constraints (non issue)
- Remaining areas likely to be converted or degraded



Step 3: Forest Management Area Opportunities

Conservation opportunities in proposed FMA

- Proposed FMA opportunity for (Payment for ecosystem services)
- DEC to Focus on the real conservation issues and opportunities



Step 4 – Identification of Key Stakeholders

- Province,
- District,
- Local Level Government,
- Customary Landowners
(Only those identified in the Priority Areas)

Conclusion

- National GAP Analysis requires rules and data
- This helps to identify National priorities for protection and management
- Policy needs to work hand in hand with the technical team
- The big challenge is focusing on the real issues as part of implementation

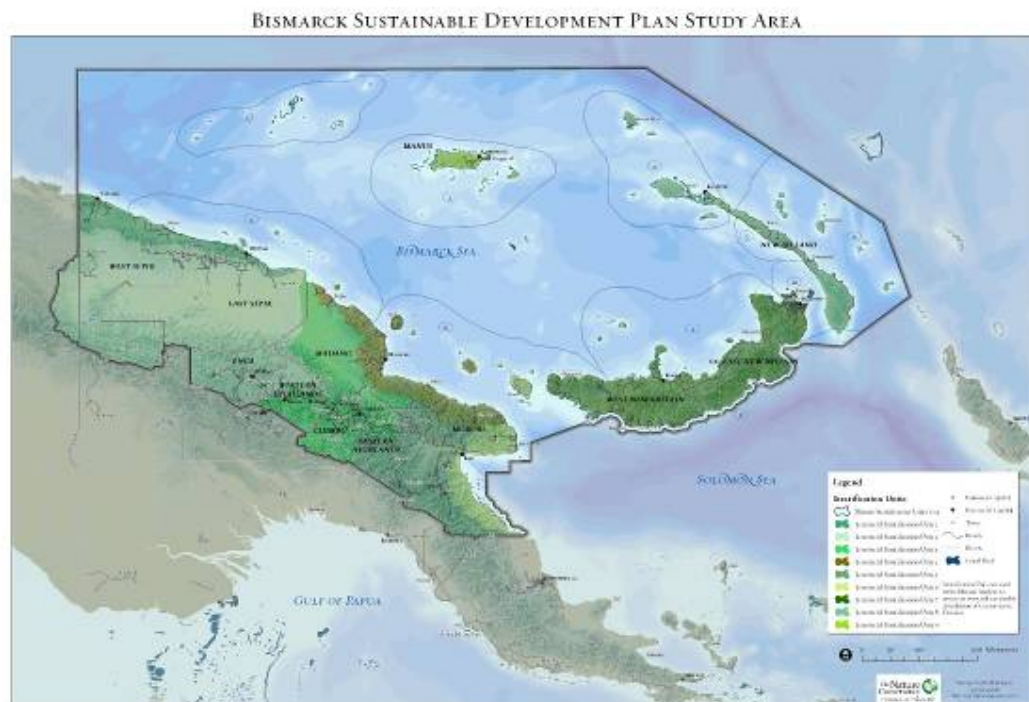
Case Study 2: The Bismarck Sustainable Development Planning Process

Geoff Lipsett-Moore, Theresa Kas, Francis Hurahura and Nate Peterson

Primary Objectives:

1. To take conservation and sustainable development efforts in Papua New Guinea (PNG) to scale
2. To assist PNG to meet it's International Commitments, particularly (1) Convention on Biodiversity and (2) Millennium Declaration - MDG1 and 7
3. To empower Provincial Governments and develop a process that strengthens effective conservation and sustainable development efforts
4. To embed sustainable development and effective conservation as an integral part of the development planning process in PNG and
5. To ensure the effective consideration of climate change mitigation and adaptation.

Figure 1



Key Participants:

Provincial Planners from 12 Provincial Governments across the Bismarck Study Area (Figure 1), TNC Melanesia Team and Brisbane and Advisors, Representatives from: The Department of Environment and Conservation, National Planning, National Fisheries, Mining, and Provincial and Local Level Government Affairs.

Process:

The Bismarck Sustainable Development Plan is a process that works systematically with PNG Provincial Governments through the development planning process to meet the above objectives. The process involves a series of workshops to engage, raise awareness, build capacity and ultimately empower Provincial Governments to pursue large landscape sustainable development initiatives (where sustainability includes a balance of protection and effectively managed development).

Synopsis of Workshops:

1. March 2008 - What is Environmental Sustainability and how do we implement it? Workshop one focused on: (a) Introduction to Sustainable Development, PNG International Commitments under CBD and MDG and Medium Term Development Strategy (MTDS) (b) Proposed Study Area, (c) Sustainable Development Conceptual Model, (d) Participatory mapping of existing proposed developments for each Province and (e) Ranking of all threats and opportunities in terms of their likely impact on the persistence of biodiversity.

2. June 2008 - Reconciling conflict between Biodiversity Priorities and Development Priorities Workshop two focused on: (a) Identify existing biodiversity/conservation priorities based on existing assessments, (b) Overlaying existing conservation priorities with development priorities and (c) outlining a process (CAP) to develop strategies to mitigate the threatening processes (d) CAP breakout groups to develop strategies for three key areas.

3. September 2008 - Priority Sustainable Development Projects – Workshop three (a) Introduction to climate change adaptation and mitigation, (b) key National Issues from National Government Representatives (c) selection of projects on the basis of (i) Provincial Planner is proactive and (ii) Provincial Administration is supportive, (d) Development of draft priority projects and strategies (using CAP and Results Chains) to mitigate threatening processes and maximize environmental opportunities.

New Projects:

This series of workshops catalyzed the inclusion of large-scale sustainable development projects as an integral part of the 5 year development planning plans with 4 of the 12 Provincial Governments. These projects build on a foundation of platform sites already established within the Bismarck Region (i.e., Adelbert's Mountains and Kimbe Bay) (see Figure 2). Although the projects are in the concept phase, Provincial Governments are already endorsing the projects in principle and allocating significant financial resources in their budgets to support project development and implementation. These new projects are broadly outlined in Figure 1 and summarized below:

- 1. East New Britain (ENB) – Mesulomato Sustainable Development Project** (Ridges to Reefs; ~710,000 ha; includes marine habitats to 3 nm's from shore) – The ENB Provincial Planner has been extremely proactive and the ENB Government has pledged funds to support this initiative, which requires that every Local Level Government (LLG) within the study area includes aspects of the sustainable plan within LLG plans and budgets. These conditions allow for widespread implementation of this project.
- 2. East Sepik - Sepik Plains Integrated Development Project** (terrestrial, fresh water, marine; ~3,500,000 ha) – This project includes 3 Districts: Anoram (the Prime Ministers District), Wosera-Gawi and Ambuti. The Provincial planner has been extremely proactive and has secured funds from the

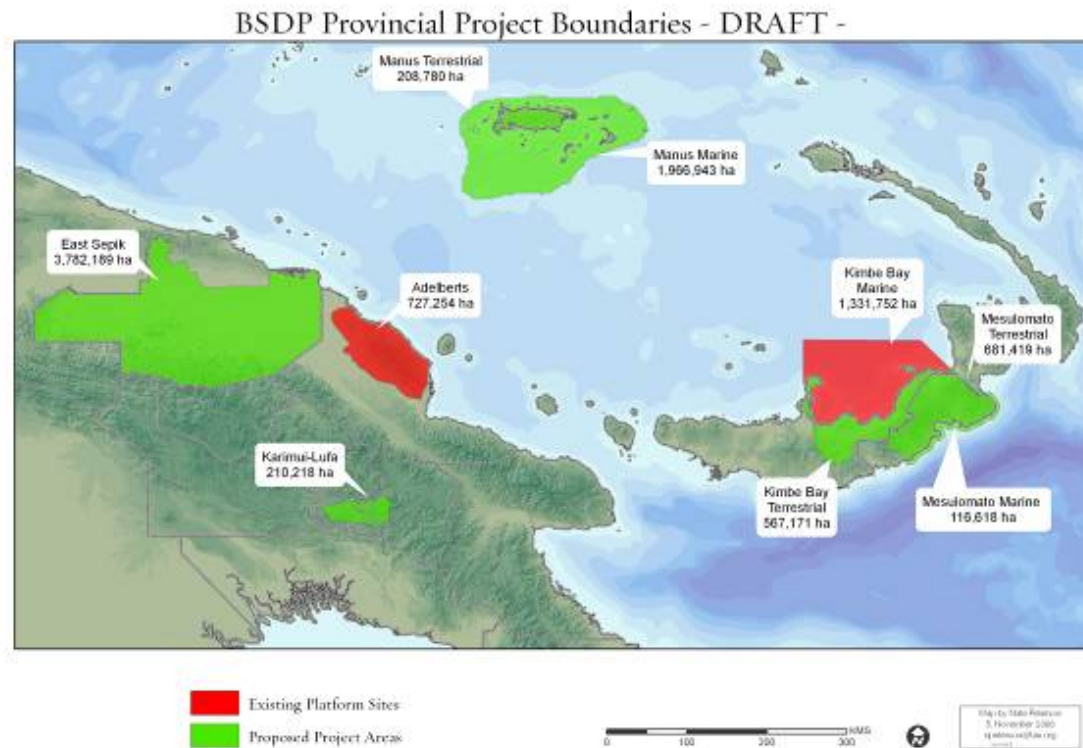
Provincial Administration to support the development of this initiative (K\$90,000) to be distributed evenly across the three Districts. There is also significant opportunity to expand the area with support from an Industry Partner, Xstrata (mining company).

3. **Manus – Manus Sustainable Development Project** (~2,100,000 ha) – This is a “ridges to reefs” project that includes all of Manus Island and its satellite islands and reefs bounded by the Conservation Needs Assessment; it excludes the Hermit Islands. The Manus Provincial Planner was unable to attend this workshop, so significant follow-up is required to fully detail this project. However, the Provincial Administration is highly supportive.
4. **Simbu and Eastern Highlands – Karamui/Lufa Integrated Development and Conservation Area (KIDCA)** (terrestrial; ~210,000 ha) includes Crater Wildlife Management area and other significant remaining high elevation forests.

Key elements of these projects include:

- These are Provincial Projects initiated and managed by Provincial Governments with support from the National Government and other partners.
- Levels of support by TNC and roles and responsibilities are defined in an MOU based on an initial scoping by TNC for each project.
- Provincial Governments require assistance with the completing documentation of each project and TNC resources (e.g. Fellows with strong writing and project skills) may be required to assist with this process.
- A first meeting will need to be held within each Province to commence the engagement of key Industry Partners and stakeholders to develop an overarching steering committee to enable the development and implementation of the projects in a collaborative, open and transparent manner.
- Provincial Budgets have been allocated for projects and will be approved as part of the Development Planning Process for each Province.

Figure 2



Next Steps:

The proposed Provincial Sustainable Development Projects are part of the 5 year rolling development plan process. The projects will span the period from 2008-12. Most of the key strategies identified in the draft projects require working with Industry at scale (Forestry, Oil Palm, Bio-fuel and Mining) to develop best management practices. The projects will also require that climate change adaptation and mitigation (REDD) measures are effectively considered, as part of a National Gap Analysis Process driven by DEC.

1. Scoping and MOU - (December 2008) – The preliminary project scoping was conducted by Theresa Kas to determine the capacity of Provincial Government to manage and implement the proposed projects. It also enabled TNC to identify any potential risks, clarify roles and responsibilities, manage expectations and determine our level of involvement. These details will help frame the content of the MOU.

2. Stakeholder Meeting and Steering Committee development - (Jan – Feb 2009) – A first stakeholder meeting was held with each Province to engage key industry partners, landowners, CSO’s and Government departments. This meeting provided an overview of proposed projects and also enable the establishment of steering committee’s to oversee the development, funding, management and implementation of projects. It is expected that a TNC will assist with the facilitation of meetings and that a TNC representative will sit on this committee and that the committee will meet quarterly.

3. Technical Support – (Feb – Jun 2009)

- **Project Management and Documentation** - It is expected that the Provinces will need assistance with project management and documentation of projects. It is envisaged that we will seek support more broadly within TNC to support this through the use of Fellows on three month assignments, but also by providing appropriate training to Provincial Government staff (e.g. TNC Project Management course).
- **GIS** - Most Provinces have extremely limited GIS capacity. Most spatial planning in PNG is done at the National level. However, there is little or no communication between departments responsible for specific areas. For example, Forest Plans for forest management units are developed by the National Forest Authority. Agriculture Plans are developed by National Department of Agriculture. These plans span significant landscapes but are not integrated. The development of National Gap Analysis of existing Protected Areas and the consideration of climate change mitigation and adaptation will also provides a powerful opportunity to integrate plans, and inform decisions regarding tradeoffs that will maximize biodiversity benefits, ecosystems services and REDD considerations. TNC will work with the PNG National Government and other partners to assist with the delivery of this process.

4. Industry Engagement – (Oct – Jun 2009) – Engaging Industry as part of the solution represents a cornerstone strategy for all projects. Engaging with key large landscape and seascape industries has many inherent risks, but equally powerful opportunities to secure results at scale. Immediate industry engagement within the Bismarck Region includes:

- NBPOL (Significant holdings in West New Britain, Madang Province and Solomon Islands) - Exploratory meeting held 21 October to scope a broader TNC/NBPOL working relationship
- Xstrata (Frieda Mine – most of the Sepik Catchment) – Exploratory meeting 8 December

5. Amendments to the National Planning Guidelines

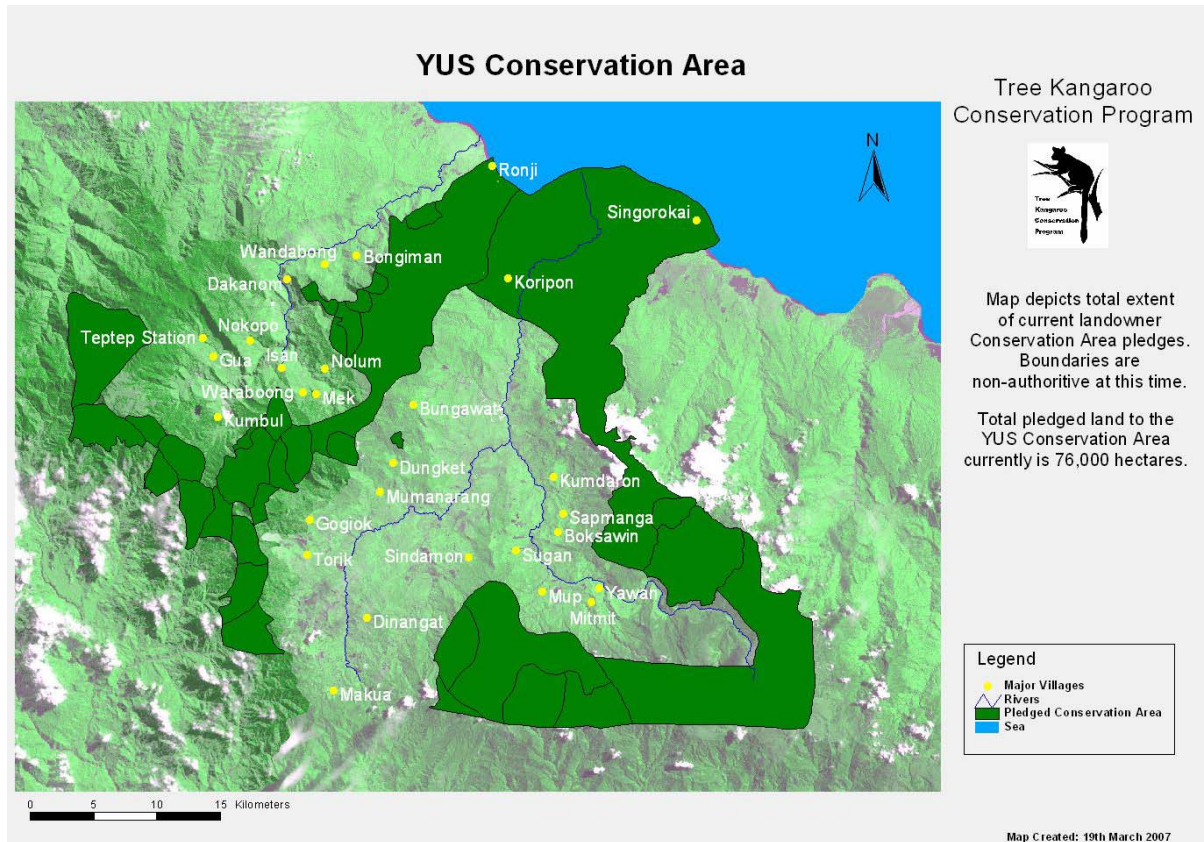
The development planning process is one of the few decentralized processes in the country and works in a hierarchical manner with the development of Provincial, District, LLG and Ward Development Plans. In a perfect world this process involves a rollup of plans from the Ward to the Province. In reality it is more a top down assimilation of the many requests under the guidance of the Medium Term Development Strategy (MTDS). At the present time there is little if any guidance regarding Sustainable Development within the existing Guidelines. As part of the next Medium Term Development Strategy 2010 – 2015, protected areas and sustainable development guidelines should be incorporated within the revised National Planning Guidelines.

References

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Case Study 3: YUS Conservation Area

Lisa Dabek¹⁸, Bruce Beehler¹⁹



The YUS Conservation Program—A Partnership

The 76,000 hectare community-based YUS Conservation Area is the product of more than a decade of work by the Tree Kangaroo Conservation Program (TKCP) of Woodland Park Zoo, which is focusing on conserving the Matschie's tree kangaroo (listed as Endangered on IUCN's Red List) through strict local management of a large forest reserve in the Huon Peninsula of Papua New Guinea. The TKCP has partnered with PNG Department of Environment and Conservation (DEC), Conservation International (CI) and local communities to conserve forests and wildlife. As a benefit for engagement, the local communities receive health and education benefits. Conservation International (CI) has provided technical support and grant funding for the TKCP field program over the last five years. CI itself works in partnership with

¹⁸ Lisa Dabek, Ph.D. Senior Conservation Scientist, Director of the Papua New Guinea Tree Kangaroo Conservation Program,

¹⁹ Bruce Beehler, Ph.D. Senior Research Scientist Science and Knowledge Division Conservation International

CSIRO in the region and receives considerable technical capacity through this strategic partnership. The conservation area was formally gazetted in January 2010. The WPZ-CI- DEC team will now develop and finalize a management plan and local management structure for the CA, and foster the creation of a Community-based Organization (CBO) comprising local community leadership to implement this plan and provide the long-term oversight and protection of this globally-significant reserve of carbon, biodiversity, and natural ecosystem services. In addition, to achieve financial sustainability for the program, the partnership is establishing conservation trust fund that will generate a steady income stream to cover costs for ongoing management of the conservation area and supporting community activities.

Background

The YUS Conservation Area ranges from sea level to over 4,000 meters elevation, protecting a wide spectrum of forest habitats on the Huon Peninsula. The variety of connected habitats and elevational gradients are important for allowing for species range shifts in response to climate change. Perhaps even more importantly, the success of this program will serve as a model for other community-managed conservation areas in Papua New Guinea and greater Melanesia. The PNG Minister for Environment and Conservation publicly declared his support for the YUS Conservation Area in the context of formally launching PNG's National Biodiversity Strategy and Action Plan in October 2007 at the South Pacific Regional Environmental Programme (SPREP) conference in Alotau and encouraged other 'Conservation Serving Communities' projects to be developed.

Our intention is to foster the establishment of other Conservation Area as additional rural communities learn from the YUS community.

This field conservation plan creates a perfect opportunity to develop a conservation carbon (afforestation and REDD) activity in partnership with the Government of Papua New Guinea as part of its efforts to address GHG emissions. Since the government of PNG has taken some measure of leadership in advancing international negotiations regarding REDD and the Post-Copenhagen process, the development of field experience is an important step in building national capacity to effectively reduce emissions from forest change.

A. Background

Selecting the Area: The area was identified as significant for biodiversity by the PNG *Conservation Needs Assessment* (1993) conducted by the Department of Environment and Conservation in partnership with Conservation International and the Biodiversity Support Program of the US Agency for International Development.

History

For over a decade, the Tree Kangaroo Conservation Program (TKCP) has been partnering with local landowners on the Huon Peninsula in Papua New Guinea (PNG) to create and manage the country's first Conservation Area, encompassing over 187,000 acres of cloud forest and Matschie's tree kangaroo habitat. TKCP works within the YUS Local Level Government in Morobe Province, PNG. YUS stands for

the three main watersheds in the region: Yopno, Uruwa, and Som. The population of YUS is approximately 10,000 with over 35 villages. The people of YUS are subsistence farmers and hunters who rely on the land and understand the importance of protecting the forest and wildlife. The local people also own all of the land in the YUS area, 187,000 acres of which have been pledged to the YUS Conservation Area (CA) for protection. TKCP and the people of YUS achieved a major milestone in January of 2009, when the PNG national government officially gazetted the boundaries of the YUS Conservation Area, protecting the area from resource extraction in perpetuity. The YUS Conservation Area extends from sea level to 4,000 meter mountain ranges, thus preserving a complete altitudinal spectrum of Huon Peninsula habitats, including the home of the endemic and endangered Matschie's tree kangaroo. The tree kangaroo has important cultural significance for the local indigenous people, and serves as a flagship species for the YUS Conservation Area. In addition to research and conservation, TKCP has worked in recent years to build capacity of the local communities who have been dedicated to promoting conservation in YUS. These community improvement projects include addressing health care access, providing education opportunities, and creating a Community Based Organization to manage the Conservation Area.

Today

TKCP has entered a unique and exciting period in the history of our program. In 2008, TKCP entered an agreement with Conservation International and the German Development Bank (KfW) for multi-year special funding under the German Government's "Lifeweb Climate Change Initiative". Under this project, TKCP has received a generous opportunity from CI and the German government to expand our program goals, accomplishing initiatives through 2011 that would not otherwise be possible. The overall goal of the CI/KfW project is to establish the YUS Conservation Area (CA), and secure the ecologically and socio-economically sustainable management of the CA. With the YUS CA now established, current projects under this special initiative include:

- Developing a CA Management Plan and YUS Landscape Plan;
- Building the capacity of YUS indigenous people to manage the CA over the long-term, including establishing a Community-Based Organization and piloting livelihoods projects for fuelwood and income-generation;
- Developing a system of ecological and socio-economical monitoring for the CA;
- Supporting research into the impacts of climate change on YUS and promote the expansion of protected areas in PNG, with the YUS CA as a model.

Through collaboration with our long-time supporter and partner in the project, Conservation International, TKCP was able to make great progress in 2009 towards these objectives which are needed to ensure long term management and protection of the YUS Conservation Area. As a temporary source of funds for special initiatives, TKCP will continue to work with CI on accomplishing these projects through 2010 and into 2011, in addition to our ongoing efforts.

In addition, the partnership with CI on the KfW Lifeweb Initiative has allowed TKCP to bring on new special project positions under the grant. In July, the Agroforestry & Livelihoods Coordinator was brought on. In January of 2010, TKCP will also be joined by new Community Development Coordinator, to work with the Agroforestry

& Livelihoods Coordinator and TKCP's partners on livelihoods and agroforestry projects.

B. Highlights

Conservation Area Declared

January 9th, 2009 marked the official gazettal of the YUS Conservation Area by the Papua New Guinea national government. Marking the culmination of over a decade of hard work by TKCP staff and the people of YUS, a celebration of the event was held on April 22nd in Teptep village, with local landowners, government officials, staff, and TKCP partners including Conservation International.

Assistance to YUS Communities

In 2009, TKCP was able to assist YUS communities with overcoming some obstacles impacting their daily lives. Through a generous grant from the German Development Bank and Conservation International, TKCP assisted with the construction of an airstrip in Keweng village, providing a link to the industrial hub of Lae, PNG for residents of the Yopno region of YUS. In addition, with the grant's support, TKCP also purchased 3 solar refrigerators for YUS aid posts, which allow YUS villagers to access much needed vaccines, previously impossible to store because of the lack of electricity.

Capacity Building in YUS Communities

Through a generous grant from the German Development Bank and Conservation International, TKCP made great strides in 2009 for community development projects benefiting the people of YUS, including potential income-generating projects such as identifying markets for YUS-grown coffee, and sustainable land use projects such as agroforestry for fuel wood and construction materials.

Teachers for YUS Villages

In 2009, five new students received scholarships from TKCP to attend Balob Teacher's College in Lae, PNG. Upon graduation, these students will return to a village school in YUS to teach for a period of 6 years. Three students graduated from Balob under a TKCP scholarship in 2009, and will begin their teaching commitment in YUS in early 2010.

Media and Publicity

TKCP had a banner year in the media spotlight, with extensive global coverage of the official declaration for the YUS Conservation Area. Through collaboration with partners Conservation International and National Geographic, the YUS Conservation Area announcement was broadcast nationally in the US and PNG, as well as internationally through CNN.com, MSNBC, and over 50 other media outlets. In addition, TKCP collaborated with National Geographic in December 2009 for a feature piece on ABC's World News and Nightline broadcasts, which covered the research on wild tree kangaroo behavior done through NGS Crittercam, and TKCP's efforts to protect YUS habitat.

New Resources for YUS Landowners

In order to provide sustainable management of the new YUS Conservation Area, TKCP provided YUS landowners with two new guides for land use and resource

management in 2009. The Landowners Law Booklet, developed in collaboration with Community Conservation Inc, outlines the PNG land tenure system and laws that impact landowner's pledges to Conservation Areas. The YUS Indigenous Maps were created in partnership with the Center for Native Lands and National Geographic Society, and allowed YUS landowners to map the traditional resources and sites important to their own management strategies. Both guides were printed in distributed throughout YUS in 2009.

YUS Conservation Trust Fund

Through a generous grant from Conservation International's Global Conservation Fund (with funding provided by the Moore Foundation), TKCP is raising funds for the YUS Conservation Trust Fund, an endowment which will provide annual income from interest to support TKCP's PNG staff and projects, as well as the newly established Community Based Organization.

C. Conservation

Celebration of the YUS Conservation Area

2009 was a record year of accomplishment for TKCP, with the January 9th formal declaration of the YUS (Yopno-Uruwa-Som) Conservation Area by the PNG Attorney General, following official approval by the National Executive Council. The declaration represented the culmination of a decade of work with the people of YUS, all levels of the PNG, particularly the Department of Environment & Conservation and local government, and dedicated partners such as Conservation International (CI). As the first of this type of protected area in Papua New Guinea, a Conservation Area provides an unprecedented level of protection to the species and habitat it covers. In the case of the YUS CA, over 180,000 acres of pristine cloud forest, lowland forest, and other habitats are encompassed, protecting endangered and threatened species such as birds of paradise, cassowaries, long-beaked echidnas, and Matschie's tree kangaroos.

To celebrate this achievement, TKCP and the people of YUS hosted a ribbon-cutting ceremony on April 22nd, 2009 (Earth Day) that formally recognized the creation of the YUS Conservation Area. The monumental celebration event was held in Teptep village for this official declaration. The event was attended by several hundred members of the YUS community, WPZ and CI staff, and numerous PNG government officials. Guests included the PNG Acting Prime Minister Dr. Puka Temu, the Minister for the Environment & Conservation Benny Allen, the Minister for Defense Bob Dadae (also the Member of Parliament for this district), the Morobe Provincial Governor Luther Wenge, the Kabwum District Administrator and several other district and local officials. The PNG Department for Environment & Conservation was represented not just by the Minister, but also by staff members who have attended landowner workshops in YUS and have been collaborating with WPZ on the management plan for the Conservation Area.

The celebration began at 2am with Sing Sing groups starting their traditional song and dance which continued until 10am, when the last of the invited guests arrived by plane and helicopter. TKCP Director Lisa Dabek was one of many speakers to thank the community for their work on the Conservation Area and specifically for the many years of collaboration with TKCP. Many speakers highlighted the meaning of this

event for the country of PNG and the global community. Others mentioned the importance of protecting the forest to reduce carbon dioxide in the atmosphere and the role of humans in protecting the unique biodiversity of PNG. For many people in YUS, this was the first time they had heard or seen elected officials from the Provincial and National Government.

Mapping the YUS Conservation Area

2009 was also a highly successful year for the TKCP Mapping project thanks to funding from Conservation International and the German Development Bank (KfW). Our Mapping & GIS Coordinator, hired two GIS Mapping Assistants to work with landowners in YUS to map the pledged land areas that make up the YUS CA. Since their recruitment in April this year, mapped land parcels and conservation awareness has increased double-fold. With the efforts of the lead mapper and his assistants, TKCP aims to yield more acreage of pledged land to the YUS Conservation Area into 2010.

Landowner Resources

In order to promote sustainable management of the new YUS Conservation Area, TKCP is working to provide landowners with the necessary tools to guide land use and resource management in YUS. These tools include Indigenous Maps of YUS, a Landowner Law Booklet, and a Management Plan for the YUS Conservation Area (CA).

In collaboration with Mac Chapin of the Center for the Support of Native Lands in Washington DC, and with funding from the National Geographic Society, TKCP has been working with landowners from across YUS to develop the Indigenous Maps of YUS. In this project, local landowners identified culturally and biologically significant landmarks within YUS, which are annotated on the maps using traditional language and symbols. The maps have been edited by the landowners and digitized into Geographic Information Systems (GIS) by Wycliffe Antonio and staff at the University of Technology in Lae, PNG. In 2009, these maps were finalized with assistance from Conservation International and printed and distributed throughout YUS. These maps are an important communication tool for YUS landowners, empowering their resource management choices and decision-making in the YUS CA.

The Landowner Law Booklet, a project begun in 2005 in partnership with Community Conservation Inc, describes the PNG conservation and land tenure-related laws that landowners should be aware of when they pledge land for conservation. In 2009, this Law Booklet was translated into Tok Pisin (the lingua franca), printed and distributed to YUS communities. This tool provides landowners with knowledge of the legal implications of land ownership and tenure laws impacting management of the YUS CA.

Finally, the work on the YUS CA Management plan was ongoing in 2009 and will continue into 2010, including a Landowner Workshop being held in Bungawat village in early 2010. This workshop will give YUS landowners input to the Management planning process, as well as finalize the Management Plan's community-drafted rules and enforcement structures for the YUS CA. The Management Plan for the YUS CA

will provide a framework for the long-term, sustainable maintenance of this new protected area for PNG's unique and valuable biodiversity.

Monitoring Workshop

On October 22nd through October 24th 2009, James Cook University in Cairns (JCU), Australia hosted the "Workshop on Monitoring Rainforest Wildlife in PNG". With funding from Conservation International, the workshop participants included staff from TKCP, JCU, Conservation International, and biologists from PNG, including staff from the PNG Institute for Biological Research (IBR). The workshop focused on laying out the initial steps for a system of community-based monitoring in YUS, including identification of wildlife species and areas for monitoring the core area and buffer zones of the protected area. In 2010, staff from JCU, CI, and TKCP will collaborate to develop and test protocols for biological and socio-economic monitoring of YUS.

D. Research

Tree Kangaroo Research

Having graduated with a Master's degree from James Cook University in 2008, Gabriel Porolak took on the role of TKCP Research & Monitoring Coordinator in TKCP's Lae, Papua New Guinea office. In 2009, Porolak assisted CI Research Scientist, Bruce Beehler, in establishing research sites along an elevational transect in the YUS CA to study wildlife response to climate change. Porolak defended his master's thesis, the "Home Range of the Huon tree kangaroo, *Dendrolagus matschiei*, in cloud forest on the Huon Peninsula, PNG", in 2008. Porolak will be focused on devising and testing biological monitoring protocols in collaboration with James Cook University.

National Geographic Crittercam

Living at extreme elevations within the rugged landscape of the cloud forest, the Matschie's tree kangaroo is incredibly elusive and difficult to research. TKCP partnered in 2009 with National Geographic's Remote Imaging Department to test how a video research tool, "Crittercam©", would work to capture data on behavior of tree kangaroos in the wild. By mounting a camera on a collar worn by a tree kangaroo, resulting video could provide new insights into the animals' behavior, as well as test the viability of Crittercam© systems for other arboreal species in the future.

In the fall of 2009, Lisa Dabek and Gabriel Porolak led a team to TKCP's Wasaunon field research site to deploy the tree kangaroo Crittercams©. With assistance from YUS landowners and villagers, the research team was able to capture and deploy Crittercams© on two wild Matschie tree kangaroos.

These deployments were highly successful, with several hours of footage recovered from both animals. Initial analysis includes observations of ferns and orchids eaten by tree kangaroos in the canopy, primarily crepuscular times of activity, ground movement, and pouch-cleaning behavior of a female carrying a joey in pouch. Now that this tool has been shown to work in the field, Dabek and Porolak will be pursuing future long-term tree kangaroo research using NGS Crittercam©.

Tree Kangaroo Genetics

In 2009, collaborating scientist TJ McGreevy completed his Ph.D. at the University of Rhode Island. While completing his doctorate, McGreevy worked under the direction of Dr. Tom Husband and TKCP's Dr. Lisa Dabek to complete research on the genetic diversity of captive and wild tree kangaroos. McGreevy, Dabek, and Husband successfully published the article, "Microsatellite Marker Development and Mendelian Analysis in the Matschie's Tree Kangaroo (*Dendrolagus matschiei*)" in the Journal of Heredity, September 2009.

Climate and Biodiversity Research

The climate change science project is examining the impacts of climate change on the biodiversity along a forested elevational transect in the YUS transect (0-3000 m) of northern Papua New Guinea. Among other issues, we will be looking at (a) lowland biotic attrition, (b) elevation resorting and extirpation produced by rapid upward range shifts, (c) shift in the cloud line and forest humidity, (d) movement of the treeline and changes in the distribution of the high elevation vegetation, and (e) its influence on anthropogenic disturbance of the native vegetation, especially at middle and high elevations.

The main research focus of this study will be an elevational transect from the coastal lowland forests to the upper montane forests above 2500 m elevation along the northern slopes of the Saruwaged Mountains.

The specific focus of the YUS elevational transect study shall be:

(1) Establishing a current baseline of species abundance and occurrence by elevation for the following taxa: woody plants, geometrid moths, frogs, microchiropteran bats, and forest birds through repeated sampling at 19 stations along this single line transect over a three-year period. Thus plant and animal taxa will be censused at ca. 150 m intervals along the YUS Transect. Initial results from a late-2009 field season recorded 11 species of forest birds recorded singing on territory at elevations substantially above their known global ranges. This initial finding is indicative of the importance of establishing new baselines as soon as possible.

(2) Comparing the current distribution and abundance of selected taxa (especially birds) along the YUS transect today against a compilation of data synthesized from elevational survey data for New Guinea collected from the 1930s-1970s, looking for evidence of elevational range shifts in sets of focal species.

(3) Documenting local environmental change through analysis of historical imagery and landcover data (pre-WW II aerial photography, WW II-period Army Map Service aerial photography, 1972-75 Australian Air Force aerial photography, LandSAT and SPOT satellite imagery, FIMS, National Land Cover Map for PNG).

(4) Adapting and downscaling localized data from global circulation models to predict future (2050, 2100) local climate change (rainfall, temperature, seasonal drought) for the YUS ecosystem and using these data to model range shifts in restricted range and endemic taxa inhabiting the YUS ecosystem.

(5) Documenting extinction/extirpation or abundance diminution of local YUS plant/animal populations with narrow elevational distributions (following up on the predictions generated by the preceding modeling activity).

(6) Modeling geographic range shifts of restricted range bird species under a regime of climate change.

(7) Examining climatological phenomena (cloud line, forest humidity) and anthropogenic fire and its impact on the existing treeline and the impacts these have on current distribution of the vegetation.

E. Community Development & Livelihoods

Through a community-based approach to conservation, TKCP has made much progress in bringing health and education services to YUS, through collaborative work with Kabwum District and Morobe Province. TKCP has played the role of linking government services with the remote villages in YUS, not accessible by road. The majority of people still have difficulty generating household income. In spite of the geographical obstacles of remote and rugged terrain, families in YUS must find a way to pay school and clinic fees, purchase the necessities of life in village markets or on rare trips to town, and strive to make their lives better. In 2008 TKCP was able to secure a grant through Conservation International from the German Development Bank (KfW) to partner with local landowners and to try solving some of these economic challenges. 2009 marked the beginning of new TKCP projects aimed at continuing to improve livelihoods and community resources for YUS landowners. Under this initiative, TKCP brought on Zachary Wells in 2009, as the TKCP Agroforestry and Livelihoods Project Coordinator.

Agroforestry

To work with local villagers on some of the challenges of sustainable collection of firewood and building materials, forest regeneration, and crop production, TKCP has also initiated new projects under the theme of Agroforestry. In 2009, researchers from James Cook University were awarded successful contracts from KfW through CI to collaborate with TKCP on a number of projects, from landscape management planning to agroforestry. The agroforestry work stems from needs identified through 2008 TKCP surveys on the availability of trees for fuel-wood and construction, done in collaboration with Woodland Park Zoo's head of horticulture, David Selk. Since August of 2009, Dr. Jonathan Cornelius, Director of the Agroforestry and Novel Crops Unit at JCU has been working with TKCP to help YUS landowners grow their own fuel wood and some of the other traditional trees that they use for food, medicines, and construction materials. TKCP staff conducted awareness trips through 16 villages in Yopno, Uruwa and Som during the last half of 2009. The first field workshops on potential village fuelwood projects are planned for the second half of 2010. In addition, TKCP's Community Development projects, including livelihoods and agroforestry, will gain additional help with the start of TKCP's new Community Development Coordinator, Benjamin Sipa, in January 2010.

Livelihoods

In the fall of 2009, TKCP Agroforestry & Livelihoods Project Coordinator Zachary Wells organized trips through the Uruwa and Som regions of YUS to talk with

landowners about working together on a new coffee project, the **YUS Coffee for Land and People**. With assistance from Carl Agliar and Michael Toliman, two extension agents with PNG's Coffee Industry Corporation, Wells and TKCP Conservation Officer Dono Ogate held meetings across the region, answering questions and developing plans. Though coffee has long been grown in YUS, these trips were the first ever visits to the region by any coffee extension agent because of the rugged terrain. The team gathered baseline data on productivity for more than 450 growers in 35 existing grower groups, and conducted quality tests on YUS coffee, with encouraging results. All YUS coffee is shade-grown without fertilizers or pesticides. Additional awareness trips for the Yopno zone are planned for 2010.

In December of 2009, TKCP staff met with coffee roasters in Seattle, Washington. The YUS storyline on conservation and development and the general quality of PNG coffee may prove to be the keys in getting YUS growers a much improved income from their coffee. A meeting was also held with Seattle-based Theo's chocolate company to explore the possible market for cocoa already grown in the lower elevations of YUS, where coffee growing is not an option.

In 2010, TKCP and its partners will continue working with growers to organize, improve quality, and build systems for greater transparency in transporting coffee and returning income to the individual farmer. TKCP has engaged the Coffee Industry Corporation and a consultant with over 20 years in the PNG coffee industry to provide technical trainings throughout the YUS grower groups. TKCP is also assisting the groups to organize an umbrella cooperative, the **YUS Conservation Coffee Group**, and is developing plans to tie this work in with the establishment of the **YUS Conservation Organization**.

Infrastructure

Within generous funding from CI through KfW, TKCP has begun community infrastructure projects in 2009. The main project completed in 2009 was the building of an airstrip in the Yopno region of YUS. The airstrip services a large population from six villages (Keweng, Mengan, Nombo, Tapmange, Kumbul, and Wungon) in Ward 12 of the YUS Local Level Government (LLG) area. Local villagers have been working toward the establishment of the airstrip for over 14 years; however they were not able to finish the project due to lack of tools and the projection of large unbreakable boulders. TKCP was able to bring the necessary tools and contract a team to complete the airstrip. This project was a great example of a successful collaborative project where TKCP was able to fund necessary equipment and service and the community contributed their hard work. The first test flight on the airstrip was conducted in October of 2009, and the official dedication of the airstrip will take place in 2010.

As with any community-based conservation program, communication with the local communities is critical for ongoing success. Because YUS is so remote, TKCP improved communications by purchasing and installing an office VHF radio that will connect the Lae office to YUS communities. The TKCP radio is also connected to the Provincial Disaster Relief office, the Provincial Health office, as well as local flight operators which can allow for faster help in emergency situations that might occur within the local communities. TKCP is also providing new VHF radios to key villages to increase overall communication between and among YUS villages.

Community Based Organization (CBO)

TKCP has worked with the local YUS communities to officially establish a community based organization, called the ***YUS Conservation Organization (YUS CO)***. Registered with the PNG national government in 2009, the YUS CO has been set up to empower the local communities to work together to manage the YUS Conservation Area and to allow them to develop ongoing community projects that will help in the sustainability of their land and people.

A draft copy of the constitution was translated in Tok Pisin language and a final review will take place at the first meeting of the YUS CO in 2010. During 2008/2009, the YUS communities nominated members from each community to be a part of the YUS CO committees, which will advise the Organization. The YUS CO will be made up of committees that will direct the projects at the community level and inform the YUS CO members and board of advisors. The committees include the Education Committee, Conservation and Management Committee, and Health Committee. In 2010, a new TKCP staff person will be hired to focus entirely on the establishment and sustainability of this critical organization. In 2010, TKCP will begin recruiting a board of advisors to help manage the overall organization. This board of advisors will be made up of representatives from the YUS community, local and national government, NGO's, and TKCP staff.

F. Education

Awareness and Outreach

Equipped with new awareness materials including posters and maps, TKCP Community Officers, Dono Ogate (Ururwa) and Namo Yaoro (Yopno) continue to conduct awareness trips throughout the YUS region. These awareness trips are designed to increase the community understanding of the newly created YUS Conservation Area and the ongoing work of TKCP within the region.

Theater and drama is an important means of sharing information in YUS. In July 2009 at a YUS Church Circuit Conference the idea of a YUS Conservation Theater Group came about. In order to improve public understanding of conservation, the theatre group was formed to hold community meetings and perform conservation awareness dramas. As of the end of 2009, the theatre group has performed in fifteen villages in Yopno, and has plans to continue performances across YUS through 2010.

Education

In early 2009, a new group of YUS students, sponsored by TKCP and the YUS Local Level Government, began school at Balob Teachers College and three newly graduated TKCP sponsored teachers started work teaching in YUS schools. TKCP continues to assist with the shortage of teachers in remote YUS schools and supports students each year to gain teacher certification. Through the scholarship, community-supported students agree to return to YUS to teach for 6 years after graduation. Twelve students have now been sponsored by TKCP since the beginning of the program in 2001 and many are still working in YUS area schools.

In 2008 and 2009 TKCP conducted follow-up interviews with local teachers to gauge the ongoing needs of each school. During 2009, TKCP was able to provide some of the much needed equipment and supplies to 8 Primary Schools (kindergarten through 2nd grade), 21 Elementary Schools (3rd through 8th grades) and 15 Pre-Schools

throughout YUS. The requested equipment included much needed desks, text books, library/reference books, and sports equipment. Additional supplies included general supplies as well as additional copies of the PNG National Reform Curriculum for teachers.

In 2009, TKCP Education Coordinator Danny Samandingke held two rounds of in-service workshops with YUS teachers. During his first in-service in May he visited YUS Primary Schools to get teachers and students involved in the TKCP Annual World Environment Day Essay Contest. Samandingke conducted classroom visits to talk about conservation issues and had student write essays and poems regarding ways they can help conservation efforts in their communities. Samandingke completed a second round of in-service visits to YUS Primary Schools in September/October and presented on topics such as conservation practices, English teaching techniques and approaches to child abuse issues.

Conservation Connection: Global Youth Art Exchange

TKCP has had a Global Youth Art Exchange project since 1999, providing opportunities for YUS students to exchange art and letters on a range of topics including wildlife, conservation, and community life. In partnership with St. Louis Zoo, this successful program has engaged PNG students in an ongoing exchange of art and ideas about conservation and ecology with fellow students in the US and Australia. Students in each country educate each other about conservation issues (focusing on local wildlife) by writing letters and producing artwork with written descriptions in English. In previous years, US TKCP staff have coordinated the exchange, by collecting art work and letters from US and Australian schools for distribution to PNG village schools and vice versa, and providing PNG schools with art supplies and instruction. In 2009, the St. Louis Zoo has agreed to adopt the coordination of the US portion of the Art Exchange, with Anne Bartin, Zoological Manager at St. Louis Children's Zoo, taking the lead for this project in the US.

G. Health

TKCP conducts its work in some of the most remote areas of PNG, and these areas receive little in health care services and supplies. For this reason, TKCP has been collaborating with the National, Provincial and District level Health Departments to support their priorities and to raise funds in support of YUS health centers and health care workers in treating the local community.

Healthy Forest Healthy Village Initiative

Since 2005, TKCP has conducted interviews with local community health care workers to gauge the needs of each village and health center. Through follow-up interviews conducted in 2009, TKCP was able to provide some of the much needed equipment and supplies to 5 main health centers in larger villages and 10 smaller aid posts throughout YUS. The requested equipment included infant scales, thermometers, blood pressure gauges, stethoscopes, solar flashlights, patient beds, and basic first aid supplies.

TKCP sponsored the Kabwum District Health Department to hold a Village Birth Attendant (midwife) Workshop in Teptep village in February 2009. The Teptep workshop was a success with 25 participants receiving training and medical kits.

TKCP has planned with the Provincial Health Department to conduct additional workshops throughout YUS in Family Planning, HIV/AIDS, Hygiene, and Nutrition in early 2010.

The TKCP also sponsored health patrols to Yopno, Som, and Uruwa regions of YUS in 2009. Working with Dr. Gerard Saleu from the Institute for Medical Research (IMR) in Goroka, the TKCP Health Project provided funding and coordination for health patrols in YUS by dentists and general nurses. The health patrols took place in the Som Zone, Uruwa Zone, and Yopno Zone and were able to treat over a thousand local community members and vaccinate hundreds of children in the community. These health patrols were conducted at a critical time when a cholera outbreak occurred in Morobe Province, and health patrol nurses were able to discuss the importance of hygiene in controlling the spread of the disease.

Immunization Initiative

One of the main initiatives of the Healthy Village Healthy Forest Project is immunizations. For five years prior to the start of this project in 2005, no immunizations had been given in YUS. In order to make vaccinations regularly available in YUS, TKCP purchased six solar refrigerators for YUS health centers in 2009. These solar refrigerators are necessary in remote villages, which have no other way of keeping vital medications and vaccinations cold, and will allow for vaccinations of the local community. In addition to the refrigerators, TKCP purchased solar lights to be placed in the health centers which received refrigerators with installation planned for early 2010. In the future, TKCP hopes to have more solar lights installed in health centers and aidposts in YUS. TKCP will continue to develop the Healthy Forest Healthy Village Initiative in 2010.

H. Conservation Trust

One of the biggest challenges in ensuring the long-term success of a protected area is identifying a sustainable source of funding to support long-term operations, such as management of the conservation area and ongoing needs of the involved communities. Without the funds to manage and sustain the project, too often protected areas remain protected in name only, with no enforcement of necessary restrictions or real long-term benefits for the local communities. For instance, funds are needed to pay community naturalist to patrol and enforce rules of the CA, keep in-country staff on salary to manage the project, and fund small grants in support of local community development. With the YUS Conservation Area now legally established with the support of the local communities, TKCP is focused on ensuring the CA is protected in perpetuity, providing a sustainable resource future for the people of YUS.

To do so, TKCP is making a major push to meet a significant fundraising goal in 2010. In 2008, Conservation International (CI), a long-time Tree Kangaroo Conservation Program (TKCP) partner and supporter, issued a generous matching challenge grant through the CI Global Conservation Fund to TKCP for the management of the newly established Conservation Area. By meeting a fund-raising benchmark, TKCP will be able to receive a one-to-one match from CI, that will provide the first substantial capital for initiating the YUS Conservation Trust. The trust will support the creation of a Community-Based Organization to manage the newly established YUS Conservation Area, and finance on-going management of the Conservation Area and the local needs of YUS communities. As an endowment, the

interest earned on the investment of the Trust principal provides an annual program income in perpetuity, funding program components such as the technical work of TKCP staff in PNG, as well as the community development and income-generating projects in YUS villages. According to the Conservation Finance Alliance's "Rapid Review of Conservation Trust Funds" (May 2008), Conservation Trust Funds in general encourage protection and enforcement of protected areas, since the renewable source of funds reassures locals that "financial resources for conservation and sustainable development will continue to be available".

I. Publications & Press

Conservation Area Announcement

With TKCP's landmark accomplishments in 2009 came a record level of national and global media coverage. In early 2009, TKCP launched a media blitz with partners Conservation International and National Geographic Society, marking the official declaration of the YUS Conservation Area. The announcement was featured in newspapers across the globe, including *The National* in Papua New Guinea, *The China Post* in Taiwan, the *Times of India*, and the *International Herald Tribune* in France. The announcement was also covered by local TV stations in Seattle, radio stations in New Zealand and Australia, and dozens of national and international online news sources. Of the 53 media outlets across the globe that featured the story, some of the outlets reaching the largest audience included *CNN.com*, *MSNBC*, *National Geographic News*, the *Seattle Times*, and the *New York Post*. With such a wide distribution, the media blitz had great impact in spreading the message of TKCP's accomplishments in YUS over the last decade, and the importance of this first conservation area for the future of PNG's incredible biodiversity.

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CHAPTER 2. LEGISLATIVE AND INSTITUTIONAL GAPS AND BARRIERS AND RECOMMENDATIONS

By Gaikovina Kula²⁰, John Michael²¹

Introduction

This chapter presents examples of the most recent reviews undertaken on legislation and identify the institutional barriers. In reviewing the literature, Mowbray and Duguman in Chapter 10 on Environment and Conservation Policy²² and implementation addresses how environment and conservation policy protect the physical, biological and social/cultural environments of Papua New Guinea and looks at how, in a rapidly changing country like Papua New Guinea, human impact is or ought to be managed. Hence the policy areas that are covered include areas of environmental governance that impinge on management of the environment, resource use, and conservation of natural and cultural resources, and, more broadly, policy and planning for sustainable development.

By the end of the 1980s there was a plethora of legislation covering areas related directly or indirectly to environment and conservation. These are outlined in Unisearch PNG (1992), Mowbray (2000, 2005) and Yaru and Bulina (2005). Important legislation directly under the ministry and Department of Environment and Conservation included: the *Environmental Planning Act*, 1978; *Environmental Contaminants Act*, 1978; *Conservation Areas Act*, 1978; *Water Resources Act*, 1982; *Fauna (Protection and Control) Act*, 1966; *International Trade (Flora and Fauna) Act*, 1979; and *National Parks Act*, 1982. Other relevant legislation included the *Physical Planning Act*, 1989 and the *Land Act*, 1962, which are significant in Papua New Guinea where only about 5 per cent of land is owned or has been compulsorily acquired by the state.

The purpose of this Outcome 3; it is planned to identify legislative and institutional gaps and barriers hindering the establishment and effective management of Pas.

PNG Obligation to POWPA

As a party to the Convention on Biological Diversity, PNG is yet to develop its Programme of Works on Protected Areas and agreeing to the COPDecision. For the purpose of this report I have intended to be guided by the Goal 3 of the POWPA;

Goal 3.1 - To provide an enabling policy, institutional and socio-economic environment for protected areas

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²²http://www.google.com/search?source=ig&hl=en&rlz=1G1GGLQ_ENJP348&q=Policy+Making+and+Implementation:+Studies+from+Papua+New+Guinea&btnG=Google+Search&aq=f&oq=&aqi=

Target: By 2008 review and revise policies as appropriate, including use of social and economic valuation and incentives, to provide a supportive enabling environment for more effective establishment and management of protected areas and protected areas systems.

Suggested activities of the Parties

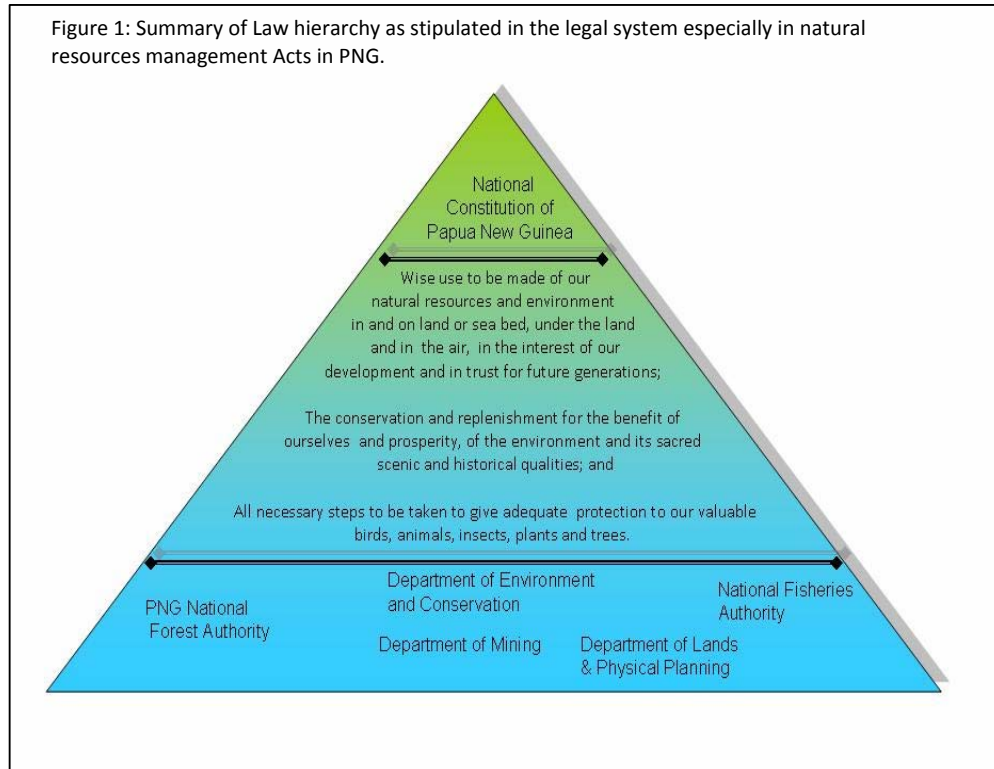
3.1.1 By 2006, identify legislative and institutional gaps and barriers that impede the effective establishment and management of protected areas, and by 2009, effectively address these gaps and barriers.

In 2008, the Department of Environment and Conservation in conjunction with the UNDP Country Office in PNG secured funding from the GEF to address the priority barriers that stand in the way of the establishment and effective management of a Protected Areas System in Papua New Guinea. The main project objective is; `To strengthen PNG's implementation of the PoWPA, and thus contribute to further consolidation of the country's PA system. This corresponds with the PNG-NBSAP Goal 4 which is; *"To strengthen existing protected areas and ensure that protected areas for terrestrial species and marine species are increased to 10% by 2010 and 2012 respectively"*²³, and supports the Millennium Development Goal 7 and contributes to the DEC ESEG policy..

²³ Papua New Guinea National Biodiversity Strategy 2007.

Papua New Guinea Legislation and the National Constitution

Nearly all the natural resources legal instruments recognise the PNG National Constitution in the law making process. This can be seen from the below figure 1 where the Fourth National Goal of the Constitution provides the framework. From



the outset of this report, there a number of factors that needs to be highlighted from the beginning as influenced by the constitution and these are;

1. In Papua New Guinea, only open seas, mineral resources, Government land and protected fauna are vested in the State.²⁴
2. In practice, the Government of PNG (GOPNG) does not have the means to access, manage or exploit natural resources without the consent, co-operation, and compensation of local resource owners. The existing tenure arrangements also imply that local resource owners and not the Government are the first interested party when it comes to negotiations over the management and conservation of natural resources.
3. Land is also valued in economic terms as a source of subsistence, cash crop production, and natural resources.

As a result of this focus on resources both for socio-cultural and development reasons, Papua New Guineans actively participate in discussions over the use of land and

²⁴ Fisheries Act, Mining Act, Forest Management Act, Lands Act, Conservation Areas Act and others.

resources. As noted above the State of PNG does not have the means to alienate land and resources.

On top of the above the Government of Papua New Guinea can ratify such conventions such as the Convention on Biological Diversity (CBD) and meets the obligations, like hoping to conserve 10% of biodiversity on customary land and sea, needs effective legal mechanisms, efficient institutions with policies and fully resourced with capacity and funding that maintains sustainability and stability in the country.

Conservation and Protection Legislation

There is no lack of legal instruments that provides the legal mechanisms and supports the conservation of biodiversity on customary land and sea in Papua New Guinea. The key protected areas legislation are analysed and presented below, in terms of the purpose, definition, category of protected areas that it promotes, governance, steps in establishing protected areas and a brief history of each Acts.

Fauna (Protection and Control) Act 1966,

- a) *Purpose:* “Being an Act to make provision for the protection, control, harvesting and destruction of fauna, and for related purposes”.
- b) *Definition:* "land" “includes land covered by water and waters within the territorial jurisdiction of Papua New Guinea”.
- c) *Protected Area Categories*
 - a. Sanctuary – Part IV, Section 11,
 - b. Protected Area – Part V, Section 13,
 - c. Wildlife Management Areas – Part VI, Section 15.
- d) *Governance*
 - a. Wildlife Management Committee - Part VI - Section 16
 - b. Rangers – Part VII – Section 21
- e) *Steps in Establishing Protected Areas*
 - a. Wildlife Management area – Part VI, Section 15

This Act was developed to manage wildlife on customary land and to be managed by the land/sea owners. This Act also provides protection to species. Initially, (1966 – 1976) the Act was developed and implemented by the Wildlife Branch operating under the Department of Agriculture and Livestock. The Wildlife Branch got moved around and finally ended up under the Office of the Environment during 1980s.

Conservation Areas Act 1978

- a) *Purpose:* “to provide for the preservation of the environment and of the national cultural inheritance by—(i) the conservation of sites and areas having particular biological, topographical, geological, historic, scientific or social importance; and(ii) the management of those sites and areas, in accordance with the fourth goals of the National Goals and Directive Principles.”
- b) *Definition:* "area" includes— (a) a site, place or region; and (b) a building or other structure including equipment, furniture, fittings and articles associated with or connected with the building or other structure; and (c) in relation to the conservation of an area—the immediate surroundings of the area.
- c) *Protected Areas Categories:*
 - a. Conservation Area - Part III, Section 12.

- d) *Governance:*
 - a. National Conservation Council – Part II, Section 4
 - b. Conservation Management Committee – Part VI, Section 25
- e) *Steps in Establishing Protected Areas:*
 - a. Conservation Areas - Part III, Section 12 – 17 and 37
- f) This Act was established under the Office of the Environment. Environment

National Parks Act (Chapter 157) 1982

(a) to provide for the preservation of the environment and of the natural cultural inheritance by -(i) the conservation of sites and areas having particular biological, topographical, geological, historical, scientific or social importance; and (ii) the management of those sites and areas, in accordance with the fourth goal of the National Goals and Directive Principles; and

Since the Acts were developed separately and implemented by various agencies over time, bringing them together under the Department of Environment and Conservation since 1980s has created much confusion and difficulty in the management of these areas. The department continues to evolve so the How-ever,

Other national legislation of less immediate relevance to the Protected Areas will only be discussed when relevant to conservation issues are discussed and is covered by;

- *The Crocodile Trade (Protection) Act* which regulates the taking and breeding of crocodiles and the trade in crocodile products;
- *The International Trade (Fauna and Flora) Act* which regulates and restricts the export of CITES listed species;
- *The Customs (Prohibited Exports) Regulation* which regulates the export of flora and fauna from fishing, pastoral, agricultural and forestry industries;
- National Cultural Property (Preservation) Act (Chapter 156)
- *The Forest Management Act*
- *The Fisheries Management Act (1998)*, which regulates the set-up of the NFA, the supervision of pelagic fisheries and local and species-specific fisheries management plans. The provisions of the Act are defined in a separate *Fisheries Management Regulation 2000*.
- *The Organic Law on Provincial Governments and Local-level Governments (OLPG&LLG) (1997)* which regulates the respective rights and obligations of the various levels of Government in the field of resource management, and the related *Provincial Governments Administration Act (1997)* and *Local-Level Governments Administration Act (1997)*. Under this law some of the Provincial Governments have been the following laws in environment related to protected areas and these are;
 - ✓ Motu Koita Assembly Act 2002. Talasea Marine Environment Management Law 2004, Biialla Marine Environment Management Law 2004, Hoskins Marine Environment Management Law.
 - ✓ Almami Environment Conservation Law 2003,

- ✓ Madang Forest Protection Bill 2007 and Eastern Highlands Forest Protection and Management Bill 2008
- *The Village Court Act (1989)*, which lists the “prescribed offences” which can be dealt with in Village Courts.
- *The Land Groups Incorporations Act (1974)*, which allows for the formal recognition of social groups and their territory and natural resources.

At the international level, PNG has ratified a number of important conservation conventions. Amongst them is;

- The Convention on Biological Diversity (CBD) ratified in 1992;
- The Ramsar wetlands convention (1993);
- The United Nations Framework Convention on Climate Change (UNFCCC) (1993),
- The UNESCO convention on World Heritage Sites;
- The UNESCO Man and Biosphere Program (MAB) (member to UNESCO since 1976);
- The London Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter (1974);
- The Montreal Protocol on Substances that Deplete the Ozone Layer (1988);
- The Convention on the International Trade in Endangered Species (CITES) (1976);
- The Convention on the International Protection of Plants (1951);
- The Convention on the Protection of Migratory Species of Wild Animals; and
- The Apia Convention on the Conservation of Nature in the South Pacific.

The national Acts, in many cases buttressed and contained by the international treaties mentioned above, together cover and regulate a variety of different conservation measures in Papua New Guinea.

Summaries of Major Legislation Reviews Undertaken.

The intention of this section is to collate the legislation reviews that have been carried out in the past. Rather than do exactly what the earlier reviews undertook and that was to review the specific legislation and identify gaps, barriers and provided recommendations, the aim here is to identify the review and identified the main recommendations from the various reports. In concluding the report, it is envisaged that way forward is identified and a process put into place to correct and implement them.

The following reviews undertaken are on the following reports ;

- Whimp, K. 1995. *Legislative Review Report 5: Conservation*, an unpublished report by the Department of Environment & Conservation Strengthening Project, AusAid/DEC, Papua New Guinea
- Flip Van Helden²⁵, 2001. A Policy and Planning Needs Assessment for the Milne Bay Community-based Coastal and Marine Conservation Project

²⁵ Consultant to the Milne Bay Community-based Coastal and Marine Conservation Project

- Lyn Raphael²⁶, Tamalis Akis²⁷, Geoff Callister²⁸, (undated) Draft legal gazettal and management of Community-managed marine areas in customary marine waters in Milne Bay.
- A development of a policy framework on Protected Areas in PNG by Dr. Eric Kwa, (PA Workshop, Lamana, 15-16 May 2008)

Box 1: Summary - Whimp, K. 1995. *Legislative Review Report 5: Conservation*, an unpublished report by the Department of Environment & Conservation Strengthening Project, AusAid/DEC, Papua New Guinea

Purpose	Actions and Considerations
<p>The purpose of the report was to present findings and recommendations developed through a process of reviewing conservation legislation administered by DEC as part of the Strengthening project in 1995. The following Acts were considered;</p> <ul style="list-style-type: none"> ▪ National Parks Act ▪ Fauna (Protection and Control) Act ▪ Conservation Areas Act ▪ Crocodile Trade (Protection Act ▪ International Trade (Fauna and Flora) Act <p>The review gives a full prescription for amendments of each Act and should be referred to for details.</p> <p>The Conservation Area Act was implemented on the YUS Tree Kangaroo Project in 2007.</p>	<ol style="list-style-type: none"> 1. Conservation Areas Act was found to be the most appropriate and flexible model for local land-use management with assistance from DEC. <ol style="list-style-type: none"> a. Requires priority conservation objectives, b. Develop skills in developing management plans. 2. Amalgamation of protected area legislation including the National Parks Act, Conservation Areas Act, and parts of the Fauna(Protection & Control) Act does not fit into any cohesive, overall policy framework. <ol style="list-style-type: none"> a. Proper Protected Areas classification is required. b. Consolidate into 1 legislation by incorporating all protected areas mechanisms into one Act c. Defining the objectives of each categories to define the system and coherence. 3. Environment protection board <ol style="list-style-type: none"> a. Deciding and develop a appropriate decision-making body and processes, 4. Development of umbrella Act which sets out the principles sustainable use of species – similar to the Crocodile regulation 5. Process for approving management plans 6. Model for decentralisation to provincial governments 7. Enforcement and prosecution powers – clearly defined

²⁶ Australian Youth Ambassador attached to the Milne Bay Community-based Coastal and Marine Project

²⁷ Legal Officer, Milne Bay Community-based Coastal and Marine Conservation Project

²⁸ Capacity Strengthening Officer, Milne Bay Community-based Coastal and Marine Conservation Project.

Box 2: Summary – by Flip Van Helden, 2001. A Policy and Planning Needs Assessment for the Milne Bay Community-based Coastal and Marine Conservation Project²⁹

Purpose	Actions and Considerations
<p>This report meets the requirements of the Planning and Policy Needs Assessment.</p> <p>In-addition, the report recognises the followings;</p> <ul style="list-style-type: none"> ▪ importance of the PNG customary land and marine tenure, and the involvement of local community in resource management is essential. ▪ recognises the common view that conservation is seen as a non-competitive form of resource use and the idea of developing tools to make it more attractive. ▪ agrees that the policy mechanisms and legislative instruments should thus in the first place be seen as tools to enhance and support <i>existing</i> agreements between resource owners, various levels of Government, supporting NGOs and the private sector, and only to a lesser extent as a means to enforce a change of behaviour. 	<ol style="list-style-type: none"> 1. <i>Conservation Areas is the preferable instrument:</i> <ul style="list-style-type: none"> ▪ PNG law offers a number of options for community-based conservation. Most of these come in the form of area-based conservation tools. ▪ The flexibility of management plans drawn up under the act, the safeguards on incompatible developments, the ability to include tourism and other related activities, the level of fines and the sharing of rulemaking between the DEC and landowners appear to make this the most attractive. 2. <i>An Evolutionary Approach to Community-based Conservation:</i> <ul style="list-style-type: none"> ▪ The first step could be a simple agreement among villagers not to use resources from a certain area for a stipulated period of time. ▪ When successfully implemented, and once the benefits become apparent such an informal agreement could be framed in the form of a Conservation Deed or alternatively in a Section 30 application under the Fisheries Management Act to close off certain reef areas. ▪ If this works and people and the MBP wish to organise their protection in a more formal manner, the MBP could consider developing a WMA or CA proposal for the OEC. <p>For more specific gaps and what needs to be done, you may need to refer to this reference located in DEC.</p>

Box 3: Summary – by Lyn Raphael, Tamalis Akis, Geoff Callister, Draft legal gazettal and management of Community-managed marine areas in customary marine waters in Milne Bay.

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Purpose	Actions and Considerations
<p>This review was conducted for the Milne Bay Community-Based Coastal and Marine Conservation Project³⁰ (CMMAs) aimed to establish an enabling environment for marine and near-shore resource management through the Provincial Government and Local Level Governments (LLGs). The reviewers explore the gazetting and management of Community-managed Marine Areas (CMMAs), in particular to ensure the legal recognition of CMMAs, the rules applying to their management as well as the bodies in charge of managing them. The legislation review were conducted on;</p> <ol style="list-style-type: none"> 1. Conservation Areas Act 2. Fauna(Protection and Control) Act 3. Fisheries Management Act 1998 and Amendments 4. Organic Law of Provincial Governments and Local Level Governments <p>The report also identified issues into the enforcements of national legislation especially noting their jurisdictions, advantages and disadvantages. These included the District Court Regulation of 1965, Village Courts Act 1989 and Village Courts Regulation 1974</p>	<ol style="list-style-type: none"> 1. This report highlights the followings; <ul style="list-style-type: none"> ✓ Land tenure must remain with the resource owners wherever possible; ✓ Resource owners must have a large amount of input into the development of laws for gazettal and management of the CMMAs, as well as for management plans; and ✓ CMMAs must be community ‘owned’ and managed. 2. Basic recommendations for the legal framework for establishing and managing proposed CMMAs in Milne Bay. <ul style="list-style-type: none"> ✓ A process recommended for policy includes; ✓ A detailed ‘checklist’ of the process for establishing a CMMA under this law. ✓ A “<i>tool box</i>” or menu of the different zones, the objectives and rules. ✓ An outline of how to establish the CMMA Management Committee, ✓ A mechanism of “<i>checks and balances</i>” that allows for an auditing process by an independent body ✓ A section that addresses the law’s relationship with other higher legislation, for ✓ example, the Fisheries Management Act. ✓ A section that addresses the relationship between the CMMA

Box 4: Summary – Dr. Eric Kwa, (PA Workshop, Lamana Hotel, 15-16 May 2008)

Purpose	Actions and Considerations
<p>During 2008 a number of workshops were conducted with the following objectives;</p> <ol style="list-style-type: none"> 1. A better understanding of the Protected Area System that defines appropriate management categories which must be consistent and user-friendly at all scales and levels of communication; and to 2. Review and identify Protected Area 	<ol style="list-style-type: none"> 1. There are six types of PA in PNG: <ul style="list-style-type: none"> • <u>Reserves</u> (Fauna Act, Forestry Act, Mining Act, Oil and Gas Act) • <u>Sanctuaries</u> (Fauna Act) • <u>Protected Areas</u> (Fauna Act) • <u>WMA</u> (Fauna Act) • <u>National Park</u> (NPA) • <u>Conservation Area</u> (CAA) 2. Some of issues includes; <ul style="list-style-type: none"> • Conservation Laws out dated, and

³⁰ The project was funded by GEF/UNDP, Conservation International, and Japan. Unfortunately the Milne Bay Community-based Coastal and Marine Conservation was terminated earlier than expected in 2007.

Governance and Policy gaps.	needs to be reformed and consolidated. <ul style="list-style-type: none">• Single set of criteria for designating PA at all levels• Link up Local Conservation Areas (under LLG laws) to national framework The law should call for Management Plans for Protected Areas
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Conservation planning & management issues

While there are good legal instruments already existing, effective institutional implementation and enforcement issues are major barriers to the protection and establishment of protected areas in Papua New Guinea. Some of these factors can be found in various reports and are summarized below.

The RAPPAM (1990) report identified the following issues;

Box 5 – Summary. Rapid Assessment of the Effectiveness of Protected Areas in Papua New Guinea (RAPPAM)³¹

<p>The overall goal of the PNG RAPPAM was to “to improve the management effectiveness of PNG protected areas and the protected area system”. The Department of Environment and Conservation, through its review in 1992, put forward its Strategic Plan. In protected areas, four objectives were propounded:</p> <ul style="list-style-type: none"> • The rehabilitation of existing areas; • The development of an expanded system of conservation areas; • The strengthening of planning, management and evaluation capabilities of groups involved in conservation and management; • Communication / advocacy which fosters support for the conservation area system; 	<ul style="list-style-type: none"> ▪ Lack of national protected areas policy including the preparation of protected area working manuals. ▪ Amend and streamline protected area legislation, in particular to empower communities to protect entire ecosystems ▪ Increase penalties. ▪ Develop protected area classification systems. ▪ Develop protected area establishment criteria, to include such factors as size and design guidelines, representativeness, and protection for endangered and endemic elements. ▪ Amend gazettal details to incorporate correct information and reflect current names and spelling. ▪ Ensure that the national PA network is incorporated into all relevant whole-of-government development plans, policies and strategies. ▪ Lack of enforcement, ▪ Lack of resources
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³¹ An Assessment of the Effectiveness of Papua New Guinea’s Protected Areas Using WWF’s RAPPAM Methodology October 2006

Box 6: Summary – National Stakeholders Workshop Report on Development of a National Protected Area Policy Framework at Granville Motel, Port Moresby, 10th – 11th July 2008; William Asigau, John Genolagani

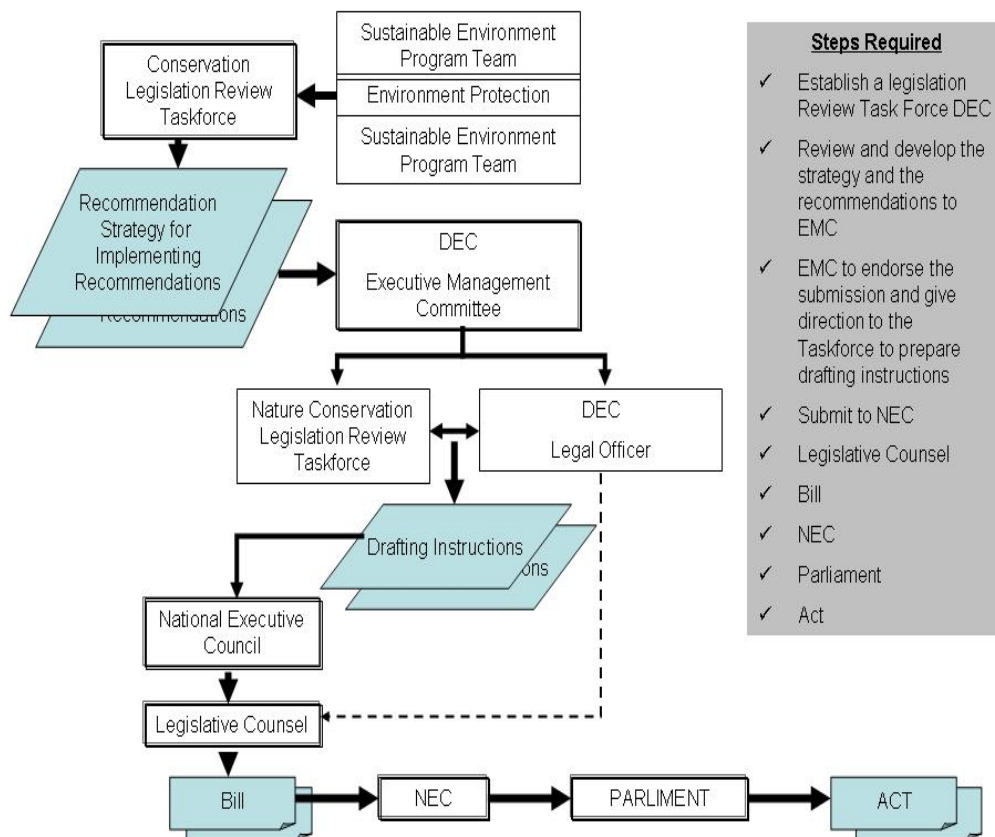
<p>During 2008 a number of workshops were conducted with the following objectives;</p> <ol style="list-style-type: none"> 1. Scientific and Technical Issues of Protected Areas 2. Emerging Economic Initiatives for Biodiversity Conservation 3. Sustainable Conservation Finances-Mechanisms and Protected Areas 	<ol style="list-style-type: none"> 1. <u>Scientific and Technical Issues of Protected Area.</u> <ul style="list-style-type: none"> ▪ protection of specific areas that must have multiple use and sustainable livelihood potential; ▪ In 1998 a government directive called for 20% of Papua New Guinea’s pristine environment to be protected, on land (terrestrial) by 2010 and in the marine environment by 2012; ▪ Need to be implementing the Millennium Development Goals (MDG) and The National Biodiversity Action Plans (NBSAP); ▪ Need for a holistic concept of Protected Areas to cover types including IUCN category as a network; 2. <u>Emerging Economic Initiatives for Biodiversity Conservation</u> <ul style="list-style-type: none"> ▪ Climate Change including Carbon Trade, Non Timber Forest Products and Eco-Forestry. ▪ Niche Markets in Eco-tourism, Education and Research, Recreation and Meetings. ▪ Biodiversity in Bio-discovery, Breeding improvements and Commercialization of Unique tand races. ▪ Eco-system Services 3. <u>Sustainable Conservation Finances-Mechanisms and Protected Areas</u> <ul style="list-style-type: none"> ▪ Funding sources and Options ▪ Capacity building ▪ Land and sea ownership ▪ Partnership and coordination
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RECOMMENDATION AND WAY FORWARD FOR IMPLEMENTATION

Having to go through the above reviews undertaken, one way to approach the confusions and provide structure on the current legislation, would be to incorporate all protected area mechanisms into one Act.

A proposed systematic process for reviewing the legislation is recommended in the below diagram.

Diagram showing process of implementing the legislative amendments



It is very important that the POWPA Taskforce is established to implement the recommendations of the Outcome 1, 2 and 2 recommendations respectively.

The below option 1 could be used to guide the POWA Taskforce to systematically fill in the changes

Option 1 – Amalgamation of Protected Area Legislation

