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Government of Papua New Guinea

CONSERVATION AREAS STRENGTHENING PROJECT

Executive Summary

Introduction

This project document has been prepared by World Wide Fund for Nature (WWF), to form the basis for discussion with the Papua New Guinea Department of Environment and Conservation (DEC) and the Delegation to the European Commission (EC) in Port Moresby for the purposes of arranging an allocation for conservation activities under the Lomé IV agreement.

The proposal derives from the 1992 Review of the Status and Management of Protected Areas and specifically addresses Terms of Reference issued by the DEC in April 1993. To prepare this project document, a team was established consisting of staff of DEC and WWF.

Project Justification

Reasons for the project

Protected areas of various kinds, in which part or all of the natural resources are set aside, temporarily or permanently, from human use, are a basic conservation tool in many countries. They offer a relatively straightforward means of signalling the special conservation value attached by a society or community to a site.

Protected areas need to be set up and managed adequately if they are to be of use. In Papua New Guinea many aspects of the establishment and management of individual areas need attention, in order to halt the degradation of existing sites and their natural values and to start to realise the potential of protected areas as a conservation tool at local and national levels.

The 1992 Review of Protected Areas by WWF and DEC provides the impetus and a comprehensive set of ideas to strengthen the country's protected areas system.

Problems to be addressed

Incomplete use is made of protected areas in Papua New Guinea at present. The 1992 Review noted a range of problems undermining the valuable features of the existing forty, formally-declared protected areas in the country. The Review identified the following concerns.

Resources

- * inadequate involvement of organisations and people in establishing and managing protected areas (Government Departments, non-government organisations, landholders and local communities);
- * lack of information for managers, locals, visitors, neighbours etc., about protected areas, what they are, how they can be established, operated and used; their special values and constraints;
- * inadequate funding from Government and from income generation schemes.

Management Systems

- * inadequate systems for classification, selection, designation and management planning of sites as protected areas.

Existing Protected Areas

- * issues at existing sites of unclear values, purposes, tenure, access, boundaries, management inputs and security.

Protected Areas Network

- * lack of relevance or accessibility of protected areas as a useful tool for resource conservation by landholders and local communities;
- * inadequate national network of biogeographically-representative sites.

Management operations

- * neglect of essential operations at established protected areas - site presence, enforcement, resource protection, monitoring, information; and
- * management of resource use, infrastructure and visitors.

The Conservation Areas Strengthening Project (CASP) will be a first stage of assistance to address these problems.

Present situation

Over the past three years a series of major projects has been initiated towards improving the conservation of Papua New Guinea's rich natural resources.

These are at various stages of development or implementation and include:

- * National Forests and Conservation Action Plan (NFCAP);
- * Conservation Needs Assessment;
- * Global Environment Facility (GEF)-funded Integrated Conservation and Development Project;
- * DEC Strengthening Project;
- * Kikori Basin conservation project;
- * Western Gulf of Papua and Torres Strait management study;
- * Crater Mountain conservation project;
- * Lasanga Islands conservation programme; and
- * Hunstein Range development project.

There are close institutional and practical links in place or envisaged between these projects. It is anticipated that substantial mutual reinforcing will occur if these projects proceed concurrently as planned.

One component of the GEF project calls for a Conservation Resource Centre attached to DEC. This is to be organised as a coordinating body for the above and future conservation initiatives and will enable collaboration and efficient management of individual projects.

Reasons for requesting assistance

To achieve sustainable benefits from a Conservation Area System, a considerable short-term boost of assistance is required by DEC in particular, and by NGOs, local landholders and communities.

At the NFCAP discussions in April 1990, the GoPNG called for assistance to enable it to proceed with the comprehensive programme envisaged. The European Commission expressed its interest in the proposals relating to protected areas, and subsequently financed WWF to undertake the 1992 Review in conjunction with DEC. The current PNG National Indicative Programme with the European Commission includes provision for strengthening the management of protected areas. It is anticipated that NIP funds will be available to support the present project proposal.

Description of the Proposed Project

Goal

to develop and strengthen Papua New Guinea's natural and cultural heritage conservation area system.

Purpose

to provide direct assistance to DEC and other organizations and individuals involved in conservation area establishment and management.

Objectives:

to develop the design of a system of natural and cultural heritage conservation areas which is appropriate to PNG and gives emphasis to biogeographical representativeness;
 to strengthen administrative mechanisms and procedures whereby PNG's conservation areas are established, planned, managed and evaluated ;
 to develop and extend a system of conservation areas;
 to improve and develop the standard of management and service delivery in conservation areas; and
 to develop community appreciation of the contribution conservation areas make to the protection of life support systems and the natural environment.

Planned Outputs

1. Re-established Conservation Areas
 - * re-establishment programmes initiated at a minimum of 10 existing areas, serving as pilot and demonstration sites;
2. Conservation and Conservation Area promotion
 - * a conservation extension programme with supportive materials and training, trialled and evaluated in different parts of the country;
 - * information and education materials for public distribution, about conservation areas in PNG in general and for each existing area;
3. Local Conservation Areas System
 - * tested, effective procedures within DEC to support and process local protected areas proposals received from communities, councils, landholders and local NGOs;
4. CA Management Resources
 - * a trialled and evaluated pilot scheme for a Community Ranger Service;
 - * a trialled and evaluated training programme with supportive materials for staff, CA management committees and community rangers;
 - * organised management data on existing conservation areas;
 - * a Field Operations Manual for conservation area field staff;

Project components

1. Creation of a system of conservation areas appropriate to PNG
 - * design of the conservation area system
 - * adjustment of the existing system to new system design criteria
 - * adding to the system on priority criteria

2. Advocating the values of the conservation areas system
3. Administering the conservation areas system
 - * effective resourcing of the conservation area system.
 - * establishment and servicing of effective co-ordination and consultative arrangements.
 - * establishment of a goal targeted organisational structure, efficient information retrieval, administrative procedures relating to responsibility, accountability and evaluation of programmes and an effective personnel development programme.
 - * upgrading of procedures for fiscal planning and accounting.
4. Strengthening the management of individual areas in the conservation areas system
 - * upgrading and implementing procedures for effective and efficient field management of conservation areas: inventory, planning, development, maintenance, resource management, human use management, communication and monitoring.

Project strategy

Conservation Areas Strengthening Project (CASP) implementation

The CASP will be implemented through DEC with the aid of a Technical Assisting Agency based on a Memorandum of Understanding or contract.

Inputs required

A three-person CASP Assistance (CASPA) unit will operate from Port Moresby for the seven years of the project. They will be supplemented by four 3-person regional teams, based on existing DEC management regions. Office space will be provided by DEC. Project funding will cover the CASPA unit's living accommodation, office equipment, the costs of the planned activities and travel and field subsistence costs of the team and of collaborating staff from DEC, partner NGOs and local protected area committees.

CASPA Unit Composition

The CASPA unit will consist of 6 managers (probably non-nationals) and 9 support staff, either seconded from DEC or employed from available human resources in PNG. This team will work with the existing DEC regional structure of 4 regions. A regional approach has been adopted because of the strong field element associated with conservation area management. The CASP manager will possess strong conservation planning and natural resource management experience. The CASP regional managers will be experienced in natural area planning, information and training, with sociological and communications skills. It is intended that all will be familiar with conservation methodology (including protected areas) and with PNG, the Pacific or similar, relevant working environments.

Institutional Responsibilities

DEC will be the lead agency for the project, as the Government agency responsible for coordinating conservation activities. EC will provide funding to support the CASPA unit and the planned activities. WWF is proposed as the Technical Assisting Agency, to provide the project team with managerial, technical and administrative support, including maintenance of good liaison and exchanges between relevant projects in PNG and elsewhere.

The CASPA unit will work in close collaboration with DEC staff, local NGO partners, conservation area management committees, local scientists. They will serve as off-line advisers to the Government agency's line managers, providing draft materials for endorsement and recommendations for action. The Technical Assisting Agency will engage partner organisations, particularly PNG NGOs and occasional consultants to work with the CASPA unit.

Duty Location

The team will be centred in DEC Head Office, Port Moresby with regionally based offices in Lae/Madang, Rabaul, Mt Hagen/Goroka and Port Moresby. Team members will travel to different parts of the country as required.

Duration, Commencement Date

Seven years duration is proposed, commencing in 1994.

Priority Actions

Priorities in the first two years are:

- to develop the organisational framework - establishment of the CASPA unit, CA Advisory Group, and inter-Departmental CA Coordinating Committee;
- to initiate policy development and relevant legislation changes - CA classification scheme; site selection criteria; procedures for selection, establishment, management planning;
- drafting training programmes and manuals;
- to develop the CA Management Information System: library, computer mapping;
- to design the Conservation Development Trust Fund;
- to develop the resource assessment team, establish Research Advisory Group, review assessment techniques, design training in assessment techniques; and
- establish demonstration projects based on existing conservation areas.

Demonstration Projects

Rather than attempting to address all issues at all sites, CASP will initiate a series of demonstration projects at a selection of existing conservation areas.

The reasons for using demonstration projects include:

- to test new procedures, management techniques, extension programmes at a few sites initially to perfect the system and procedures;
- to provide good examples of effective management, as an illustration to staff and local communities (confidence building) and to Government and politicians (fund attracting);
- to organise a method for prioritising resource allocation.

The suggested demonstration candidates among existing protected areas are: Lake Lavu WMA, Maza WMA, Mojirau WMA, Mt Wilhelm NP, Neiru WMA, Oia Mada Wara WMA, Poliki, Garu WMA, Varirata NP and Zo-oimaga WMA.

The rationale for their nomination includes their high natural values, the likelihood of projects succeeding, their demonstration value (accessible to illustrate success), and their ability to develop a wide range of demonstration projects.

Government of Papua New Guinea
Conservation Areas Strengthening Project

CASP A: Context

1.0 Introduction

This project document has been prepared by World Wide Fund for Nature (WWF) for the Department of Environment and Conservation (DEC). It is to form the basis for discussion between the Government of Papua New Guinea and the Delegation to the European Commission (EC) in Port Moresby for the purposes of arranging an allocation for conservation activities under the Lomé IV agreement.

The proposal addresses specific terms of reference prepared by the Department of Environment and Conservation in April 1993. The terms of reference (Appendix 1) called for a substantive programme of support and development for conservation management in areas that relate to:

- (i) *Conservation System Design;*
- (ii) *Rehabilitation Activities;*
- (iii) *Advocacy and Awareness Programmes;*
- (iv) *Training; and*
- (v) *Management Systems Strengthening.*

The project documentation was to include a 5 year technical support programme and a two year action plan of capacity strengthening.

The proposal derives from the 1992 WWF-DEC Review of the Status and Management of Protected Areas and the Action Plan for rehabilitation of protected areas. It is concerned with a first stage of implementing recommendations from the Review to rehabilitate and strengthen portions of the conservation areas system of Papua New Guinea. A summary of the Protected Areas Review is presented in Appendix 2 and its resultant recommendations are given in Appendix 3. The Review and recommendations define a rationale for the CASP proposal.

1.1 Preparation of the CASP document

The Conservation Areas Strengthening Project (CASP) document was prepared in mid-1993 by WWF with funding from the European Commission in response to the terms of reference and as a logical outcome of the Protected Areas Rehabilitation Programme's Phase I, Review.

The project documentation team consisted of:

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Head of National Parks and Wildlife Conservation
Vagi R Genorupa
Snr Conservation Officer P&W Planning Branch

Stephen Babo
Principal Conservation Officer
Godu Velai
Project Coordinator, Southern Region
Bill Carter
WWF, Environmental Consultant

The team consulted closely with the First Assistant Secretary (Conservation) DEC, Mr Gai Kula and a project consultative committee consisting of Senior Officers of DEC plus Mr B. Jefferies (NFCAP Technical Support) and Mr P. J. Hunnam (WWF). The Department of Finance, the National Alliance of NGOs (NANGO) and senior staff of the NFCAP have been briefed and consulted during project formulation.

A briefing and discussion forum was held in DEC offices in August and was attended by:

Mr Iamo Ila
Secretary DEC
Mr Gai Kula
1st Assist.Sec. DEC
Mr Lester Seri
DEC
Mr Mick Raga
DEC

Mr Missel Uve
DEC
Mr Keith Dolman
NFCAP Technical Support
Mr Bruce Jefferies
NFCAP Technical Support
Mr Basil Peutalo
NFCAP Technical Support

Mr Kelly Kalit
Finance Department
Ms Anna Morikawa
Finance Department
Mr Sam Antiko
DEC
Mr Yati Bun
FSP-PNG
Mr Peter Hunnam
WWF South Pacific Program

and members of the project documentation team.

2.0 The biological resources management sub-sector

2.1 PNG's biodiversity and conservation initiatives

At the global level, the conservation of biodiversity is considered to be an important dimension of sustainable development to meet human needs. Papua New Guinea contributes at least 5% of the world's biodiversity and is important for its extensive, relatively unmodified natural habitats and ecosystems; especially rainforests, which cover in excess of 75 percent of the country, and coastal ecosystems.

At the national level, the constitution of Papua New Guinea provides in its fourth goal for Papua New Guinea's natural resources and environment *to be used for the collective benefit of us all and to be replenished for the benefit of future generations.*

More specifically, the Government of Papua New Guinea (GoPNG) has demonstrated its commitment to conservation through legislation, the establishment of a network of conservation areas and recently, its increased financial support of the Department of Environment and Conservation. GoPNG is also committed to obligations of the International Biodiversity Convention.

GoPNG has also adopted a National Forestry and Conservation Action Programme (NFCAP). One of the goals is ensuring that PNG's forest resources are managed in an ecologically sound and sustainable way and that the country's diverse ecosystems and biota are adequately conserved. A system of protected areas forms, as it has in the past, part of the strategy for adequately protecting diverse ecosystems and biota.

At the local level, sound conservation practices confer benefits through enabling resource owners to maintain significant elements of their subsistence diets, lifestyles and spiritual beliefs.

Appendix 4 discusses biodiversity in a PNG context as well as other influencing factors which will affect the CASP.

2.2 The conservation system in PNG

About 2% of PNG's total land area is currently under some form of conservation area status. There are 4 National Parks, 4 Provincial Parks, 24 Wildlife Management Areas, a number of sanctuaries and other conservation areas¹. Most of the existing conservation areas are land based. Coastal and marine conservation needs have only recently been expressed in the formation of conservation areas.

The Conservation Division of DEC is responsible for the management of this system directly and through providing assistance to customary land holders, particularly for Wildlife Management Areas. The Division also operates species management projects - most notably with crocodiles and butterflies - and administers species protection legislation.

2.3 Customary land ownership

¹. In this Project Document, the term conservation area is used as a general term for protected areas, including National Parks and Wildlife Management Areas (WMA). **Conservation Area** is used when referring to an area specifically defined in the Conservation Areas Act (1978).

Approximately 97% of the total land area of PNG and most associated land-based resources, are held under traditional ownership by clan groups or individuals. Customary rights also extend into freshwater and marine resources. However, legislation vests mineral resources in the State.

Ongoing community participation in decision-making on land use matters, especially on the allocation of rights to resource use, is a central feature of PNG culture. As there is little state-owned land in PNG, the establishment and management of conservation areas must recognise the framework of customary land ownership. The concept of State owned conservation areas is rarely appropriate or achievable in today's PNG.

2.4 Legislation and conservation area issues

A variety of approaches to conservation are possible under PNG's legislation.

The **National Parks Act 1982** provides for the designation of land in various categories of national parks. Although the Act is silent with respect to tenure for national parks, it has been considered in practice that the land must be government land, obtained through purchase, gift or lease. Management has been through direct control by DEC.

The **Conservation Areas Act 1978** has similar objectives to the National Parks Act but importantly, its provisions specifically identify that it may apply equally to all types of land tenure. The Act is flexible as to conservation methods. The Act also provides for the establishment of a National Conservation Council to provide guidance to those establishing conservation areas. This Council has not been appointed to date, nor have any areas been established under this Act.

The **Fauna (Protection and Control) Act 1966** and its amendments, provide for the establishment of Sanctuaries, Protected Areas and Wildlife Management Areas (WMA) on traditional land.

The major strategy developed under this legislation is the voluntary establishment of WMAs, with day-to-day management provided by resource owners, and support from DEC. The Department, through its Conservation Division (Parks and Wildlife Branch) responds to requests from resource owners for establishment of WMAs. The resource owners then establish, monitor, charge for services and enforce management rules negotiated for each area. Formal establishment of WMAs lends government authority to these landowner managed areas. The majority of conservation areas gazetted in PNG are WMAs.

Resource owners appear to have a variety of motives for establishing WMAs. The Protected Areas Review (1992) concludes: *at the bottom of many communities' interest in conservation and protected areas is a basic land rights/ownership issue. Most WMAs arise from the desire of a community to consolidate their ownership over a particular parcel of land and regulate the use of that land by "outsiders".* These outsiders may be visiting hunters or squatters.

WMAs are susceptible to change in status if the resource owners are so inclined. No clear strategy exists for dealing with this eventuality. It is likely that the increasing penetration of the cash economy will place pressures on land holders and GoPNG to alter WMA rules.

Biodiversity conservation requires relatively large conservation areas. Beehler (1992) advocates at least 80 000 ha in order to ensure that the integrity of the system can be protected. Priority areas are those which are species or ecosystem rich and/or high in endemism. These areas would need to be managed for conservation on a long term basis. With their origin in meeting a variety of local needs, many WMAs may be of inappropriate size and location from a biodiversity conservation point of view. Some notable exceptions exist (Tonda and Maza). In reality, WMAs serve less of a protection function than is perceived (or hoped).

However the potential does exist for WMAs to provide valuable input to biodiversity conservation provided they are established with that perspective in mind and managed (and supported) for that purpose.

2.5 The socio-economic environment

DEC's Strategic Plan (1992) states: *While traditional beliefs and customs have helped to protect the environment in the past and are often still operative, the integrity of natural environments throughout Papua New Guinea are now under increasing threat from pressures associated with population growth, the development of extractive industries and the growth of a cash economy.*

Since the future of PNG's biological resources is in the hands of customary landholders, the wider socio-economic environment (and its effect on landowner decision-making) will be a significant determinant of the success of area-based conservation action.

Growth in the PNG economy is largely based on logging, agriculture, mining and petroleum sectors which have weak linkages to downstream employment growth. Subsistence activities are still of great importance for the majority of the population and are likely to remain so, at least in the medium term. Subsistence and commercial agriculture are considered to be priorities for employment growth.

PNG's population growth is estimated to be 2.3% per year, while the young adult population (ages 15-29), the bulk of new entrants to the labour force, is growing by 3.3% per year. The total labour force is now 1.6 million persons, although formal employment has stagnated at around 250 000 for most of the past decade (World Bank 1992).

Despite some migration which swells the ranks of urban unemployed, village communities in many areas are having to accommodate increasing populations in agricultural activities. Clearing of land for subsistence agriculture and cash crops, through slash and burn activity, is the main driving force behind the net annual deforestation of natural forests estimated by FAO to be 22000 ha/year during the 1981-5 period.

Commercial logging operations are estimated to cover 70 000 ha/year. Existing timber concessions are assessed to cover 37 percent of the total area identified as of high zoological and botanical value through the Conservation Needs Assessment exercise organised by DEC and the Biodiversity Support Programme in 1992.

Despite the formal existence of a moratorium on new timber concessions, numerous exemptions have been granted, as the Government continues to come under pressure from resource owner groups, contractors and provincial governments. It is possible that almost all of PNG's lowland rainforest will have been committed in timber contracts over the next few years. These lowland forests are an important, species-rich component of the overall biodiversity of PNG.

To date, traditional landowners have been offered and have opted for extractive resource development projects where these have been the only opportunity for development in their area. They have had few opportunities to choose alternatives which would meet their needs for socio-economic development with less disruption to their local environment, natural resources and customs.

3.0 Host country strategy

Effective management of the existing system and an expanded system of conservation areas requires strengthening of DEC's capacity to respond directly to identifying, establishing and managing areas of conservation significance. It also requires strengthening of DEC's capacity to support and give advice to others implementing conservation programmes. However, most importantly, it requires the strengthening of landholder and society resolve to conserve, to use wisely their heritage resources. It then requires the

provision of expertise and skills to community groups so that they continue to conserve heritage resources both within and outside specific conservation areas in perpetuity.

The DEC Strategic Plan (1992) identifies that partnerships between GoPNG and landholders, NGOs and others will be essential to achieve conservation goals.

3.1 GoPNG biodiversity conservation strategy

Biodiversity conservation is proposed to be achieved in two complementary ways. Firstly to achieve stable conservation of a representative sample of PNG's biodiversity within a series of high priority sites where the risks to biodiversity are effectively being managed. This Integrated Conservation and Development (ICAD) strategy acknowledges that resource owners in a subsistence economy require security of food production and development of social services, oriented to meeting their local needs. However, it seeks to elicit their commitment to establishing large areas for conservation and to maintaining and managing these areas on a long term basis.

ICAD areas are being piloted in a number of developing countries, including PNG. It is expected that because of the diversity of issues relating to land-use and multi landholder negotiations, full implementation of integrated conservation and development may not be a rapid process. Hence, other strategies to secure the immediate protection of key conservation areas are needed.

The GoPNG will establish a Conservation Resource Centre within DEC to provide support for conservation actions generally and the management of conservation areas. A Trust Fund (to secure a source of future sustainable funding) and a National Conservation Council (to strengthen networking review and advocacy functions) are also being investigated.

Complementing the ICAD approach is the "more traditional conservation area method" of resource protection. Both strategies draw on similar principles and require similar skills and expertise for their success. However, conservation areas tend not to address broad scale development and conservation issues in detail, nor are areas considered as large as those identified in the ICAD approach. Conservation areas are often of smaller scale, focussed on fewer landholder groups and have potential for quicker establishment. In PNG, it is expected that a conservation area system might, in the long term, provide focus or core areas for expanding the ICAD approach.

Essentially the difference between the ICAD and conservation areas programmes is one of scale and broad land use planning versus site specific land use planning. This is not to suggest that conservation areas must be areas of total protection. On the contrary, a range of conservation areas are needed, from total protection to sustainable utilisation as discrete areas or zoning within a conservation area.

Further, not all communities are motivated solely by economic trade-offs for conservation. Some have a genuine desire to manage their land on a sustainable basis including the protection and conservation of the resource upon which their society was founded. Opportunities to formalise and support these initiatives is an important rationale for the GoPNG's conservation strategy through conservation areas.

3.2 Extending the conservation system generally

The broad thrust of the GoPNG nature conservation strategy is to extend the conservation system - the network of places and resources where the main emphasis is on conservation.

This will involve creating new conservation areas, bringing new resources into protected status and generally increasing the scope and field of influence of conservation management. For the foreseeable future this will

be the most important objective of all. This is the objective on which the Division's [conservation] success or failure will ultimately be judged...

DEC Strategic Plan 1992.

The conservation system has a range of objectives beside biodiversity conservation. These include protection of beautiful landscapes, sites of historical and cultural importance, opportunities for recreation and tourism as well as habitats critical for the sustainable harvest of species. It is important that these other objectives remain prominent along with biodiversity conservation.

4.0 Prior and ongoing assistance

This project proposal is the logical outcome of the Protected Areas Review undertaken by WWF in conjunction with DEC (Appendices 2 and 3) in 1992.

While it is important to identify action which has resulted in the preparation of this CASP proposal, it is also important to appreciate the demands that will be placed on the DEC in the immediate future as a result of implementing additional support projects. Sustainable programmes will not result from assistance unless the DEC has the capacity and staffing skills to learn from the assistance. Training and experience are needed in order to be able to respond appropriately to assistance projects. For example, it will be difficult for the Parks and Wildlife Branch of DEC to adequately respond to the requirements of the Management Systems Analysis and Human Resource Development Project (part of DEC Strengthening Project identified in the Strategic Plan) if staff have not had experience in applying state of the art management approaches to conservation areas. Staff will be unable to define their management needs to specialist Management System Planners and as a result, the danger exists that Management System Planning will not be appropriate for the needs of the Department even in the short term. The CASP proposal recognises this factor: with its emphasis on strengthening the Conservation Division's expertise (as well as producing on the ground results), the CASP will maximise the benefits from other funded projects.

4.1 Development of National Forestry and Conservation Action Programme

In 1989 the World Bank carried out a Tropical Forestry Action Plan (TFAP) Review of the PNG Forestry Sector. In 1992, as implementation proceeded, the GoPNG renamed the programme the National Forestry and Conservation Action Programme (NFCAP) to give equal weighting to conservation.

NFCAP incorporates an array of conservation projects with an emphasis in the initial stages on institutional strengthening of DEC. A Technical Support Team was established for the Programme in 1991 which included a conservation and an NGO specialist. NFCAP includes the following DEC projects.

4.2 DEC Strategic Plan

A DEC Strategic Plan has been prepared and is now progressing to an implementation phase. It sets out goals, objectives, strategies and priority actions to focus work in all DEC programmes. Funding was from the New Zealand Government and the World Bank. The DEC Strategic Plan emphasises the need for the CASP as well as other Departmental strengthening projects.

4.3 Conservation Needs Assessment (CNA)

This exercise collated available data on species distribution, habitats, endemism and richness in PNG and made a preliminary identification of broad parts of the country of significance for biodiversity. Landowner, NGO and social scientist perspectives were added to the ambit of the project and a workshop brought the participants together in April 1992. Funding was provided by the United States Agency for International Development through the Biodiversity Support Programme: a consortium of WWF, World Resources Institute

and The Nature Conservancy. The results of this project require DEC to respond to the challenges identified. The CASP aims in part, to meet this challenge.

4.4 Research/Database/GIS priorities assessment

This concept is an outgrowth of the CNA and concerns the capacity for research, monitoring and information processing to support policy development, planning and management of biological resources. Some initial work has been undertaken.

The CASP, through practical experience in conservation area planning and management will enable the enunciation of Departmental needs of a GIS and enable staff to contribute to it. Site specific research and inventory undertaken as part of conservation area management planning will be valuable input to any "national" GIS established. It is probable that national GIS requirements will not meet the needs for detailed assessments inherent in management planning. Hence a component of the CASP includes development of a site management information. The sharing of data will be an integral component.

4.5 Integrated Conservation and Development approaches

The Integrated Conservation and Development (ICAD) project to achieving biodiversity conservation aims to provide for local peoples' needs, both for subsistence and for socioeconomic development, in order to modify how people behave to meet their needs. The project includes the development of a Conservation Resource Centre (CRC) within DEC, a Trust Fund to sustain conservation projects and establishment of the National Conservation Council.

A number of initiatives, based on offering socio-economic development incentives to landowners, to achieve biodiversity conservation, have been launched by PNG NGOs. Examples include the Wau Ecology Institute's project on the Kuber Range where a visitor lodge and facilities have been built; Village Development Trust's Lasanga Islands Conservation Programme supported by WWF; and the Research and Conservation Foundation of PNG's Crater Mountain project and the East Sepik Council of Women/Friends of the Sepik project for the Hunstein Range. Pilot ICAD areas are being investigated by DEC as part of the GEF funded project.

4.6 Protected Areas Rehabilitation Project: Phase I Protected Areas Review

The principal objective of this project was to assess the management effectiveness and deficiencies of PNG's existing conservation areas system and develop recommendations for strengthening. The Review was implemented by WWF in conjunction with DEC, under a financial agreement between WWF and EC. The report provided the recommendations given in Appendix 3. Implementing the recommendations is predicated on the funding of the Conservation Areas Strengthening Project (CASP): this project proposal. A brief summary of the report is given in Appendix 2 and should be considered as support and rationale for this CASP proposal.

4.7 Representative Conservation Areas System Design

This project was identified to assist field managers to identify, classify, establish and manage conservation areas and is now included in the CASP.

4.8 Queen Alexandra Birdwing Butterfly Conservation Project

This project is to develop and implement a conservation action plan to ensure the survival of the butterfly species. The CASP will enable Conservation Division staff to learn from the methodologies and results of this project and subsequently apply them to the management of other wildlife and conservation areas in general.

4.9 Management Systems Analysis and Human Resource Development Plan

This project will comprehensively evaluate DEC management systems and plan for human resource development needs. Preliminary analysis has been completed. Funding is being provided by AIDAB.

Comments made at the beginning of this section are relevant. Conservation Division staff will gain and contribute more with the experience to be gained through the CASP. The CASP will address Branch organisational issues to ensure effective area based management and administration as well as sustainability of the CASP.

4.10 Alternative Income Study

This concept is intended to provide recommendations, prescriptions and criteria for the development of alternative revenue generation schemes associated with integrated conservation and development areas as well as conservation areas. Although identified as a separate project under NFCAP, both the ICAD and CASP will investigate alternative income generating schemes as part of planning and implementation.

4.11 Environmental Standards, Management and Assessment Project

This project will establish in DEC the necessary competencies to fulfil responsibilities for assessing and monitoring the environmental implications of major natural resource projects. No donor is identified as yet.

This project would be indirectly related to the CASP, however DEC field officers associated with conservation areas may be required to respond to investigations and initiatives of the Environment Division (DEC).

4.12 Legislation and policy review

This project will review and consolidate legislation administered by DEC, including that providing for biodiversity conservation and the needs of conservation area management. The project is at the conceptual stage with donor commitment by AIDAB.

An important component of the CASP is the conservation areas system design. Based on practical experience of working within the existing legislative framework and a proposed conservation area system appropriate to PNG, the CASP will provide valuable input to the legislation and policy review.

4.13 Environment and Conservation Advocacy and Public Awareness

This project will establish an advocacy and awareness capacity within DEC. Terms of reference are being prepared and potential donors approached. An important part of conservation area management is communication with users. This communication process in parks has been termed interpretation. However for PNG a much broader context is needed both to support management action, assist with productive, protective and enjoyable use of the conservation area and in extending the system.

Advocacy is an immediate objective of the CASP (attention will be focused on conservation area advocacy). Since conservation areas are usually seen as the “flagships” of conservation action, active use of the protected area in environmental education and exemplary nature conservation will be important functions of the areas. The CASP includes conservation area advocacy, education, information and interpretive services as an integral part of “park management”.

4.14 Landowner Awareness Project

This project aims to create a capacity to conduct landowner awareness programmes in conjunction with the forest planning sector. An initial report is available. The project is being funded by the German Technical Aid Agency for co-operation, GTZ. The CASP will contribute and benefit from this project enabling the application of ideas generated.

4.15 National Sustainable Development Strategy

This project is at the concept stage. It will establish management priorities, policies, strategies and techniques in a coordinated way, across GoPNG, for sustainable development. The strategy will formalise the policy determinations inherent in GoPNG support for projects such as CASP and ICAD. The CASP will assist in preparing Conservation Division staff to make timely input to this project and have available documentation of immediate relevance.

5.0 Institutional framework

5.1. Department of Environment and Conservation

The Department of Environment and Conservation (DEC) mission, as approved by the GoPNG, National Executive Council is: *to ensure natural and physical resources are managed to sustain environmental quality and human well being.*

This is supported by functional goals, developed in the DEC Strategic Plan:

- * to develop and implement appropriate policies for the effective management of natural and physical resources for the benefit of the people in a sustainable manner;
- * to ensure people are actively involved in the development of policies and projects and are well informed about the activities of the Department;
- * to conserve the diverse natural, physical and cultural resources of Papua New Guinea; and
- * to be a competent and professional Department with a reputation for being effective.

Within DEC, three divisions exist:

- * Policy/Administration;
- * Nature Conservation; and
- * Environmental Protection and Pollution Control.

In 1983 DEC along with other Government Departments faced a considerable budget cut which resulted in the loss of many provincial staff. There are sixteen provincial staff working in the Conservation Division at present. The remainder of the Conservation Division is divided into three cost centres:

- * Nature Conservation;
- * Resource Inventory; and
- * Species Management.

During 1992, DEC received additional funding from the GoPNG in recognition of the additional programmes identified for the Department as part of the NFCAP. In addition a number of new staffing positions were approved by the Department of Personnel Management, although not all of these have received funding support.

Since 1987 there have been no significant extensions or additions to the conservation system reflecting limited institutional capacity in terms of planning, analysis and provincial contact.

Under the NFCAP umbrella these weaknesses have started to be addressed with the completion of a Strategic Planning exercise, the commencing of the Management Systems/HRD analysis project, the development of the GEF (ICAD) project and completion of the Protected Areas Review and now its actioning component, the CASP.

Departmental capacity development needs to be a key focus of any project proposal and institutional strengthening should play a major role, if conservation projects are to be sustainable.

5.2 Forestry sector

The Forestry Act 1991 was passed in July 1991 and took effect on 25 June 1992. The Act establishes the PNG Forest Authority and the National Forest Board. Staff of the Authority will be part of the National Forest Service. Each province will have a Provincial Forest Management Committee which makes recommendations to the National Forest Board.

The structure is designed to provide a forum for consultation and co-operation between resource owners, national and provincial Government and NGO's in planning for forestry and forest projects. The provincial committees will become the planning unit and the negotiators of the contracting procedures. These procedures will now involve a feasibility study to determine the viability of forest utilisation proposals and then the completion of an environmental plan prior to obtaining a timber permit. This structure has relevance to conservation area planning and management.

It is expected that during the CASP, the prospects of utilising similar or complementary advisory systems will be evaluated. National Forestry Development Guidelines have been prepared which include the identification of *Conservation Forests* which might ultimately become conservation areas. Certainly the CASP will improve Conservation Branch's ability to contribute to environmental plan preparation and other requirements of Forestry initiatives.

5.3 Petroleum and mining

This subsector is by far the most important contributor to the PNG economy in terms of GoPNG revenues. It also makes very large contributions to socio-economic development of landowners in specific communities where minerals are found and developed. Extensive prospecting activity exists throughout PNG and new mineral discoveries have been made regularly.

The impacts on biodiversity of such developments are potentially intense but, if properly managed, can often be confined to a relatively small area. Impacts include removal of vegetation at the site of the mine and associated workings, leading to local losses of flora and fauna and possibly some impact on freshwater and/or marine biodiversity through discharges to the environment from mines or pipelines. Indirect effects could potentially be more substantial, involving land clearance for subsistence gardening, fire-lighting and other impacts.

The private sector often has the capability and will to offset real and perceived environmental impact by contributing to conservation initiatives. The DEC and other groups interested in conservation area planning and management should have the capability to negotiate with the private sector (in this case mining) to extend conservation initiatives by offering assistance, advice and if necessary a watchdog role. The CASP will improve field staff's capability to relate to the mining sector and when necessary and appropriate, enter co-operative conserving action programmes.

5.4 Non-Governmental organisations

NGOs have an important role to play in the conservation of biodiversity in PNG. Papua New Guinean NGOs were consulted in the preparation of this project proposal and are engaged in a complementary project (NANGO-PNG plus WWF Strategies for Community Conservation) to strengthen their ability to contribute to conservation area planning and management. While DEC will be the lead agency for implementing the CASP, DEC will draw strength for this task from the formation of effective partnerships with NGOs able to add value to the project.

Both national and international NGOs are involved in conservation activities in PNG. Several national NGOs already act as implementors of government-funded projects, particularly in the fields of literacy and awareness programmes as well as delivery of rural and village development projects. In addition, GoPNG increasingly recognises a role for PNG NGOs at the policy and planning level. An example relevant to this project is that NGOs have representation on the National Forests Authority and on Provincial Forest Management Committees. PNG NGOs have limited financial and staff resources and they will need some institutional strengthening to make an effective contribution to the project.

From the point of view of the CASP, the relevant strengths of national NGO's include:

- * skills and experience which would be useful for the project, particularly in the implementation of planned development, protection, maintenance and community awareness-raising;
- * the NGOs are a source and testing ground for new ideas and innovative practices;
- * most are strongly oriented to local contact, good at seeking out social and environmental problems and at times, effective as watchdogs;
- * running low cost operations, mobilising much volunteer effort with a high level of commitment to achieving goals;
- * their vision of village-led development and opposition to large-scale resource projects is often supportive of and complementary to DEC's own mission;
- * linkages to national and provincial government (in some cases); and
- * an ability to mobilise this network which would be a strategic advantage to DEC.

An important role of NGOs in the CASP would be at the policy and planning level, where they can contribute skills, experience and networking ability to help the Department to achieve its broader mission.

International NGOs relevant to the project include both conservation NGOs such as WWF and Conservation International and a variety of development NGOs, ranging from those funding village development projects to those which place international volunteers in PNG.

International NGOs have a variety of potential roles in relation to the project:

- * some have a capacity to implement components of the project on contract;
- * they are a potential source of project staff, such as CASP project managers;
- * their knowledge and experience of protected area project development and implementation in other countries makes them a potential source of expertise, advice on policy and management issues;
- * they have a capacity to mobilise international funding and/or political support;
- * they are increasingly used by overseas governments and multilateral institutions as a channel for effective, direct funding of grassroots projects in developing countries; and
- * some offer a level of continuity that "short term" consultant expertise cannot provide.

Government of Papua New Guinea
Conservation Areas Strengthening Project

CASP B: Project Justification

1.0 Problem to be addressed: the present situation

The (May 1992) Department of Environment and Conservation (DEC) Strategic Plan contains a review of the present situation in the Parks and Wildlife Branch within the Conservation Division. The Division has identified the need for proper planning, expanding and strengthening the conservation system to achieve the important 'sub-objective' of conserving biodiversity. Strengthening also refers to Parks and Wildlife Branch operations within the Conservation Division. The Division and Branch currently lack both proven methodologies and the institutional capacity to realise Strategic Plan objectives. They also lack the expertise needed to provide input and advocacy for conservation needs.

The Division has experience in the establishment and management of national parks and Wildlife Management Areas. However, this has not been developed in the last decade and the expansion of the conservation system will require additional skills and capacity, within the Division. Skills need to be strengthened to implement Government policy in the areas of:

- * general conservation planning and advocacy;
- * conservation area management planning;
- * conservation area operational management;
- * project management for complex, multi-stakeholder projects;
- * training in each of the above;
- * funding to bring the existing and expanded system to a sustainable state; and
- * monitoring and evaluation.

Issues with recommendations and effective justification of this project proposal are contained in the Protected Areas Review (Appendix 2 and Appendix 3). Key issues to be addressed in this project are outlined below.

1.1 Staffing

Present staffing of the National Parks and Wildlife Branch (Conservation Division, DEC) comprises 47 permanent positions (28 funded in 1993) with 91 casual staff. Of the funded permanent positions, the largest number (23) is concentrated at the managerial level for **national park** management, including 16 ranger and field staff located out of Port Moresby. There are 6 staff involved in conservation surveys and 13 involved with Wildlife Management Areas, species management and conservation policy.

No experienced conservation or resource planners are available in the Parks and Wildlife Branch for the variety of tasks inherent in conservation area planning and management. This has the potential to inhibit the development of CASP and leave the Division largely unable to respond to a wider role, including the urgent need for conservation input and advocacy in conservation through "reservation" and the land use planning process.

There is little technical capacity to implement conservation area planning and management with a marine component.

Few in-house staff are available with specialist skills or experience in participatory conservation, area appraisal or the planning, implementation and monitoring of community conservation and support development projects. Overall staff capacity to manage projects, especially complex, multi-stakeholder projects such as is required for the conservation area context in PNG, is inadequate.

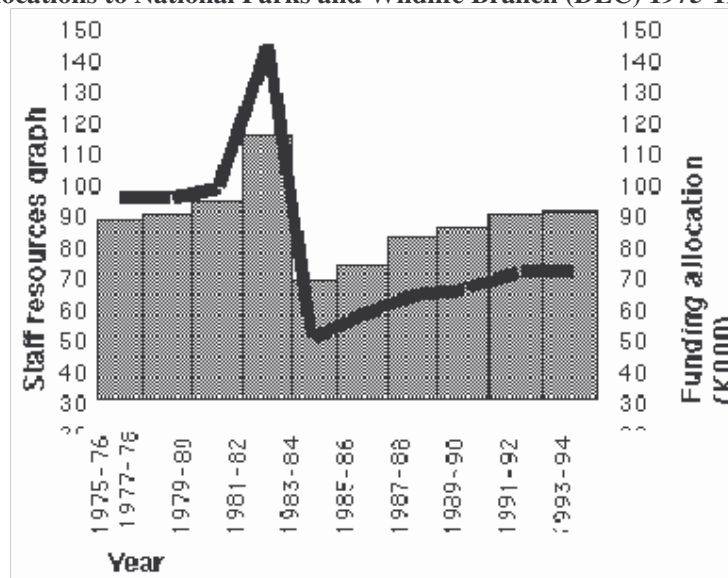
For implementing the CASP there is not yet sufficient capacity for networking or a networking strategy for conservation action. Networking involves seeking co-operation and partnership roles with other agencies - including other Government agencies, universities, NGOs and customary landholders. This is identified in the Strategic Plan as a priority.

The National Conservation Council, which is provided for in the Conservation Areas Act and would provide an important advocacy and networking mechanism, has not yet been established. The Strategic Plan indicates that networking efforts are also needed at the provincial level, but there are only six provincial rangers for 19 provinces. Ranger staff lack the resources and skills required for effectiveness in achieving conservation area management (and biological conservation generally) through direct or collaborative efforts.

There is insufficient provision for training for the Division to implement effective conservation area management in the long term, with fundamental conservation area operations and administrative and reporting mechanisms sadly lacking. This is not to denigrate the enthusiasm and dedication of existing staff, rather they should be complimented for their efforts in an unplanned, poorly resourced and administratively unstructured environment.

At present there is no basic pre-employment training or in-service training capability for conservation area management and certainly none for PNG conditions. A clear indication of why conservation area management is in urgent need of strengthening and justification of the CASP is graphically shown below.

Staff and financial allocations to National Parks and Wildlife Branch (DEC) 1975-1994



1.2 Conservation area system

The existing system of conservation areas has its legal basis in a variety of Acts. In giving effect to these Acts there has been little attention paid to consistency of application of names or management. The existing system would appear not to suit the requirements of PNG at national or local levels. Nationally, conservation of

biodiversity is not being achieved. Locally, communities are not perceiving the values of conservation or being supported with conserving actions, even when the will exists.

1.3 Conservation area planning

No management plans exist for any of the conservation areas that currently exist. Hence management is *ad hoc* and inconsistent. Further, no objectives or criteria exist, against which to evaluate management effectiveness (or otherwise).

1.4 Conservation area proposals

Over 200 proposals for new areas currently exist, with little likelihood of existing staffing resources being able to review, prioritize, assess and establish more than a handful of these over an extended period.

1.5 Conservation area field operations

Staff skills and resources at the area level are limited. Upgrading and strengthening is needed to build modern conservation area management techniques which are appropriate to PNG. Skills include those typified in park management systems employed in “developed” countries, but also those that embrace a more co-operative/joint planning/joint operation partnership with local communities and landowners.

1.6 Conservation area development

With few exceptions, existing conservation areas are characterised by little or no infrastructure development or facilities which would focus attention on area values. Alternatively, existing infrastructure and facilities are in a poor state of repair.

1.7 Conservation area relevance

The lack of attention given to conservation areas over the past decade has resulted in a weakening of community opinion as to the value and relevance of a system of conservation areas.

1.8 Interpretation and advocacy

Conservation area management is largely people management. There is no interpretive or educational programme for the conservation area system.

2.0 Expected end of project situation

The fundamental foundation for sustainable planning and management of the conservation area "estate" will have been established within the Conservation Division of DEC and specifically the Parks and Wildlife Branch.

Standards of excellence for the provision of technical, managerial and administrative support will exist, along with skills for the establishment and on-going development and management of conservation areas.

The ability of Departmental staff and conservation area committees to provide input into national conservation policy and planning will be markedly improved. Associated with this will be a strong network of skills and partnerships for the implementation of conservation system additions, both within and outside government departments.

A methodology will be in place for planning the management of conservation areas. All existing conservation areas will have operational plans in place to guide routine management.

A system will exist to review proposals for addition to the system, which recognises the needs of conservation with provisions for resource utilisation by landowners.

CASP methodologies will have been developed and tested and the capacity established to initiate and provide sustainable development and management for existing and new conservation areas to meet PNG's needs. The capacity will also have been established to provide input into conservation policy and management planning, feasibility studies, environmental plans and land use planning.

With the support of the GoPNG, a minimum level of staffing and funding will exist to permit the maintenance of the impetus provided by the CASP.

Specific staff skills, capable of managing the existing and expanding conservation area system, will likely include:

- | | |
|--------------------------|---------------------------|
| * conservation planning; | * social science; |
| * park planning; | * communication / |
| * landscape planning; | interpretation; |
| * marine biology; | * regional management; |
| * botany; | * rangers; |
| * zoology; | * administrative support. |
| * geology/geography; | |

Within the Conservation Division there will be the capacity to carry out participatory conservation area planning and management and there will be in-service training programmes in these skills.

All existing conservation areas will be rehabilitated (to varying degrees) to a standard appropriate to the area's values.

Within the newly established conservation areas there will be appropriate social organisation providing collective decision-making and management capability, an ongoing conservation agreement and partnership with DEC. There will also be a specific management plan with zones managed according to agreed conservation and development objectives, resource inventories and monitoring systems.

Progress will be under-way to establish a pre-employment training course in natural systems and wildlife management for conservation area managers and staff.

There will be PNG nationals, both within and outside of Government, capable of contributing expertise, as part of international advisory teams, to other developing nations: expertise based on experience peculiar, to nations of tropical environments.

Complementing these DEC focused outcomes will be the equally important empowerment of the public, NGOs and community groups to contribute to the conservation of PNG's heritage. Empowerment will take the form of involvement in decision making and practical contribution to conservation area establishment and management. Thus, development of community and landowner skills in conservation area management will be a parallel end of project outcome.

The extension of this outcome will be greater community awareness of the importance of conservation in all areas of PNG development. Whilst in this project the focus is on conservation areas, it is expected that a multiplier effect will occur with greater community awareness and action towards environmental protective behaviour.

3.0 Target beneficiaries

Broadly, target beneficiaries of this project are:

- * the DEC, GoPNG and through it, the peoples of PNG, by meeting the goals of the Nation's constitution;
- * landowners, present and future, in the areas where conservation areas exist (they benefit both from the development opportunities provided and from the conservation of their natural environment);
- * national and global communities, including future generations (they benefit from conserving the diversity of gene pools, species, habitats and ecosystems, because these things are a fundamental resource for social and economic development and make it possible for human societies to adapt to changing needs and environments).

In the longer term, potential exists for private companies (and PNG) to benefit from the protection of genetic resources: retained for pharmaceutical and other extracts as well as uses, as yet undiscovered. In turn, these uses will benefit the peoples of PNG and the global community.

Specifically, the beneficiaries are the staff of the DEC who have the responsibility of implementing GoPNG policy and providing a leadership role in conservation area planning and management.

In addition, the beneficiaries of the CASP are traditional landowners and community groups who also have a major, if not the most important, role in delivering the conservation product.

4.0 Project strategy and execution arrangements

4.1 Project strategy

In the context of PNG's current stage and pattern of conservation area management, the responsible government arm, landowners and the wider community lack the skills, experience and capacity to manage conservation areas in accordance with their value to local, national and global communities and to future generations.

There is evidence that, unless PNG's current pattern of development and land use is deliberately modified to make greater provision for biodiversity conservation, the country's biodiversity is likely to be threatened. Expanded land clearing for subsistence food and cash crop production, logging projects and widespread pollution threaten the integrity of biological systems. To a lesser extent, some infrastructure development, mining, fishing, hunting and gathering activities also erode PNG's world significant biodiversity resources. Some types of conservation areas have proven to be, throughout the world, an effective strategy for biological conservation and protecting valued resources for future generations.

By developing and strengthening methodologies, institutional capacity and partnerships to implement management of conservation areas and to provide conservation advocacy, stable conservation of a representative sample of PNG's ecosystems will be achieved. Whilst conservation areas alone cannot ensure biodiversity protection, they are the standard against which other conservation action can be assessed. They are the 'flagship' of the armada of conservation tools available. They must be strengthened, defended and promoted accordingly. This strategy is fundamentally the minimalist approach used by 'developed' nations. In PNG, there is the opportunity to build upon society's existing conservation ethic.

Thus, the CASP has two strategies:

- * the strengthening of the conservation area approach to conserving natural and cultural heritage; and
- * extension of the conservation ethic and action locally, so that conservation of resources is achieved nationally.

In parallel with the first approach is the strategy of educating local communities and landowners in the consequences of non-conserving land use practices, as well as empowerment to make decisions with respect to land use which conserves their economic base.

The key to the CASP is to first strengthen the capacity of the lead government agency responsible for nature and then to secure the commitment of landowners (and broader community) to the establishment and long term management of conservation areas through an ongoing partnership with DEC.

Through such a partnership, landowners will benefit from the conservation of their natural environment and from employment opportunities inherent in pro-active conservation area management. They will have an outlet for cultural expression and thus sustain pride in their cultural heritage. The other partner in the arrangement (DEC) will secure biodiversity resources of PNG, whose conservation is a benefit for communities at the national and global levels as well as for future generations.

4.2 CASP execution

It is proposed that the execution of the project will be through GoPNG (DEC) and an associated technical assisting agency based on a memorandum of understanding between the GoPNG (DEC) and the technical assisting agency. The project will be implemented within the DEC Conservation Division, through the National Parks and Wildlife Branch, supported by a suitably qualified project manager and by specialist consultants and counterpart staff, coordinated and managed by the assisting agency in consultation with DEC.

Options that were considered for execution of the project included:

- a. GoPNG execution (expertise and managerial resources do not exist);
- b. one or more conservation non-government organisations;
- c. contracting the technical assistance required to a single consulting firm (the ability to mobilise necessary expertise and integrate operations with DEC for sustainable results was considered improbable);
- d. joint and co-operative execution by GoPNG with an NGO.

Other alternatives were excluded at an early stage because of the specialised nature of the project, requiring technical conservation area management skills.

Option "a" was eliminated because inherent in the project was the need to develop PNG capacity to co-ordinate and manage such projects: the expertise and capability does not exist. Option "b" was eliminated, not because an NGO could not execute the project, but because sustainability could not be guaranteed. Option "c" was eliminated on the basis that one and probably two additional layers of contracting would be required with margins being taken at each level. There appear to be no compensating advantages to outweigh these additional costs. Further, the danger of divorcing DEC staff from the project is considered a major negative to this approach with its inherent danger of loss of continuity.

Option "d" is preferred because:

- * it will maximise PNG staff development and appropriate Governmental control and sustainability of outcomes;
- * it will draw on the organisational capability, experience and commitment of a respected international NGO;
- * it will be able to build on existing co-operative arrangements, understanding and mutual trust and respect needed in such a project;

The selection of the technical assisting agency should be based on proven experience in timely and effective performance, the ability to co-ordinate expertise, the ability to work with DEC staff, a proven commitment to conservation of PNG's natural and cultural heritage and experience in PNG conditions.

WWF would be a suitable technical assisting agency, capable of coordinating and managing external expertise. WWF has shown to be timely, effective and sensitive to the PNG conservation environment, innovative and capable of bringing together appropriate skills necessary for the complex character of the project. WWF initiated and carried out the 1992 Review of Protected Areas in PNG and has a thorough understanding of the tasks to be organised under CASP. Appendix 5 summarises WWF's capability and commitment to PNG's conservation activities.

Structures and mechanisms for execution of the CASP are detailed in CASP C: The Project Overview.

5.0 Coordination arrangements

Fundamental to CASP implementation is the integration of DEC programmes with the project. Departmental staff will be seconded to the project as counterpart teams to a CASP Assistance unit. In this way, staff will receive on-the-job training.

CASP Project finances will remain separate from other GoPNG funds, which will support infrastructure development to ensure sustainability of CASP outputs. Budgeting for the CASP and the DEC programme for conservation areas have been prepared in parallel and it is proposed that this will continue throughout the life of the CASP and transition phases.

The CASP is one of a group of projects organised under the umbrella of the National Forestry and Conservation Action Plan (NFCAP). All NFCAP projects are coordinated through an interdepartmental committee, the NFCAP Steering Committee, chaired by the Department of Finance and Planning. Special and additional co-ordination arrangements are proposed. At the start of the project additional arrangements are considered essential. However, as the project proceeds, it is expected that existing and already proposed co-ordination arrangements will provide greater efficiency.

6.0 Departmental support

The CASP has already been supported by the DEC to the extent of allocating one senior staff member and three middle managers to the preparation of this project document at the time of budget planning. DEC staff have worked in their own time to meet their Departmental obligations and time constraints involved in preparing this project plan.

It is clear that there is both a Departmental and officer level commitment to the project. The DEC wholeheartedly supports the project, which is accorded a key place in the DEC Strategic Plan. The Department of Finance and Planning has incorporated a budget provision for the GoPNG contribution to the project into its budget submission for next year.

Further, the Department has expressed a desire for the project to include and integrate the GoPNG contribution for future years within the project budget. Notionally, the emphasis for expenditure of the GoPNG contribution should be towards the establishment of infrastructure and staffing to ensure sustainability of project outcomes.

7.0 Special Considerations

7.1 Ecotourism

Ecotourism (and tourism) is poorly developed in PNG. Whilst numerous reasons for this situation exist and are likely to remain in the immediate future, opportunity now exists to establish and effectively manage one of the key components of any ecotourism industry: a conservation area system. If this is not in place (along with social planning, tourism planning and management generally) an ecotourism industry is likely to bring more environmental and social problems than it can solve.

The CASP will provide a management system for conservation areas which will be able to respond positively to any expansion of an ecotourism industry. Co-operation and a close working relationship will need to be established with the Tourism Promotion Authority (TPA).

7.2 Population growth

Continued rapid population growth will normally lead to increased encroachment on areas of conservation significance to meet subsistence agriculture needs as well as place pressure on marine resources from fishing/marine harvesting.

Planned and co-operative management of valued natural resources is the key short and medium term strategy for addressing the ecologically damaging impacts of population growth and economic development.

7.3 Landowners¹ and others

In PNG, resource conservation ultimately rests with traditional landholders. Thus for Government, dealings in conservation areas will be with landholders and will need to be carried out in a way that respects and re-enforces their traditional rights and authority. It cannot be over emphasised that Government, NGOs or any other institution will not achieve conservation of natural and cultural heritage resources in PNG without landholder and local community support, agreement and commitment to this goal.

Ways of involving customary owners in the project, that are acceptable to and reinforce the authority of the landholders, should be identified. In landlocked situations, project consultation may need to extend, to some degree, to groups that are not landowners in a conservation area but effectively control access to it.

7.4 Involvement of women

Because of the differentiation of roles and responsibilities, women have different needs and will be affected in different ways to men in the implementation of conservation area planning, development and ongoing management. A particular effort has to be designed into the project to ensure that women's needs and viewpoints are identified and are represented in a full and balanced way. This particularly applies to the planning process and to any landowner committee/resource management forum that is established as the focus of decision-making about the management of an area.

In addition, opportunities for the employment of women should be identified and promoted. There should be a considerable number of opportunities, particularly in training and in the delivery of interpretive and other visitor services, based on existing experience of women (given suitable communications training).

7.5 Inter-generation and inter-group issues

Leadership in Papua New Guinea societies is subject to challenge from time to time and the political divisions in this process are often formed along lineage and/or generation lines. In other situations in PNG, where communities are recipients of benefits from an external agency, it has shown that the benefits (and costs) are not always perceived as having been distributed fairly.

This factor and/or the perceived adequacy of the project benefits can become an issue in a leadership challenge, with sometimes unfortunate results in terms of overall community support for the project. Of particular concern is the tendency for "partly educated", unemployed young people to become disaffected and disruptive.

It is important that the viewpoints and aspirations of each group in the community, including the leaders of the younger generation, are identified and addressed during planning and implementation of the project, so that a sense of ownership of the project is not confined to particular sections of the community. Opportunities for

¹ The term landowners is used in this project document to refer to customary owners of land, including those who reside in an area but also to those who are not currently resident in an area, but have a claim to resources recognised by custom. It also includes the customary owners of coastal and marine resources.

youth employment in the project should be identified and developed where appropriate. The practical nature of the project provides ample opportunity to respond to this issue.

7.6 Law and order

Papua New Guinea has a significant law and order problem, particularly in urban areas. Many people have moved into urban areas in search of a better life, only to remain unemployed and frustrated. Social inequality is particularly apparent in these situations and ethnic differences and rivalries flourish in the relative absence of traditional social controls.

Security therefore needs to be a special consideration in project planning and management. Recruitment of personnel may be affected. It should be noted that the security situation varies considerably between provinces and is markedly less of a problem in most rural areas.

However, "parks" are often seen as targets for "raskal" behaviour. It is considered that the solution may lie more in community and social influences, rather than policing. Hence the need for close community agreement and promotion of the benefits that conservation areas can bring to the individual and community is essential. Employment of youth may be a particularly useful strategy.

7.7 Decision-making in conservation areas

Papua New Guinea's biodiversity will ultimately be lost or conserved through decisions taken by landowners at the local level. However, Government policies, plans and actions create incentives that facilitate or constrain local decision-making.

The most immediate of these are Government decisions currently being taken on the commitment of forest resources to timber production. Conservation advocacy at the government level, as well as at the landowner level, is vital to the success of biodiversity conservation in PNG and is an important dimension of the project. The most species-rich ecosystems of Papua New Guinea are the lowland rainforests. These are limited in extent (forests below 300 meters occupy 128,000 km² or 27 percent of PNG) but they contain the major exploitable timber resource. Forests committed to logging - mostly in lowland forest - currently total 87 406 km². The logging of these forests has a substantial and extensive environmental impact. Because of this impact on naturally evolved ecosystems and habitats, the logging process may remove these forests from consideration for certain classes of conservation areas, necessitate 'zoning' as a buffer for protecting a 'preserved' core or necessitate a resource restoration programme. Mapping under the Conservation Needs Assessment process has identified that 37 percent of the areas of high conservation priority for their botanical or zoological diversity are already overlapped by timber rights purchases or local forest area agreements.

While the primary focus of the CASP is on rehabilitation, organisational strengthening and management of existing areas, attention must also be given to ensuring that options remain open for future conservation areas in sites of high importance for biodiversity.

For this reason:

- * the conservation area programme will be proactive and in time, extend to areas other than volunteered proposals, in order to integrate with and support initiatives of other Divisions and Departments of GoPNG (this means providing information and advice on biodiversity conservation needs and resource management);
- * the imminent scarcity of biodiversity conservation sites in lowland forests will be recognised in new conservation area establishment and as a result, will influence selection criteria for planning and operational components of the CASP.

7.8 Partnerships

A key success factor for the CASP and for the establishment of additional conservation areas will be the ability to form effective and durable partnerships and to demonstrate community benefits that conservation areas can bring. The fundamental partnership relationship involved is that between DEC and the landowners of the conservation area: this partnership requires commitment to an ongoing, open, participatory and adaptive relationship.

In the preparation and implementation of plans, DEC and landholders will also depend on partnerships with other government agencies, NGOs and the private sector. In its conservation advocacy work, it will need effective partnerships with provincial governments, the Department of Forests, the private sector and NGOs. In securing ongoing funding for conservation area establishment and management, it will need effective partnership relationships with GoPNG's Department of Finance. The programme will need continuity of political support.

Because of customary tenure, it may well be that DEC will have a coordinating role and not be the lead agency for on the ground management. Training for a coordinating role will be important, for the management body (landholders, NGOs) as well as for DEC staff.

Ability to form successful partnership relationships must be a consideration in recruitment of personnel for this project at all levels, as well as for permanent staff. Attention to the development and maintenance of partnership relationships must be a key consideration for project and on-going management at all times.

7.9 Variability of CASP costs between areas

As detailed area planning will be included in the CASP, implementation cost estimates are based on staff experience and the perspectives generated from the WWF-DEC Protected Areas Review. In reality however, it is expected that there will be considerable variability in the initial costs of implementing plans, depending on the nature and level of 'rehabilitation', economic opportunities and landowner/community support. The aim should not be to spend an equal amount on each conservation area, nor to spend all the money allocated per site in the project budget, but rather to achieve over the project as a whole, as much capacity building, area rehabilitation and conservation area expansion as is possible within the resource constraints. Budget details for the implementation of plans will need to be revised once management plans have been prepared and priorities identified.

7.10 Negative impacts

The project will not have any negative impacts on the environment or particular groups. Integral to the design of the CASP is a careful participatory process of identifying all the groups involved and their needs, negotiating with them and obtaining their prior consent for activities.

Government of Papua New Guinea
Conservation Areas Strengthening Project

CASP C: Project Overview

1.0 Introduction

The Conservation Areas Strengthening Project will address four major issues:
creation of a system of conservation areas appropriate to PNG;
advocating the values of the conservation areas system;
administering the conservation areas system;
strengthening the management of individual areas in the conservation areas system.

These elements are presented diagrammatically in Figure 1.0.

Figure 1.0 Elements of the CASP



1.1 System creation

To creation of conservation area system starts with the design of the system, which should be based on:

PNG environmental characteristics (values and conservation goals);
PNG socio-political environment (community aspirations and the opportunities and constraints afforded by them);

objectives for the design which appropriately account for the above.

These components of system creation will then help to define criteria (and priorities) for individual classes of the system design.

It is expected that legislation will be required to define the characteristics of each class of conservation area as well as the procedure for establishment of new areas. It is expected that planning, based on an appropriate level of research and inventory, will be an integral part of the establishment process. It is also expected that the system design will identify classes of conservation areas which warrant national level of action for planning and management and others where a local level of action is more appropriate.

The existing network of conservation areas will then need **adjustment** based on the criteria for the new classes of conservation areas. Since all areas cannot be handled at once, the existing system will need to be divided and prioritized based on those that receive immediate re-establishment attention with a formal plan and those that are maintained and managed based on Interim Management Guidelines. Priority will be based on area

values with respect to objectives for the system and opportunistic factors relating to ease of establishment and planning (eg, absence of contentious issues requiring intensive or protracted negotiation).

Conservation area **additions** will require an appraisal of resource values and sustainability of these values, along with a matching of these area characteristics to criteria for each class of area. Because of the backlog of existing proposals, a rapid appraisal strategy will be required to prioritize existing proposals, priority again being based on area values and opportunistic factors. On the prioritized list, establishment action then needs to be initiated.

To effectively evaluate the existing system and proposals, it is essential that **resource information** is available for an area to confidently assess its appropriateness for a particular class. Then the capability must be available to prepare the prescribed level of planning and procedural activity to establish or re-establish the area. Thus resource assessment, planning and related administrative support are required. Management plans are considered to be part of this re/establishment process.

Since it is likely that a conservation area system in PNG will require GoPNG and local community agreement and action in some form, consultative and **joint decision-making** arrangements need to be established to facilitate planning as well as on-going management. Formal as well as *ad hoc* consultative, co-ordination and management committees are required.

1.2 System advocacy

The conservation area system will not be implemented and sustained in perpetuity unless society is aware of the benefits it can bring. Promotion of the system and how people can contribute to its establishment and management is needed. Mechanisms to respond to interest created must be available. Consultative mechanisms and local level empowerment for decision making will be significant actions towards the rationale behind communication and advocacy.

However, conservation advocacy will also involve broader messages relating to land use and other resource use, because conservation areas are but one tool available for conserving the natural and cultural heritage of PNG.

1.3 Administering the conservation area system

For establishment and ongoing management of the conservation area system, effective and efficient administrative support must be in place. Administrative support will include:

- resources of staff, plant and equipment and an appropriate level of funding;
- co-ordination and consultative arrangements;
- a goal targeted organisational structure;
- an efficient information retrieval system;
- administrative procedures relating to responsibility and accountability;
- procedures for reporting and evaluation of programmes;
- procedures for fiscal planning and accounting;
- an effective personnel development programme.

1.4 Managing the conservation area system

On the basis of approved plans (both administrative and management), ongoing management or implementation of plans needs to be undertaken in each conservation area.

Operations involved in managing conservation areas include:

- improving resource information (research and inventory);

improving and detailing plans (management plan reviews, site use planning and site component design);
development, re-establishment and replacement of capital items (roads, tracks, structures, income generating infrastructure);
maintenance of capital items (servicing, routine and preventive maintenance and repairs);
resource management (fire control/management, weed and feral animal control, vegetation restoration, faunal introductions);
use management (visitors, hunting, farming, fishing, law enforcement);
communication and advocacy (interpretation, public relations, extension);
monitoring changes in use and resources as a result of management and evaluation of how management is achieving objectives; and
area specific administration (servicing management committees, responding to local issues and undertaking Departmental administrative procedures).

2.0 Project goal

The **goal** of the project is:

to develop and strengthen Papua New Guinea's natural and cultural heritage conservation area system: a network of places and resources where there is an emphasis given to conservation¹.

This is to be achieved by:

establishing a conservation areas system appropriate to PNG's biogeographic features and its socio-political environment;
strengthening administrative functions of planning, implementing (organising, staffing and resourcing, directing, coordinating and controlling) and evaluation;
improving area level operational management including staff development and training;
exemplifying and promoting the conservation area approach to nature conservation through strategically implementing plans and advocacy actions.

The **purpose** of the project is:

to provide direct assistance to DEC and other organizations and individuals involved in conservation area establishment and management.

3.0 Project objectives

To ensure coordinated and cost/action efficiency, two project establishment objectives are identified for execution of the CASP as well as to ensure sustainability of CASP outputs.

Objective 1 *To establish, manage and administer technical support for the CASP*

¹ This goal is reflected in the DEC strategic Plan and is considered to encompass: 1) the rehabilitation of existing areas; 2) the development of an expanded system of conservation areas; 3) the strengthening of planning, management and evaluation capabilities of groups involved in conservation and management; and 4) communication / advocacy which fosters support for the conservation area system.

Objective 2 *To develop and maintain linkages or partnerships between the Departmental conservation area programme and other conservation initiatives of GoPNG, NGOs, landholders, the private sector and the community.*

The realisation of these objectives is fundamental to the realisation of the following:

Objective 3 *To develop the design of a system of natural and cultural heritage conservation areas which is appropriate to PNG and gives emphasis to biogeographical representativeness. (DEC Strategic Plan Programme Objective 3)*

Objective 4 *To strengthen administrative mechanisms and procedures whereby PNG's conservation areas are established, planned, managed and evaluated. (DEC Strategic Plan Programme Objective 5)*

Objective 5 *To develop and extend a system of conservation areas which are nationally significant and representative of the biological, geophysical and cultural diversity of PNG and responsive to local needs for conserving valued resources. (DEC Strategic Plan Programme Objective 4, 6 and 7)*

Objective 6 *To improve and develop the standard of management and service delivery in conservation areas. (DEC Strategic Plan Programme Objective 5)*

Objective 7 *To develop community appreciation of the contribution conservation areas make to the protection of life support systems and the natural environment. (DEC Strategic Plan Programme Objectives 6 and 7)*

4.0 CASP Outputs

4.1 Outputs for Objective 1

To establish, manage and administer technical support for the CASP

Output 1.1 Establishment of execution and reporting structures for the CASP implementation.

Output 1.2 The establishment of a Conservation Areas Strengthening Project Assistance (CASPA) unit.

Success criteria for Objective 1

Regular and timely reporting of CASP implementation to GoPNG and funding organisations.

4.2 Outputs for Objective 2

To develop and maintain linkages or partnerships between the CASP/Departmental conservation area programme and other conservation initiatives of GoPNG, NGOs, traditional landowners, the private sector and the community.

Output 2.1 Formal linkages to others involved in conservation action and conservation area management including: PNG NGO's and the PNG National Alliance for NGOs; management committees for each conservation area; and other conservation projects.

Success criteria for Objective 2

Establishment of structures to facilitate consultation and co-ordination.

Regular meetings of those involved in the formalised structures.

4.3 Outputs for Objective 3

To develop the design of a system of natural and cultural heritage conservation areas which is appropriate to PNG and gives emphasis to biogeographical representativeness.

Output 3.1(a) Clarified and strengthened categories or classes of conservation areas which serve both traditional resource owner and national conservation goals for natural and cultural heritage conservation.

Output 3.1(b) Standards for applying the classes of conservation areas to the existing system and expanding the system.

Output 3.2 Policies and legislative drafting input to give effect to the classes, their management and enforcement.

Output 3.3 Documented establishment and planning procedures for bringing the existing and expanded system to goal targeted management.

Success criteria for Objective 3

Positive and documented input into the DEC Strengthening Project (Legislative Review) with respect to conservation areas.

A standardised system of nomenclature and management appropriate to the level of significance of each conservation area.

Approved policies for conservation area establishment and management.

Management plans produced to a consistent format defining goal targeted operations.

An expanded system of conservation areas.

4.4 Outputs for Objective 4

To strengthen administrative mechanisms and procedures whereby PNG's conservation areas are established, planned, managed and evaluated

Output 4.1 Comprehensive operational policies, guidelines and standards for the management of conservation areas.

Output 4.2 Upgraded conservation area staff skills in administration and operations management for conservation areas.

Output 4.3 Promoted conservation principles and where relevant, improved administration and operations management skills in conservation areas for: provincial government; non-Government organizations; Government Departments; resource owners; local communities; and the private sector.

Output 4.4 Documented advice to the DEC Strengthening Project (organisational review) on the organisational hierarchy, career development for rangers and conservation area management needs.

Output 4.5 Opportunities for all sectors of PNG society to contribute to national conservation objectives.

Output 4.6 Strengthened information systems for conservation area planning and management.

Output 4.7 Strengthened resources to implement ongoing conservation area management.

Output 4.8 Strengthened organisational arrangements for community consultation, establishment and management of conservation areas.

Success criteria for Objective 4

Documented operational policies, guidelines and standards relating to each class of conservation area within the system.

Efficient and effective management of conservation areas.

Positive and documented input into the DEC strengthening project (organisational review) with respect to conservation areas management.

Community interest and participation in conservation area planning and management.

Structures for community input into conservation area planning and management.

4.5 Outputs for Objective 5

To develop and extend a system of conservation areas (which are nationally significant and representative of the biological, geophysical and cultural diversity of PNG and responsive to local needs for conserving valued resources)

Output 5.1 Applied criteria for the new conservation area system to existing conservation areas, and prioritized programmes of re-establishment action and/or Interim Management Guidelines for all existing conservation areas (to guide field operations through the duration of the CASP).

Output 5.2 Re-establishment and rehabilitation of at least 10 existing areas, including Conservation Area Management Plans which identify values, purposes and objectives as well as operations of resource inventory, planning, development, maintenance, resource management, use management [including enforcement], communication, monitoring and administration [including staff development].

Output 5.3 Establishment, development and management (including Conservation Area Management Plans) of new, nationally significant conservation areas, based on existing proposals and the goal of establishing a system which is representative of the biodiversity of PNG.

Output 5.4 Establishment (including at least, Interim Management guidelines), development, management and extension of locally significant conservation areas

Success criteria for Objective 5

Active field based management of all conservation areas.

Implemented Conservation Area Management Plans including re-establishment/rehabilitation works in line with the plans.

A system of locally based conservation areas which complement the nationally significant conservation area system.

Active management of these areas.

4.6 Outputs for Objective 6

To improve and develop the standard of management and service delivery in conservation areas

Output 6.1 Implementation of management plans as exemplified by infrastructure development and restoration.

Output 6.2 Implementation of management plans as exemplified by a regular schedule of maintenance for capital items/works.

Output 6.3 Implementation of management plans as exemplified by active resource management and site restoration.

Output 6.4 Implementation of management plans as exemplified by an active use and visitor management programme including site presence, patrols and enforcement activities.

Output 6.5 Implementation of management plans as exemplified by an active education and information programme.

Output 6.6 Implementation of management plans as exemplified by an active ranger based research, inventory and monitoring programme.

Output 6.7 Implementation of management plans as exemplified by effective and efficient conservation area administration.

4.7 Outputs for Objective 7

To develop community appreciation of the contribution conservation areas make to the protection of life support systems and the natural environment.

Output 7.1 A programme of communication to increase community awareness of PNG's National and local conservation area programmes, their relevance to national goals and how the community as a whole can contribute to the programme.

Output 7.2 A programme of communication to increase community awareness of conservation action necessary to protect PNG's natural and cultural heritage.

Success criteria for Objective 7

The implementation of a schedule of face-to-face communication with targeted audiences.

A range of non-personal media relating to conservation area values.

Interpretive actions and media for selected conservation areas.

A range of personal and non-personal communications relating to broad conservation issues and community/personal actions which will assist in addressing these issues.

5.0 CASP risks and their reduction

5.1 CASP initiation

DEC's experience to identify, design, plan and manage a conservation area system is limited. The CASP will provide institutional strengthening to DEC through technical assistance, capacity building and in-service training.

DEC's capacity to manage the CASP is limited. The project will provide technical assistance, in-service training and training in management skills. Partnerships will be established with other government agencies and NGOs to deliver the conservation area product.

The project start may be delayed due to lack of availability of experienced technical assistance. Technical assistance recruitment will be through the assisting agency to gain access to international experience.

GoPNG commitment is required for co-financing to ensure sustainability. The CASP unit manager and Assistant Secretary (NP&W) are to ensure this with the First Assistant Secretary Conservation through Ministerial briefings and interdepartmental discussions. A high level of commitment to the project has already been received.

5.2 CASP implementation

Funding is likely to be inadequate to resource all options required to establish and maintain a successful conservation area programme. Additional funding will need to be sought during the life of the project, (e.g. GoPNG, other agencies) especially if demands for NP&W Branch/CASPA unit assistance/input is required as a result of other conservation initiatives in PNG.

Sustainability of the project as a Departmental programme will depend on predictable levels of long term funding and staffing beyond the project. A submission for the establishment of a Biodiversity Trust Fund is a product of the ICAD project with possibilities for local income generating programmes investigated also as part of the CASP. GoPNG's requirements that the CASP execution and budgeting arrangements integrate with Departmental programmes indicate the desire for the CASP to become a sustainable DEC programme.

However, sustainability is likely to result only through the establishment of a beneficial conservation area system and widespread acknowledgment (including political) of its benefits. In practice this will possibly mean a modest system able to be supported by GoPNG financial capability.

System design may be novel and hence untested in PNG. The CASP design recognises the need to incorporate lessons on system establishment, stakeholder participation and partnerships learned elsewhere. It is expected that no immediate legislative changes will be required until the appropriateness of any revised system is evaluated. However the CASP may invoke the Conservation Areas Act in the short term.

The local community/landowners may change their minds during the course of project actions and opt for options other than conservation. Landowner support/commitment is essential to conservation area establishment.

Project design emphasises review and reinforcement of landowner commitment through participation in the planning and management phases. Underlying the project design is the fact that conservation area 'type' and management must be relevant to traditional owners.

Local NGOs and other agencies may lack capacity to deliver required services where a partnership is arranged for management. Organisations with a proven capacity and interest will influence priority of action. Training will be provided and strengthening of capability will be prerequisite for the management planning process.

Stakeholders (landowners, DEC, provincial governments, government agencies, NGOs) may not develop effective partnerships. CASP emphasises participation and active involvement of all partners in project design and implementation, especially involvement of landowners. Mediation, brokering and liaison are important activities of the executing agencies for CASP implementation.

The opportunities for income generation and increased use of local community skill are largely untested. Funding has been allocated to identifying the appropriateness of income generating schemes for conservation areas. If appropriate, funding for business activities applicable to individual conservation areas will be included in conservation area plans.

The economic pattern of growth in Papua New Guinea and emphasis on natural resource exploitation are likely to raise expectations without creating sufficient employment opportunities. This will put increasing pressure on forests and other areas important for biodiversity. The project seeks to increase local employment, alternative income-generating opportunities and cultural expression for landowners who choose the conservation option.

6.0 Prior obligations and prerequisites

6.1 Prior Obligations

None

6.2 Prerequisites

The Government will allocate funds in national budgets to support the Project and maximise areas for sustainability of CASP outputs.

The Government agrees to make data available to the CASPA unit and consultants as may be required for implementation of the project.

The Government agrees to recruitment of staff, within DEC, as counterparts to the project and undertakes to allocate funding and resources for these as line positions as per the schedule of works and GoPNG inputs.

The project document will be agreed to by GoPNG and a funding organisation. The Technical Assistance Agency will agree to the project document and provision of support for project implementation. Assistance to the project will be provided, subject to the supporting organisations receiving satisfaction that the prerequisites listed above have been fulfilled or are likely to be fulfilled. When one or more prerequisites fails to materialise, the supporting organizations, may either suspend or terminate their assistance.

6.3 Future GoPNG conservation initiatives

In lieu of the proposed organisational and review mechanisms, the Government may establish a National Conservation Council to act as a steering committee and guide the implementation of the project. It will consist of representatives of institutions engaged in conservation area activities.

The Government may draft and enact legislation consistent with the establishment of a Trust Fund. It is proposed that coordinating and other structures built in as part of the CASP will be included in such national projects.

7.0 CASP reporting, review and evaluation

The project will be subject to review by representatives of the Government, the associated executing agency and the funding organisation at least once every 12 months, the first such review is to be held within the first 12 months of the start of full implementation. This does not preclude either the GoPNG or the funding organisation making individual assessment of the CASP. The CASPA unit manager, with the nominated DEC officer (Parks and Wildlife), shall prepare and submit to each review meeting a Project Performance Report (PPR) and additional PPRs requested, if necessary, during the project.

A project terminal report will be prepared for consideration at the terminal review meeting. It shall be prepared in draft, sufficiently in advance to allow review by Government and the funding agency at least four months prior to terminal review.

The project shall be subject to evaluation and review 25 months after the start of full implementation to allow for changes in CASP design and re-allocation and strengthening of resources for CASP implementation.

The project shall be subject to evaluation 50 months after the start of full implementation and 6 months prior to scheduled termination to determine needs and options for extension of any CASP activities. The organisation, terms of reference and timing will be decided after consultation between the parties to the project document.

A handbook will be prepared on lessons learned on the planning, design, implementation and maintenance of CASP projects to provide guidelines for future CASP projects in Papua New Guinea or related projects elsewhere. The handbook will be published as part of the CASP. A draft will be prepared to allow review by Government, the funding organizations and other participating agencies at least six months prior to the terminal review. The handbook may take the form of a progressively developed document (occasional papers) and ultimately consolidated.

8.0 Legal context

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Papua New Guinea and the funding organisation signed by the parties. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government cooperating agency described in that Agreement.

The following types of revisions may be made to this project document with the signature of the funding organisation, provided they are assured that the other signatories of the project document have no objections to the proposed changes:

- (a) Revisions in, or addition of, any of the annexes of the project document;
- (b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of a project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation; and
- (c) Mandatory annual revisions which re-schedule the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

9.0 CASP implementation

It is proposed that the CASP be implemented through GoPNG, via the Department of Environment and Conservation and a technical assisting agency (the conservation organisation, WWF) based on a memorandum of understanding. To facilitate execution and monitoring of the project two bodies are proposed.

9.1 Implementation bodies

The CASP Executive (CASPEX)

CASPEX has the formal responsibility for execution of the project, delegated by the Minister through usual administrative channels to the first Assistant Secretary (Conservation) of DEC and with the advice of an executive officer of the technical assisting agency, based on a Memorandum of Understanding. A nominated executive of the funding agency(s) may attend any or all meetings of the CASPEX.

The CASPEX may only allocate project funds for expenditure for the purposes of the project and to individuals or organizations approved by the Minister. All funds so allocated are to be independently audited by a chartered accountant.

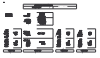
The CASPEX is also responsible for receiving and forwarding to the Minister, all reports on the project with recommendations as they deem fit.

All capital items purchased or constructed through the CASPEX remain the property of GoPNG (DEC/CASP), save those approved for disbursement by the Minister, on advice from the CASPEX.

CASP Operation Group (CASPOG)

Routine operational matters will be the co-joint responsibility of the CASPA unit manager and the Head of Parks and Wildlife Conservation (DEC).

This group is also responsible for maintaining contact with all organizations involved in the CASP and related projects.



9.2 Formal CASP linkages

Formal linkages will be established for the duration of the CASP with the view to their continuation upon completion of the project. These are identified in the Project description and illustrated below.



9.3 Component implementation

Section D of this report gives a detailed description of the project components, including the inputs required for CASP

implementation. Appendix 6 discusses project component specifications including terms of reference for project staff. **Figure 2.0** gives a summary activity schedule for project implementation.

9.4 Funding CASP

The proposed total budget for the 7-year project is Kina 10.8 million. A summary breakdown by component and Year is indicated in **Table 1**. A detailed budget breakdown can be found in Appendix 7.

These figures are additional to the funds and resources applied to conservation areas management by GoPNG through DEC. It is assumed that these existing inputs and DEC's current programmes will be maintained.

In addition, over the seven years of the CASP, it is assumed that there will be an increased allocation of Government funds to conservation areas management and the related types of activities indicated by this program. The result will be that the key elements of CASP, the conservation area site management and support, will be absorbed into DEC's conservation area program.

For conservation area work in Papua New Guinea, the GoPNG had notionally earmarked 5 million Kina in the process of agreeing a National Indicative Programme with the European Commission. It is proposed that the Conservation Areas Strengthening Project should be financed in part from these funds.

Of the Kina 10.8 million, it is recommended that, over the 7 year period, a total of Kina 2.5 million should be deposited into Development Grant Schemes, to support community ranger service pilots, planning and research grants, income generation schemes and local conservation development projects related to conservation areas.

An important consideration throughout the CASP preparation has been the ability for the efforts being proposed to be sustained in the long term, beyond the 7 year period of the project program. The intention in designing the rehabilitation activities has been to create approaches which can be sustained without long-term external aid. There will be an improvement as a result of the project, not only of the state of conservation areas in PNG and the quality of their management, but also in the range and extent of income-generating schemes brought into operation. It must be borne in mind that conservation areas management is a continuing commitment to a form of resource use that is not renowned for economic profitability. However, as GoPNG

revenues from mining and oil ventures start to increase, ways of developing rural areas and sound forms of rural land use are being sought. It is suggested that discussions are held on possible 'new deals' for protected areas' support from the Government, in which a sliding scale of minimum subsidy for each protected area is guaranteed by the Government.

Government of Papua New Guinea
Conservation Areas Strengthening Project

CASP D: Project Description

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 1 *to establish, manage and administer technical support for the project*

Output 1.1 **Establishment of execution and reporting structure for the CASP.**

Component 1.1 Execution and reporting relationships for the CASP

Aim to ensure efficient and effective implementation of the CASP.

Activity

Formalisation of a memorandum of understanding between the GoPNG and the technical assisting agency
Undertake mobilisation and some preliminary works fundamental to CASP implementation.

Process

DEC / technical assisting agency to negotiate a Memorandum of Understanding (MoU) in consultation with the funding organisation and other relevant GoPNG officers (eg. OIDA).

The MOU would be signed by the Minister/Secretary (DEC) and an executive of the assisting agency and witnessed by an executive of the funding organisation.

The Minister/Secretary (DEC) would then delegate responsibility and authority to the First Assistant Secretary (Conservation) to implement the CASP to the terms of the MOU.

Concurrent with the establishment of the CASPA unit, a number of preliminary and foundation components will be undertaken (Components 3.1, 3.2). These will be administered by the First Assistant Secretary (Conservation) with DEC counterparts seconded to work with contracted expertise.

Timetable

Month 1: Formalise Memorandum of Understanding

Months 2-6: Foundation components

Resources

Human

DEC / GoPNG / Technical Assisting Agency internal arrangements.

GoPNG / DEC staff, especially First Assistant Secretary (Conservation) DEC.

Technical Assisting Agency (WWF Coordinator South Pacific Program).

Crown Solicitor

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 1 to establish, manage and administer technical support for the project

Output 1.2 The establishment of a Conservation Areas Strengthening Project Assistance (CASPA) unit, responsible to the project executive.
[Review Recommendations 9.1]

Component 1.2 PNG Conservation Areas Strengthening Project Assistance (CASPA) Unit

Aim to strengthen, rehabilitate and expand the role and effectiveness of conservation area management through assistance to GoPNG, community groups and others as necessary.

Activity

Establish a Conservation Areas Strengthening Project Assistance unit (CASPA)

Organise and deliver technical assistance agreed between the Government of PNG and a technical assisting agency on the basis of a MOU, for the 7 year period, 1994 to 2000 or as extended by agreement.

Deliver the CASP through assistance to DEC, other Government Departments, Provincial Governments, PNG's National Alliance of NGOs (NANGO), NGOs and community groups, local landholders, local communities and the general public.

Process

The CASPA unit would be appointed by and be responsible to the First Assistant Secretary (Conservation) and the Technical Assisting Agency as provided in the MOU.

The CASPA unit would work within DEC, with administrative, technical and management support from the Technical Assisting Agency and DEC;

Members of the CASPA unit will not necessarily be appointed at the same time, rather they will be appointed as required for each component of the CASP.

The unit would be able to co-opt additional inputs, to involve short-term specialist advisers and local NGOs;

The unit would bridge Government and non-Government components.

Timetable

Month 2: Advertising and staff appointments

Month 4: Mobilisation of core team

Resources

Human

Core Team of 15

- 1 CASPA Unit Manager
- 2 Clerk/Business Manager
- 3 Clerk/Secretary
- 4 CASP Regional Manager (Southern)
- 5 CASP Assistant (Southern)
- 6 CASP Assistant (Southern)
- 7 CASP Regional Manager (Highlands)
- 8 CASP Assistant (Highlands)
- 9 CASP Assistant (Highlands)
- 10 CASP Regional Manager (Momase)
- 11 CASP Assistant (Momase)
- 12 CASP Assistant (Momase)
- 13 CASP Regional Manager (Islands)
- 14 CASP Assistant (Islands)

- 15 CASP Assistant (Islands)
 * Short-term specialists - see individual components

Financial

| | | | | |
|---|---|-----------------|--------------|--|
| * | Annual salary cost -15 staff @ average K25 000 p.a. | | | |
| | Year 1 | K200 000 | | |
| | Years 2-7 | K410 000 / yr | | |
| * | Annual living expenses | Year 1 | K100 000 | |
| | Years 2-7 | K160 000 / yr | | |
| * | Field allowances | Year 1 | K25 000 | |
| | Years 2-7 | K35 000 / yr | | |
| * | Travel | Year 1 | K30 000 | |
| | Years 2-7 | K40 000 / yr | | |
| * | Office (Port Moresby) | Years 1-7 | K20 000 / yr | |
| * | Office (Madang/Lae) | Year 1 | K15 000 | |
| | Years 2-7 | K20 000 / yr | | |
| * | Office (Mt Hagen/ Goroka) | Years 1-7 | K20 000 / yr | |
| * | Office (Rabaul) | Year 1 | K15 000 | |
| | Years 2-7 | K20 000 / yr | | |
| * | Office equipment | Year 1, K50 000 | | |
| | Years 2,4,5 | K25 000 / yr | | |
| * | Field equipment | Years 1,2,5 | K20 000 / yr | |
| | Year 4 | K15 000 / yr | | |
| * | Vehicles/boats | Year 1 | K150 000 | |
| | Years 2+5 | K50 000 / yr | | |
| | Year 4 | K100 000 | | |
| * | Vehicle annual operating | Year 1 | K10 000 | |
| | Years 2-7 | K15 000 / yr | | |
| * | Annual office materials | Years 1-7 | K10 000 / yr | |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 2 *To develop and maintain linkages or partnerships between the CASP/Departmental conservation area programme and other conservation initiatives of GoPNG, NGOs, traditional landowners, the private sector and the community*

Output 2.1 **Formal linkages to others involved in conservation action and conservation area management**

Component 2.1 **CASP linkage**

Aim to establish formal linkages to conservation initiatives within and outside of government.

Activity

Establish and support a DEC intra-department coordinating group consisting of all branch heads and project managers of funded projects within DEC.

Establish an interdepartmental consultative group (DEC, Lands, Forestry, Provincial Government, Justice, Finance).

Convene an ad hoc Conservation Areas Advisory group and an Inventory and Research subgroup to support the role of the CASP unit and pre-empt the formalisation of these groups as part of objective 3.

Convene a Conservation Area Consultative Group (as necessary) for each area attracting planning action as part of the CASP.

Process

The intra-departmental committee may be already established through the CRC at the time of CASP execution. Alternatively it will require the Secretary DEC convening the committee with the First Assistant Secretary (Conservation) providing an agenda and a schedule of regular meetings.

DEC through the First Assistant Secretary (Conservation) will propose and organise interdepartmental coordinating arrangements through normal administrative channels.

The CASPA Unit Manager with the Assistant Secretary (Parks and Wildlife) will propose and organise the Conservation Areas Advisory Group and related subgroup by invitation and after consultation with prospective members.

The CASPA Unit Manager with the Assistant Secretary (Parks and Wildlife) will facilitate the formation/activation of consultative groups as planning initiatives of the CASP are commenced.

Timetable

Month 4: Intra-departmental coordinating group
Month 6: Interdepartmental coordinating group
Month 6: Conservation Areas Advisory group.
Ongoing until formalised as part of Component 4.8

Resources

Human

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system
Objective 3 to develop the design of PNG's system of natural and cultural heritage conservation areas
Output 3.1 Clarified and strengthened categories of conservation areas
[Review Recommendations 5.1 6.1 8.9 8.10]

Component 3.1 Conservation area classification scheme

Aim to establish a logical conservation area classification scheme in legislation and policy

Activity

- (a) Prepare a 'green paper' on PNG's natural and cultural heritage with policy objectives for its conservation. Include an outline of PNG's socio-political status with policy objectives relevant to achieving conservation goals. Include policy objectives for the design of a conservation areas classification scheme;
- (b) Prepare a 'green paper' for a new classification system for conservation areas with associated criteria and establishment procedures;
- (c) Consult with DEC staff, inter-Departmental committee and CA Advisory Group;
- (d) Gain Government approval of policy.

Process

Component to be contracted by DEC (CASPEX).

Timetable

- Month 2: Brief preparation.
- Month 3: Contracting of consultant: 3 person-weeks, over a period of 3 months for activities (a) and (b).
- Month 4: 1.5 person weeks over a period of 1.5 months for activity (c).

Resources

| | |
|---------------------|----------------|
| Human | |
| External specialist | |
| Financial | |
| Contract | Year 1 K15 000 |
| Paper production | Year 1 K5 000 |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 3 *to develop the design of PNG's system of natural and cultural heritage conservation areas*

Output 3.2 **Policies and legislation drafting instructions**

Component 3.2 Conservation areas legislation drafting

Aim to formalise approved Government policy in the form of legislation.

Activity

- (a) Prepare legislative drafting institutions for an amended, consolidated or new Act/s in line with adopted 'green papers' as input to the DEC Strengthening Project (Legislative Review);
- (b) Consult with the crown solicitor and others as necessary to confirm mechanisms proposed in the drafting instructions;
- (c) Provide input to the DEC Strengthening Project (Legislative Review).

Process

Component contracted by CASPEX.

Timetable

Month 6: Estimated 7 person weeks over a 8 month period. After the consultative period for green papers and formal Government adoption of the policies;

Resources

Human

Solicitor with environmental protection experience plus specialist conservation area adviser.

Financial

Contract Year 1 K25 000

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 3 to develop the design of PNG's system of natural and cultural heritage conservation areas

Output 3.2 Documented establishment and planning procedures

[Review Recommendations 5.2 6.2 7.1 7.3 7.4 7.5 7.6 7.7 7.9 8.1 8.2 8.11 8.21 9.13]

Component 3.3 Establishment and management planning procedures

Aim to institute clear and efficient procedures for establishing an operational conservation area

Activity

(a) Prepare a discussion paper outlining the proposed approach to conservation area establishment and planning procedure including:

* criteria for assessment of areas based on the draft in the Protected Areas Review (1992) and Appendix 8;

* techniques for assessment of sites, resources and uses according to each criterion;

(b) Negotiate streamlined Government policy on establishment procedures to be followed for each of the proposed classes of conservation area;

(c) Confirm procedures and guidelines with relevant parties;

(d) Produce public information material explaining the procedures and sources of advice and assistance;

(e) Prepare a conservation area establishment and planning manual;

(f) Prepare a training programme for all sectors who may be involved in establishment of conservation areas;

(g) Prepare guidelines and a proforma for new area proposals to be completed by nominators of areas.

Process

The Conservation Area committees will review and recommend improved procedures to its member Departments; the CASPA unit and Advisory Group will draft information material.

Timetable

Month 4: Brief preparation

Month 5: Contracting of consultant

Month 6: 4.5 person weeks over 5 month period

Additional Resources

Human

Specialist advice

Financial

Contract Year1 K15 000

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.1 **Comprehensive operational policies, guidelines and standards**

[Review Recommendations 6.4 8.4]

Component 4.1 Management operations manual

Aim to improve the consistency and standard of conservation area management operations;

Activity

Compile, produce and make available a suitable Management Operations Manual;

Process

The CASPA unit will draft sections of the Manual in consultation with a small advisory panel of DEC, field staff and Management Committees.

Timetable

| | |
|-----------|--|
| Month 14: | Brief preparation |
| Month 16: | Contracting of consultant |
| Month 17: | Draft preparation 4.5 person weeks over 4 month period |
| Month 20: | First major training |

Resources

| | |
|----------------------|----------------|
| Human | |
| Consultant | |
| Teaching institution | |
| Financial | |
| Consultant | Year 2 K15 000 |
| Manual production | Year 2 K 5 000 |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.3 **Promoted conservation principles and improved conservation action across the community**

[Review Recommendations 6.1 8.19]

Component 4.3

Conservation information service

Aim

to make basic advice on conservation areas and nature conservation easily accessible to local communities, land-owners and general public

Activity

(a) design Conservation Information Service and reach agreement for its operation with DEC and NANGO/ a local NGO

(b) establish and administer the service - equipping, staffing, training, volunteer programme.

Process

DEC and a local NGO will design and operate the Conservation Information Service with technical assistance from the CASPA unit. It will ultimately form part of the E&I Programme (Component 6.5) .

Schedule

Months: 12 - 18: technical assistance part-time.
ongoing operation

Resources

| | | |
|-----------------------|-------------|--------------|
| Equipment cost | Years 2 + 5 | K10 000 / yr |
| Annual operating cost | Years 2-7 | K20 000 / yr |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.1 Documented advice on organisational arrangements and ranger career development

[Review Recommendations 5.3 6.5 8.3 9.2 9.10]

Component 4.4 Development of human resources

Aim to improve the levels and deployment of people involved in protected area management

Activity

- (a) review numbers, deployment and skills of people involved in conservation areas;
- (b) fill DEC staff vacancies and deploy staff to implement the CASP and approved DEC programmes;
- (c) provide input and advice to the DEC Strengthening Project (Organisation Review) ;
- (d) prepare a DEC orientation and administrative procedures manual relevant to conservation area management;
- (e) prepare training workshops particularly for field staff to introduce the CASP and the orientation and administrative procedures manual.

Process

DEC will administer the Activity with technical inputs from the CASPA unit and in consultation with the CA Advisory Groups (Component 2.1).

Schedule

Month 3: Consultant contract (4 person weeks over 3 months)
Month 7: Initial training program

Resources

Human
Contract external specialist

Financial

Some or all of the activities proposed for this component may be undertaken as part of the DEC Strengthening Project (Organisation Review). It is included as a component of this project for completeness and to specifically provide capacity to undertake activities (d) and (e).

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.5 **Opportunities for community contribution to national conservation objectives**

[Review Recommendations 8.3 9.3]

Component 4.5 Community conservation ranger service

Aim to establish an effective body of local field staff capable of undertaking most aspects of conservation area management to adequate levels and standards

Activity

(a) plan and organise recruitment, training, supervision and funding mechanism for a country-wide Community Ranger Service

(b) commence pilot programme in five areas

(c) develop the service as part of the management planning and re-establishment components of the CASP.

Process

The Service will be planned and organised by a special working group comprising representatives of DEC office and field staff, Public Service board, NGOs, Provincial Government and conservation area Management Committees, with support from the CASPA unit. Initial attention will be given to establishing Community Rangers to serve existing conservation areas. Management planning for new protected areas will include requirements for Community Rangers.

Timetable

Pilot Months 12-40: Technical assistance

Months 24 and 36: Review

On-going: management of Ranger Service

Resources

Pilot schemes, 5 areas;

Annual costs for pilots, including equipment grants, wages and operating costs subsidy.

Years 2-4 K75 000

Annual cost for expanded programme

Year 5 K150 000

Years 6-7 K200 000

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.6 **Strengthened information systems**

[Review Recommendations 9.18]

Component 4.6.1 **Management information system¹**

Aim to improve the availability of information relevant to management of conservation areas, to conservation area staff, other relevant agencies, local Committees and community groups

Activity

- (a) re-structure the DEC records system for conservation areas;
- (b) develop the conservation areas Register;
- (c) develop a computerised resource mapping system (Component 4.6.2);
- (d) include information management in training programme for people involved in conservation areas management (Component 4.2);
- (e) brief resource management agency staff on the availability and use of the management information system.
- (f) upgrade library and resource information centres

Process

Activity to be undertaken by the DEC records officer with CASPA unit and specialist support, GoPNG library, Provincial Government and NGO information offices.

Timetable

Month 4: Contract advice
Months 5-25: development, familiarisation, training;
Months 25-80: on-going support as necessary.

Resources

| | | |
|--|-----------|--------------|
| Human | | |
| Specialist advice | Years 1-2 | K10 000 / yr |
| Financial | | |
| Office and computer hardware, software | | |
| | Year 2 | K40 000 |
| | Year 3 | K10 000 |
| Acquisition of data and use | Years 3-7 | K8 000 / yr |

¹ Some elements of this component may be undertaken as part of the DEC Strengthening Project (Organisational Review). The Component is included here to ensure implementation capacity for this particular shortcoming of DEC conservation area management systems.

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.6 **Strengthened information systems**

[Review Recommendations 9.18, 6.1, 7.1]

Component 4.6.2 Computerised mapping system²

Aim to improve the availability of natural resource data for conservation area planning and management

Activity

- (a) install the computerised mapping system developed for the PARP Review in DEC;
- (b) develop use of the mapping system in conservation planning activities (entering and retrieving data; analysis and mapping) through training and familiarisation;
- (c) establish a programme of data acquisition and system up-dating as part of the conservation areas Management Information System (Component 4.6.1).

Process

Activity to be organised by CASPA unit, with specialist support and nominated DEC officers.

Timetable

| | |
|--------------|--|
| Month 6: | Establish existing GIS capability from PARP Phase I |
| Month 6: | Purchase, installation and introduction of the system; |
| Month 8: | Prepare brief for specialist advice for long term requirements |
| | 1 person month over 2 months |
| Years 2 - 7: | training, development and use of the system |

Resources

Human

Specialist consultant

Financial

Computer, printer, other hardware, software, consumables

Equipment Year 1 K22 000

Data acquisition and technical assistance

Year 2 K20 000

Years 3-7 K8 000 / yr

² The Conservation Resource Centre (CRC) will be establishing data base and GIS capabilities to address national level conservation priorities. This CASP component is to provide for the specific needs of conservation area planning and on-going management. It is expected that initially separate yet compatible hardware and software systems will be involved, with total integration of both systems by the completion of the CASP.

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.6 **Strengthened information systems**

[Review Recommendations 8.12 8.14]

Component 4.6.3 **Resource assessment programme³**

Aim to improve scientific knowledge of the resources of conservation areas and how to conserve them

Activity

- (a) Strengthen DEC's Parks Branch, resource assessment capability.
- (b) Organise a programme of multi-disciplinary assessments of existing and proposed conservation areas and their condition.
- (c) Organise assessments of the nature and extent of resource use in existing and proposed conservation areas and of impacts and threats from human activities.
- (d) Prepare manual for field ranger research and inventory activities.

Process

DEC and the CASPA unit with Research Advisory Group will establish a resource assessment team to undertake field surveys, coordinate other assessment work and to provide training to field staff and Community Rangers

Timetable

Months 12-48: part-time technical assistance;
Years 1-7: On-going assessment programme;

Resources

Human

Technical assistance

Financial

Specialist advice Year 2 K8 000

Field survey, recording, transport, training
Years 2-7 K25 000 / yr

³ Resource assessment is an integral component of the CRC. The CASP component is to provide capacity to meet the needs for detailed assessments for conservation area planning initiatives.

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.6 **Strengthened information systems**

[Review Recommendations 8.12 8.13 8.15]

Component 4.6.4 Research programme

Aim to increase the scientific study of the flora, fauna and environments of conservation areas; of the ways in which they are perceived, used, enjoyed and impacted; and of management effectiveness

Activity

(a) Plan the programme of research; encourage research use of conservation areas; facilitate research where feasible, through provision of Ranger support, site access and facilities.

(b) Organise a conservation areas research grants scheme.

Process

DEC will establish a conservation research advisory group, involving natural and human scientists, DEC officers and field staff and with CASPA unit support and input. The group will plan the research programme, encourage researchers to undertake elements of the programme, receive and disseminate results and advise on awarding of research grants.

Schedule

Months 12-15: Part-time technical assistance;

Years 1- 7: On-going advisory group;

Resources

Financial

| | | | |
|------------------------|-----------|---------|--------------|
| Specialist advice | Year 2 | K15 000 | |
| Research grants scheme | Years 3-5 | | K50 000 / yr |
| Research grants scheme | Years 6-7 | | K25 000 / yr |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.7 **Strengthened resources to implement on-going management**

[Review Recommendations 9.13 9.14 9.15]

Component 4.7.1 Improvement of funding for protected areas

Aim to secure a core funding for PNG's conservation areas

Activity

- (a) Draw up a budget plan of projected income and costs, for each conservation area;
- (b) Obtain a commitment from Government to provide a minimal subsidy towards management of each gazetted conservation area.
- (c) Establish a Local Conservation Development Fund to support establishment and management of local conservation areas.
- (d) Develop and advise on ways of making management operations and financial management cost-effective.

Process

Budget planning will be an integral part of management planning. DEC will design a conservation area funding subsidy scheme and submit a proposal to Government. The CASPA unit and DEC will plan a Fund management scheme and seek aid and Government investment in the Fund.

Timetable

Year 1: Annual and 5 year plans for each conservation area
Year 2: Local Conservation Area Development fund for conservation establishment and ongoing operations

Resources

Financial

| | | |
|-----------------------|-----------|---------------|
| Area Development Fund | Year 2 | K75 000 |
| | Year 3 | K100 000 |
| | Years 4 | K150 000 / yr |
| | Years 5-7 | K250 000 / yr |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 4 *to strengthen administrative mechanisms and procedures*

Output 4.7 **Strengthened resources to implement on-going management**

[Review Recommendations 8.17 9.16 9.17]

Component 4.7.2 Development of income generation schemes

Aim to develop ways in which conservation areas can be used to generate income for landowners and for management

Activity

- (a) Assess existing income generation schemes: evaluate financial, ecological and social aspects.
- (b) Select new types of schemes; provide assistance with design and development of a series of pilots; monitor and evaluate.
- (c) Develop and document the most promising schemes as operational models for demonstration and training purposes.

Process

DEC and Management Committees will design and develop pilot schemes with assistance from CASPA unit in selection, testing and documentation.

Timetable

| | |
|-----------|--|
| Years 2-3 | Assessments; pilot schemes development |
| Years 4-7 | Review and expansion of schemes |

Resources

| | | |
|---------------------|-----------|--------------|
| Pilot scheme grants | | |
| Annual costs | Years 2-5 | K50 000 / yr |
| Annual costs | Years 6-7 | K25 000 / yr |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 5 to develop and extend nationally significant conservation areas

Output 5.1 Management plans or interim management guidelines for existing areas

| Component | 5.1 | Conservation system application⁵SITE | REASON CHOSEN |
|-------------------|------------|--|----------------------|
| Lake Lavu WMA | | High natural values, possible income-generation, local support, island example | |
| Maza WMA | | International value, marine, endangered species, reefs, need for expansion into intertidal area, not functioning at moment | |
| Mojirau WMA | | Only site representative of region, will set example for further expansion of PA system in region, immediate threat to continuity | |
| Mt Wilhelm NP | | Example of highland NP, landowner support but also boundary and compensation issues, high scientific value and recreational resource | |
| Neiru WMA | | High natural values, income-generating potential | |
| Oia Mada Wara WMA | | Little known about area, near Lake Lavu so efficient use of resources | |
| Poliki, Garu WMA | | High natural values, local support, enforcement issues and threats are immediate concern, possible buffer zone | |
| Varirata NP | | Close to national capital and DEC, resource information available, income generation possibilities, some infrastructure, security issues | |
| Zo-oimaga WMA | | Local area of local relevance, good application for Community Ranger scheme | |

These will be taken as the priority for this Component of the CASP until the more detailed review is undertaken as part of this Component.

Aim to rationalise the existing conservation area system in terms of the new classes of area; and to prepare Management Plans for re-establishing conservation areas and Interim Management Guidelines for areas not receiving immediate detailed Management Planning attention.

Action

- (a) Review all existing and proposed conservation areas based on outputs from component 3.1.
- (b) Nominate a class to each.
- (c) Devise a prioritization formula to determine CASP and DEC activity with respect to each area, giving emphasis to biological diversity and representativeness.
- (d) Prepare a re-establishment programme based on Management Plans for priority areas, within the capability of resources available to the CASP and DEC.
- (e) Prepare Interim Management Guidelines for all areas considered.
- (f) Devise a rapid appraisal approach to review all existing conservation areas and proposals in the light of criteria for the new system of conservation area classes.

Process

The CASPA unit will devise and apply the rapid appraisal approach and prioritization formula and prepare a position paper.

The position paper will form the basis of discussion with established consultative and co-ordination bodies to the CASP.

⁵ PARP (Phase 1) identified the following priority areas for management planning and re-establishment:

From these consultations the CASPA Unit Manager with the Assistant Secretary(Parks and Wildlife) will prepare the re-establishment programme for ratification by the First Assistant Secretary (Conservation).

The CASPA unit will then prepare Interim Management Guidelines (with appropriate consultation with consultative and coordinating groups to the CASP) for all areas considered.

The CASPA unit with DEC will commence a programme for implementing Management plans and IMG's with Management committees.

Timetable

Month 6: Review of existing system; commence Management Planning process for areas identified in the PARP Review Phase I.

Years 2-7: On-going Management Planning and IMG programme.

Resources

CASPA Unit/DEC

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 5 *to develop and extend a system of conservation areas*

Output 5.3 **Establishment of new conservation areas**

[Review Recommendations 6.1 6.3 7.2 8.1]

Component 5.3 National representative conservation areas

Aim to create a national network of effective conservation areas that protect a representative sample of the biogeographic zones, natural and cultural features of national significance

Activity

(a) Confirm a strategy to identify potential areas for inclusion in a national network of conservation areas; re-establish existing conservation areas and proposed sites that meet the criteria for being of national conservation significance.

(b) initiate the selection and establishment process for groups of sites in conservation priority order; prepare Draft Management Plans during establishment of new sites.

Process

This Component will form the basis of the work programme for the Resource Assessment unit attached to DEC and will draw also from the research programme. Initially, emphasis will be given to existing area extensions and proposals.

Timetable

Years 3-5: Action as opportunity permits.

Years 6-7: Implementation of component

Resources/Inputs

Human

CASPA unit/DEC

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system
Objective 6 *to improve and develop the standard of management in conservation areas*
Output 6.1 **Conservation area infrastructure, development, restoration and maintenance**
 [Review Recommendations 8.20 8.22]

Component 6.1

Site Infrastructure management (development and restoration)

Aim to improve the appropriateness and quality of infrastructure development and maintenance in conservation areas.

Activity

- (a) Include infrastructure design, operation and maintenance in management planning for existing and new conservation areas.
- (b) Develop policy on standards for conservation area infrastructure.
- (c) Implement an infrastructure development programme at all relevant, existing conservation areas.
- (d) Include infrastructure development as part of the establishment of new conservation areas.

Process

DEC and the CASPA unit will draft a set of simple standards for infrastructure design, operation and maintenance, to be adopted by DEC staff and for advice to Local Management Committees. Infrastructure planning will be carried out by local managers as part of management planning for each existing and new conservation area (Components 5.2 and 5.3). Subject to planning and design, infrastructure in existing and new conservation areas will be repaired or developed as part of the rehabilitation programme, by local labour directed by Management Committee and field staff. Grants and loans will be made from the rehabilitation programme to Management Committees, to augment locally- raised funds.

Timetable

Months 6-12: Infrastructure standards development
 Infrastructure planning - see Management Planning.
 Years 2-7: Infrastructure repair & development.

Resources/Inputs

Human
 Specialist advice
 Financial
 Contracts Year 2 K5 000
 Annual costs Years 2-7 K50 000 / yr

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system
Objective 6 *to improve and develop the standard of management in conservation areas*
Output 6.2 **A regular schedule of maintenance for capital items on conservation areas**
 [Review Recommendations 8.10]

Component 6.2 Regular maintenance programme

Aim to ensure capital items are in a state permitting safe use for the purpose the investment was initially made

Activity

Prepare a training programme for field ranger staff to cover the tasks of servicing, routine maintenance, preventive maintenance and repairs.
 Prepare maintenance standards each conservation area.
 Prepare maintenance schedules for each conservation area.
 Provide assistance in budget preparation to address maintenance needs.

Process

DEC and the CASPA unit will draft a set of simple maintenance standards for infrastructure, to be adopted by DEC staff and for advice to Local Management Committees.
 Maintenance scheduling will be carried out by local managers to approved budgets for each existing and new conservation area (Component 2.3).

Timetable

Months 6-8: Maintenance standards
 Year 2-7: Implementation

Resources/Inputs

Human
 Specialist advice Year 2 K5 000
 Financial
 Annual costs Year 1 K20 000
 Year 2 K40 000
 Year 3 K50 000

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 6 *to improve and develop the standard of management in conservation areas*

Output 6.3 **Active natural resource management and site restoration/rehabilitation**

[Review Recommendations 8.10]

Component 6.3 Resource management and site restoration

Aim to improve the natural condition and value of existing degraded conservation areas

Activity

- (a) Plan site and resource restoration projects based on assessments (Component 5.2);
- (b) Implement restoration projects (re-planting, weed control, fencing, erosion control, pollution control)

Process

Restoration projects will be planned during Management Planning (Component 5.2) and implemented by Local Management Committees, Community Rangers and local contract labour.

Technical assistance will be provided by DEC and the CASPA unit for training, biological research and monitoring, and restoration project design.

Schedule

Months 6-12: Priority action as identified
Years 2-7: Action as per Management Planning

Resources/Inputs

| | | |
|-------------------|-----------|--------------|
| Specialist advice | Years 1+2 | K10 000 / yr |
| Annual costs | Years 2-4 | K50 000 / yr |
| | Years 5-6 | K25 000 / yr |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 6 *to improve and develop the standard of management in conservation areas*

Output 6.4 **Active use and visitor management programme**

[Review Recommendations 8.16 8.17]

Component 6.4 Use and visitor management programme

Aim

to increase the use of conservation areas by recreational visitors;
to improve users' enjoyment and appreciation of conservation areas;
to control impacts of recreational use of conservation areas;
to maintain a basic level of protection and management at all established, conservation areas
to control human activities which damage or threaten conservation area values, or are incompatible with allowed uses;
to resolve all cases of persistent encroachments or illegal activities which threaten the essential value or integrity of a conservation area or the safety of site visitors or staff.

Activity

- (a) analyse recreational and resource use of conservation areas, constraints and impacts;
- (b) promote recreational and sustainable resource use within conservation areas;
- (c) develop and implement visitor programmes at individual, existing and new conservation areas;
- (d) develop and implement a programme of sustainable resource utilisation where appropriate;
- (e) Plan and organise regular patrols or site presence by field staff ;
- (f) Introduce, explain and enforce reasonable controls on access, behaviour and use of resources in conservation areas.
- (g) Organise reciprocal powers for staff from DEC and other resource management agencies.
- (h) Plan and carry out specific major exercises to address serious, persistent infringements.

Process

Technical assistance from the CASPA unit will be given to Management Committees and field staff to design and develop visitor programmes at existing areas.

A working group of DEC and tourism agency officers, with technical assistance by CASPA unit is proposed to organise a promotion of recreational use of conservation areas;

The component is to involve Management Committees and field staff including Community Rangers in management planning and training; facilitated by DEC and CASPA unit CA rules will be confirmed or developed during the Management Planning process and explained through the Education & Information Programme.

Routine enforcement will be emphasised in training and on-going support of Management Committees, field staff and Community Rangers and in the compilation of a Management Operations Manual.

Policy and arrangements for reciprocal powers for staff will be addressed by the interDepartmental Coordinating Committee and implemented by the relevant Departments.

Routine enforcement action on site will be implemented as part of improved Site Presence and Patrols.

A special task force will be established under the CASP to direct planning and implementation of each major enforcement exercise. The task force will involve officers from DEC, police, Justice and other resource management Departments, local authorities and field staff.

Timetable

Years 1-7: technical assistance to individual area; ongoing

Resources/Inputs

Human

Specialist assistance

Financial

Annual costs

| | |
|-----------|--------------|
| Year 1 | K10 000 |
| Year 2 | K20 000 |
| Years 3-7 | K25 000 / yr |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 6 *to improve and develop the standard of management in conservation areas*

Output 6.5 **Active education and education programme**

[Review Recommendations 6.1 8.7 8.18]

Component 6.5 **Education and information programme**

Aim to increase awareness and support of conservation areas in PNG, as part of broader nature conservation education

Activity

- (a) Produce educational materials about conservation areas in PNG;
- (b) Compile and make available to the public an information package on each existing conservation area;
- (c) Produce advisory materials for land-owners and local communities on how to establish appropriate conservation areas;

Process

The CASPA unit will work in support of DEC, Dept of Education and schools staff, and NGOs involved in education. Through an E&I Working Group the unit will produce and provide materials and training to education and extension workers; provide assistance to local managers of each CA; design and prepare draft written and illustrative materials; contract local input; contract specialist services - (art-work, video production, etc).

A major outlet for information produced will be the Conservation Information Service (component 4.3).

Timetable

Month 6: Guide to conservation areas system of PNG
Years 1-7: ongoing

Resources/Inputs

Financial

| | | |
|-----------------------|-----------|--------------|
| Information materials | Year 1 | K15 000 |
| | Years 2-7 | K25 000 / yr |
| Education equipment | Years 1 | K15 000 |
| | Years 2+5 | K20 000 / yr |

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 6 *to improve and develop the standard of management in conservation areas*

Output 6.6 Ranger research, inventory and monitoring

[Review Recommendations 6.1 8.7 8.18]

Component 6.6 Ranger research, inventory and monitoring programme

Aim to upgrade conservation area resource information
to improve the technical basis for conservation area management
to maximise the outcomes from routine patrols and site inspections
to upgrade resource information on individual conservation areas
to utilise the skills of the field ranger workforce developed through the training programmes
to evaluate the effectiveness of management plan implementation
to contribute to the Management Information System (component 4.6.1) to provide on-site technical expertise in support of Head Office based research expertise

Activity

Devise a scheduled programme of research and resource inventory as defined as a need in area management plans and within the capabilities of conservation area rangers.

Provide necessary detailed research/inventory methodologies to supplement material provided in training manuals. Provide training in field research, inventory and monitoring to ranger staff

Provide necessary equipment and Head Office reporting/data storage capability for analysis of data collected

Provide a routine patrol checklist for site inspections

Process

A training programme will be devised with the Resource Inventory Branch of the Conservation Division (DEC) and on the advice of the Research Advisory Group.

Relevant research, inventory and monitoring plans, programme outlines and schedules will be prepared for each conservation area as part of the management planning process.

Data recording sheets will be prepared and on-site training provided to field based rangers to initiate the programmes. In consultation with field rangers, the Resource Assessment Branch of DEC, regional managers, specialist advisers, the CASPA unit will prepare schedules and specifications for goal targeted research and inventory.

This process, in itself, will provide some of the necessary instruction for field management.

Timetable

Years 1-2: Training

Years 2-7: Ongoing

Resources/Inputs

Equipment & materials Years 1-7 K10 000 / yr

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system

Objective 6 *to improve and develop the standard of management in conservation areas*

Output 6.7 **Efficient and effective conservation area administration**

Component 6.7 Conservation area administration

Aim to establish on-going efficient and effective conservation area based administrative procedures particularly in the areas of budgeting and scheduling of operations.

Activity

Prepare detailed budget plans and expenditure and component schedules for implementing management plans and for undertaking conservation area routine operations;

Establish detailed reporting mechanisms and report formats.

Process

This Component is predicated by training (Activity 4.2) of field staff and outputs from Component 4.6.1. However, this Component is intended to give personal tuition in administrative processes involved in conservation area management.

It is envisaged that a member of the CASPA unit will work with the Conservation Area Manager and Regional Management in preparing the annual works programme and budget for the year following the preparation of the Management Plan.

Timetable

Year 1: Training

Years 1-7: Ongoing

Resources/Inputs

Human

CASPA unit, DEC

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system
Objective 7 to develop community appreciation of conservation areas and resource conservation
Output 7.1 A communication programme advocating the values of the conservation areas system

Component 7.1 Conservation area advocacy

Aim to raise community awareness of conservation areas and the CASP as an initiative for the conservation of PNG's natural and cultural heritage.

Activity

Prepare a communications strategy identifying messages, target audiences and appropriate media;
 Train all staff in public presentations;
 Provide resources and media to assist staff in communicating the programme.

Process

It is considered that the strategy will involve communication of the following broad messages:
 PNG has world significant and outstanding natural resources;
 these resources and traditional interaction with them are an integral part of PNG's heritage;
 in many areas of PNG these natural resources are being exploited unsustainably for short term gain: with the selling off of these resources goes PNG's heritage;
 conservation areas are part of sustainable development and land use and protect the nation's natural and cultural heritage; and
 conservation areas are local, regional and global life support systems.

Key target audiences include decision makers in Government, the public sector and private sector, school aged children and local communities. Possible media include a regular programme of press releases, media interviews, education kits, posters and publications of each conservation area. In addition, the most effective advocacy action will be the example set by conservation area establishment and management and the behaviour and personal presentation of staff and associates of the DEC conservation area programme.

Timetable

Month 4-on-going: Press releases and general media contact
 Months 9-12: Initial production of media items; preparation of strategy
 Years 2-7: Developed and targeted programme implementation

Resources/Inputs

Human
 CASPA unit
 Specialist input Years 1,2 K10 000 / yr
 Annual costs Years 2-7 K25 000 / yr

Goal: to develop and strengthen PNG's natural and cultural heritage conservation area system
Objective 7 *to develop community appreciation of conservation areas and resource conservation*
Output 7.2 **A communication programme advocating the values of conservation**

Component 7.2 Conservation advocacy

Aim to raise community awareness of the value of conserving natural resources and protecting natural processes which support life

Activity

Prepare a communications strategy identifying messages, target audiences and appropriate media;
Train all staff in public presentations;
Provide resources and media to assist staff in communicating the programme.

Process

It is considered that the strategy will involve communication of the following broad messages and concepts:
the concept of ecosystems and the interdependencies of all life, including people;
sustaining life support systems/processes;
the diversity of PNG's ecosystems, flora and fauna;
the need for wildlife conservation;
case studies in nature conservation especially the 'behind the scene' elements - people, soil fertility, water regime, minor and micro flora and fauna
specific benefits of selected fauna and flora;
religious and traditional foundations of conservation;
ecologically sustainable development;
value of protected areas to local communities;
techniques for conserving valued resources and protecting ecological processes;
the national approach to conservation and environmental protection;
Key target audiences include decision makers in Government, the public sector and private sector, school aged children and local communities. Possible media could include a regular programme of press releases, media interviews, education kits, posters and publications, television and film, including the promotion of PNG environments for international films.

Timetable

Month 9-12: development of materials and contacts
Years 2-7: Implementation of planned program

Resources

Human: CASPA unit
Specialist Advice: Year 1 K15 000
Annual costs: Years 2-7 K25 000 / yr

Government of Papua New Guinea
Conservation Areas Strengthening Project

Appendix 1

**Conservation Areas
Strengthening Project**

Terms of Reference

Government of Papua New Guinea

Department of Environment and Conservation

Project title: **Conservation Areas Rehabilitation**

Project Design and Formulation

Assignment location: **Port Moresby**
 Assignment description: **Conservation Planning Specialist**
 Date of commencement: **April 1993**
 Period of retention: **1 person month**

1 Purpose

The purpose of the collaboration with the World Wide Fund for Nature (WWF) and this Terms of Reference (TOR) is to facilitate, within the Department of Environment and Conservation (DEC), a planning process for designing and formulating a project document for implementing Phase II of the Protected Areas

Rehabilitation Project.

2 Development Context

A background, institutional and planning context for these Terms of Reference forms Attachment 1.

3 Facilitator's qualifications

3.1 The facilitator should have qualifications and significant experience and expertise in

conservation management and planning. Background in the management and administration of natural resources would be an advantage.

relevant areas within Papua New Guinea and/or Asia, Pacific Region would be an advantage.

3.2

Specific knowledge of PNG's conservation objectives and organisational development as well as experience of the existing conservation areas system is required.

3.3

Experience in the design and formulation of project documentation is required.

3.4

Background as a consultant / facilitator / adviser, teaching or training in

4 Immediate objectives, outcomes and activities

Under the direction of Secretary of DEC through the First Assistant Secretary (Nature Conservation), in close consultation with the designated counterpart(s) and other DEC staff and in liaison with the National Forestry and Conservation Action Programme Technical Support Project (TSP) the facilitator will:

4.1 Immediate Objective 1

Facilitate a consultative planning process and assist DEC staff to design and formulate a project document for a substantive programme of support and development for conservation management in areas that relate to:

- i. Conservation system design;
- ii. Advocacy and awareness programmes;
- iii. Training;
- iv. Rehabilitation activities;
- v. Management systems strengthening; and

4.1.1 Outcomes

- i. Project documentation, including a clear definition of objectives, outcomes, activities and inputs including cost estimates and project time schedules for a 5 year Technical Support project.
- ii. 2 year action plan of capacity strengthening that recognises an action focused, experimental and community/NGO/DEC partnership project approach. This will include recommendations for inputs of

finance, personnel, equipment and other resources.

4.1.2 Activities

- i. Through consultations with DEC, other government agencies and NGO personnel, evaluate the:
 - (1) Protected Areas Review documentation and
 - (2) DEC's Strategic Plan giving special emphasis to those aspects that directly relate to the conservation division and its partners in conservation area activities and identify constraints and opportunities.
- ii. Outline an approach, including objectives and outcomes, for the formulation and application of criteria for the identification, classification and establishment of a representative system of conservation areas in PNG.
- iii. Arrange and conduct an initial consultative workshop and necessary follow up workshops to examine the PARP documentation and elicit direction and priorities for implementation of the CARP.
- iv. Provide criteria and standards for establishing a site selection procedure for rehabilitation activities.
- v. Establish project components that advocate sustainable environmental management and conservation (natural, cultural and historic) and stimulate awareness and understanding of the importance of conservation as part of economic and social development.
- vi. Design project components for implementing training/human resource development programmes that recognise the requirements of existing, and proposed, management systems.
- vii. Make provision, in the project design process, for all necessary management and infrastructure support needs, to increase effectiveness and efficiency, during implementation of project activities.
- viii. Make recommendations for future inputs of both GoPNG (through the 1994 PIP) and donor finance for personnel, equipment, training and other resources.
- ix. Prepare project and other support documentation to implement the 5 year Department of Environment and

Conservation - Conservation Areas Rehabilitation Project.

- x. Develop, as part of the project document, action plan(s), including dates for implementation of the project giving due consideration to relevant implications in terms of outcomes from other project outcomes.

4.2 Immediate objective 2

Contribute to DEC capacity support in the form of Project Design and Formulation.

4.2.1 Outcomes

- i. Immediate capacity support for project formulation through on the job experience.
- ii. Transfer of skill to the facilitator's counter-part(s) and other appropriate DEC staff.

4.2.2 Activities

- i. Establish a work plan for the 1 month programme.
- ii. Initiate an effective working relationship with key DEC managers.
- iii. Coordinate one training programme for DEC on project design and formulation.
- iv. Present regular reports to the FA Secretary.
- v. Through the project design process assist with its development and implementation of recommendations from ongoing and proposed DEC Strengthening projects and review such as the Management Systems and Human Resource Development project and the evaluation of in-country institutional training capacity e.g. ADCOL, UNITECH, UPNG.
- vi. Through participatory approach, encourage DEC staff in the acquisition of practical skills in conservation area management.

5 Risks

- i. Experience with project design and formulation methods in DEC is limited. (The project will provide institutional strengthening through technical support, capacity building and training).
- ii. Capacity within DEC to manage the process when the project is mobilised is limited. (The project design will provide technical assistance and training and make provision for long term capacity building by providing links to the Australian International Development Assistance Bureau (AIDAB) Strengthening project. Alliances will be established with other government agencies and NGOs).
- iii. Project start-up may be delayed due to lack of availability of experienced people with project formulation, training and conservation area management practice in Papua New Guinea.

(The notion of using WWF to formulate this project flows from the process that was established during the Phase I Protected Areas Rehabilitation Project. Project design and formulation, training and developing in-country capacity is an established component of the WWF biodiversity conservation support programme).

Attachment 1

1 Background and Project Context

1.1 PNG National Goals and Directive Principles

The National Goals and Directive Principles of the Constitution of Papua New Guinea provide the basis for sound conservation and environmental management.

The Department of Environment and Conservation is guided by the 4th Goal which states:

“for Papua New Guinea’s natural resources and environment to be conserved and used for the

collective benefit of us all, and be replenished for the benefit of future generations.”

Other Development Objectives the project is directly linked to include:

- National Forest Policy (1991);
- Department of Environment and Conservation Strategic Plan.

2 National Forest and Conservation Action Programme

Considerable efforts, particularly over the past two years, have been made to provide assistance and support to national initiatives to implement strategies and programmes that would assist to conserve and manage natural resources. Particular emphasis to the rich biodiversity of PNG’s tropical rainforest have been made but, more recently, attention has been directed towards other important eco-systems such as coastal and marine environments including coral reefs, mangroves and wetlands, alpine zones and riverine grasslands. Social issues and cultural conservation is also recognised as an important priority that will, in the foreseeable future, benefit from more focus and attention.

In early 1990, in response to a request from GoPNG, the World Bank led a Policy Study and Advisory Mission known as the Tropical Forest Action Plan (TFAP)⁴. Two components of this action plan addressed conservation and protected area management. The first proposed a programme of review and rehabilitation of the existing protected areas while the second promoted the notion of a new system of conservation areas with emphasis, at that time, on attracting World Heritage status to a series of sites.

In late 1990 WWF proposed to the Government of Papua New Guinea that it would be useful to

amalgamate both projects and form a broad Protected Rehabilitation Programme. The first stage of this, which reviewed a wide range of management accomplishments and constraints, and provided a suggested action plan, was completed in mid 1992. This activity also included a register of the existing system with data sheets for each area.

GoPNG, in formulating its response to the recommendations made by the World Bank Review, has required government departments to develop programmes which now constitute the major component designed to address environmental impact assessment and management, both terrestrial and marine, the conservation of biological diversity and the establishment of a representative conservation system.

A significant goal of NFCAP is:

ensuring that PNG's forest resources are managed in an ecologically sound and sustainable way and that the country's diverse eco-systems and biota are adequately protected.

NFCAP stresses the need for complete involvement of landowners in planning and managing natural resources and fully recognises the realities of PNG's land tenure system which ensures that traditional owners, acting under customary law, have responsibility and stewardship for 97% of the land area.

Consequently, the achievement of policies and objectives directed to resource management, conservation and ecologically sustainable development depends upon an unprecedented degree of cooperation and collaboration between landowners, government departments (central and provincial), private business and industry, bilateral and multi-lateral donors together

with the national and international NGO community.

DEC is designated as lead agency for a number of NFCAP projects. These have been developed under four programme categories:

- Resource Surveys and Research;
- Policy Planning and Legislation;
- Institution and Human Resource Development;
- Forest Development and Conservation.

This project will be developed under programme category Forest Development and Conservation.

3 Department of Environment and Conservation Strategic Plan

In mid 1991 the Terms of Reference for developing a Strategic Plan for the Department of Environment and Conservation (DEC) were derived. Following this, under a co-financing agreement between the New Zealand Government and the World Bank/United Nations Development Programme NFCAP Technical Support Project - a team of consultants (three), to assist development of the Strategic Plan were commissioned. The first phase of this task; completed in December 1991, was followed up by a second mission in March/April 1992.

The DEC Strategic Plan, completed and printed in May 1992, in the context of the over-all DEC Strengthening Project, equips DEC with a definitive and realistic planning framework for the next five years. The Strategic Plan which is a central component of these Terms of Reference, establishes, consistent with the DEC constitutional mandate and mission, a series of goals as well as priorities for the immediate, medium and long term.

A principal priority of the department is to “*systematically build the skills, experience, resources and general capability of the department so that it has the capacity to fulfil the mission and statutory responsibilities given to it by the Government*”. Within this priority an immediate organisational need is the implementation of a

review of DEC's Human Resource Development and Management Systems. This is being addressed by a separate project which will be supported by the AIDAB. Development of management systems, coupled to human resource development policies and practices, is a major and clearly identified factor in dictating the Department ability to work towards its mission mandate, achieve its goals and objectives and increase both cost effectiveness and efficiency. All of these considerations are contingent on a cohesive management structure linked to well trained motivated people within each division, unit and individual position in the department.

Protected Areas Rehabilitation Programme

In 1992 WWF completed a comprehensive review of the status and management of Papua New Guinea's protected areas system. This was carried in collaboration with the DEC and produced a detailed register of each of the country's existing protected areas, an analysis of their purpose, selection, condition and organisation of management and a proposed programme of rehabilitation actions to strengthen the system, resources, re-establish neglected existing sites and revitalise the use of nature protected areas by different sectors of society (Government and local resource-holders and communities).

The reports from the review have been agreed in principle by GoPNG and circulated among relevant government agencies, scientists and non-government organisations. Preparations by DEC are underway for implementation of the action plan, in a staged manner, over the next few years. These actions will be dovetailed with other DEC development and projects.

Government of Papua New Guinea
Conservation Areas Strengthening Project

Appendix 2

Protected Areas Rehabilitation Programme (PARP)

Protected Areas Review - Summary

Protected Areas Rehabilitation Programme (PARP)

Protected Areas Review

1.0 Background

In 1988-1990, under a World Bank-led programme, a Tropical Forest Action Plan was prepared for Papua New Guinea. It aimed at rationalising the use and conservation of the country's rich natural forest cover, its timber and related resources. Sites considered to be of highest biological or scientific values for conservation were identified.

In April 1990, GoPNG outlined its response in the form of a National Forest and Conservation Action Plan (NFCAP). It comprised concepts for projects concerned with resource inventory and planning, forestry and conservation management strengthening, participation of landowners and non-government organisations in forest management and rehabilitation and expansion of a system of Conservation Areas.

A NFCAP Steering Committee was established with representatives from involved national government departments and local non-governmental organisations (NGOs). A Technical Assistance Team to provide specialised forestry, conservation and NGO-related advice was set up by the World Bank, United Nations Development Programme and the International Institute for Environment & Development. An environmental Task Force (multi-disciplinary, interDepartmental) was funded by WWF, to carry out rapid appraisals of sites of high conservation potential under imminent threat of logging.

1.1 The PNG conservation areas programme

Two of the NFCAP concepts concerned the development of conservation areas for nature conservation in PNG. The first proposed rehabilitation of existing National Parks and Wildlife Sanctuaries. The second proposed a new national system of conservation areas, with an emphasis on

attracting World Heritage status to a series of sites. In late 1990, WWF proposed to the PNG Government that it would be useful for the two projects to be amalgamated to form a broad Conservation Areas Rehabilitation Programme (CARP) and that the first stage should be to complete a Review of accomplishments to date with protected areas of all different types in Papua New Guinea.

In October 1991, a financing agreement was signed between WWF and the European Commission. It provided for WWF to carry out the proposed review and the design phase of the PNG Protected Areas Rehabilitation Programme.

The Review project was organised by WWF's Pacific Programme Office. It was carried out between November 1991 and June 1992. The Department of Environment & Conservation was involved directly in the Review, with members of staff taking part in workshops and interviews, assisting with data collation and organising joint site inspections. An officer from DEC's Conservation Division was a full time member of the project team.

The objectives of the Review were to review and to make recommendations on strengthening the following aspects of PNG's protected areas system:

- (a) the role of different types of protected areas in achieving an effective system for nature conservation in Papua New Guinea
- (b) the strengths and weaknesses of the protected area system including procedures, resources available, management information, planning, research and monitoring, establishment and management operation procedures;
- (c) the conservation values of existing protected areas of different categories, their relative importance and priority for rehabilitation.

2.0 Existing protected areas in PNG

Conservation, as the judicious use of natural resources by people, is to some extent part of the tradition of natural resource use of PNG. Customary

land-owners and local communities exert controls over the ways in which different areas and plant and animal species can be used, at times of scarcity or particular abundance, during breeding or nesting seasons or for reasons of taboo.

The protection of individual sites or local populations of wildlife continued under colonial administration and following independence in 1975. Under the National Parks Act, various types of national park sites have been established for conservation and related purposes, but only on land which is vested in the Crown or State. This conventional approach to conservation, centred on "typical" national parks or reserves, where an area of land or sea is "set aside" from all extractive activities, has been of limited relevance in PNG. Such areas cover only 127 km² (<0.03 % of land area).

Since 1966, the Fauna (Protection & Control) Act has provided formal mechanisms for regulating the taking, possession or trade of native fauna, from areas declared by the responsible Minister over land of any tenure. Wildlife Management Areas, Wildlife Sanctuaries and Protected Areas are declared under this Act.

The major group of existing protected areas is that of Wildlife Management Areas, which attempt to provide a basis for resource conservation relevant to customary tenure.

The 18 existing WMAs cover a total 10 529 km² (2.3% of the country), although it should be noted that just two large WMAs (Tonda and Maza) make up most of this area (7 742 km²).

2.1 Overview of existing protected areas in PNG

The Review found that information about existing protected areas is generally not available in an organised form, from either Government or non-government sources. Information on individual sites, their use and management was collated for the Review. DEC files were not available for all sites and some files contained little information, for example, not all gazettal details could be confirmed.

2.1.1 Register of protected areas in PNG

A simple register of information obtained on each protected area was compiled during the Review. These site data were used subsequently in the Review's assessment of current processes, resources and issues in protected area management.

The 16 existing areas under the National Parks Act include 4 National Parks, 1 Sanctuary and 1 Wildlife Sanctuary, 2 Historic Reserves, 3 Provincial Parks, 3 Nature Reserves, 1 Scenic Reserve, and 1 Reserve. The 23 areas under the Fauna Act include 18 Wildlife Management Areas, 3 Wildlife Sanctuaries, and 3 Protected Areas.

2.2 Conservation assessment of existing protected areas

2.2.1 Biogeographic assessment of PNG's existing terrestrial protected areas

The Review included an evaluation of the physical and biological characteristics of the existing protected areas in PNG, with the objective of placing them within a biogeographical perspective for the country. This assessment covered terrestrial areas only: existing mapped land data were assessed for appropriateness for input to a data-base.

In Papua New Guinea there is a wealth of geographic data on a national scale, most collected in a reasonably rigorous and uniform manner. Since 1953, various CSIRO scientists have mapped a range of physical and biological attributes including landforms, soils, vegetation, landuse, climate and human impact upon the environment.

For the purposes of the Protected Areas Review, a geographic information system (GIS) was set up. The GIS was used to generate maps depicting 36 biogeographic zones covering Papua New Guinea. Irrespective of the other qualities of the existing sites, they were shown to provide inadequate geographic coverage: 30 of the 36 zones are considered to have "nil" or "poor" representation,

suggesting that the existing network "captures" a very small proportion of species and ecological conditions that exist in PNG.

2.2.2 Conservation Assessment

The Review considered the following criteria of importance in deciding how valuable a site is for nature conservation in PNG, and what type of protected area it should be:

- representativeness of biogeographic zone
- naturalness - rarity or unusualness
- critical habitat for wildlife - diversity - landscapes
- natural productivity - size - fragility
- feasibility/manageability

The total extent of protected areas entered in the Register is just over 1 million hectares.

The National Park areas range from <20 hectares to Jimi Valley National Park at 4 180 ha. 10 of the 16 National Park areas are 100 ha or less. Fauna protected areas range in size from Mt Nuserang at 22 ha, to the Ranba and Crown Island complex (116 615 ha), Maza (184 230 ha) and Tonda (590 000 ha).

2.2.3 Further evaluation

Additional analysis of data in the Register or the GIS has not been undertaken. However, the GIS is available to the Conservation Areas Strengthening Project, to be used as a tool in setting priorities and guiding expansion of the national network.

The following types of applications are feasible:

- assessment of a site's representativeness within country, within Provinces and within defined biophysical regions;
- calculation of the area of lands protected: by country, Province, vegetation type;
- assessment of remoteness and of naturally vegetated lands not yet protected;
- assessment of likelihood of continuing disturbance or modification to existing or proposed reserves, as defined by their proximity to human settlements;

potential linkages of naturally vegetated lands and existing or proposed protected areas; and

identification of 'gaps' in the protected areas system and the provision of information to assist in prioritising further survey and research activities.

2.3 Proposed new sites for protected areas

A large number of proposals for areas to be declared under the Fauna (Protection and Control) Act has accumulated over the years. There are at least 120 proposals for consideration under the Fauna Act and 21 priority proposals for protected areas under the National Parks Act. However, the lists are incomplete and the extent to which each proposal has been developed varies widely. There are proposals, well-advanced in getting landowner agreement, which are not registered with DEC. The number of proposals for new protected areas is high and growing.

2.3.1 Fauna (Protection and Control) Act proposals

Gazettal dates indicate that the completion of work on a proposal has occurred at a variable but generally slow rate, often due to landowner disputes, lack of organised priorities and problems with certain procedural requirements, especially boundary descriptions.

2.3.2 National Park proposals

The requirements for establishment of National Parks are more precise. A higher priority is given by DEC to pursuing opportunities to add to the National Park estate. National Park proposals include several in an advanced state of preparation, particularly in the crucial area of landowner negotiations.

There are no criteria set by DEC for assessing the suitability of a proposed site, as either a National Park or fauna protected area. Neither are guidelines available to landowners or community groups for proposal preparation.

3.0 Protected areas classification in PNG

3.1 Statutory types of protected area - an overview of the legislation

Conservation and environmental protection laws, dating before PNG's Independence in 1975, are applied to particular aspects of the environment such as fauna protection, water resources and declaring national parks over State-owned land. In 1978, laws introduced a more comprehensive approach to environment protection and supported a more participatory approach to conservation, consistent with the National Goals contained in the 1975 Constitution (Fingleton, 1992) and in particular, the fourth goal:

for Papua New Guinea's natural resources and environment to be conserved and used for the collective benefit of us all, and to be replenished for the benefit of future generations.

The following Acts of Parliament are relevant to protected areas:

National Parks Act (revised 1984),
Fauna (Protection and Control) Act ,
Conservation Areas Act 1980,
Water Resources Act,
Forestry Act (1991),
Fisheries Act,
Continental Shelf (Living Natural Resources) Act,
Lands Act.

3.2 The purposes of protected areas

A protected area is a land (or sea) use and managed for particular purposes. These purposes need to be explicit, to provide clear guidance to both management and use of the area.

The DEC Strategic Plan (1992) develops some objectives for the Department's Conservation Programme which are applicable to assigning purposes to protected areas:

to maintain essential ecological processes and life support systems;
to preserve the diversity of species and genetic variation within them;
to safeguard habitats critical for the sustainable use of species;
to foster traditional methods and encourage new sustainable use of species;
to protect beautiful landscapes and wildlife;
to protect historical sites;
to provide opportunities for scientific research, education and training, and recreation and tourism;
to provide sources of national pride and inspiration.

Changes in activity for the Department suggested by the Strategic Plan are:

an increased emphasis on and a more precise definition of the goal of protecting biodiversity,
the addition of a commitment to involve the customary landowners and their use of natural resources in conservation programmes, and
the explicit inclusion of developing scientific and educational values in protected areas, rather than leaving these as largely understated purposes as before.

3.3 Protected areas established under the National Parks Act

3.3.1 Types of National Park

This group of protected areas ranges from small urban parks to major areas with developed recreational facilities and allocated preservation/wilderness zones. 12 of the 16 areas managed by DEC under the National Parks Act are not called "National Parks". Names currently being used include Nature Reserves, Historical Reserves, Scenic Reserves, Sanctuaries and Provincial Parks.

Sanctuaries is a title that has been given to zoological and botanical gardens. In the Act, sanctuaries are listed separately from zoological and botanical gardens in the statutory list of purposes.

Wildlife Sanctuaries is a term that also describes areas established under the Fauna Act.

Provincial Park refers to areas that are cooperatively managed in some way, with Provincial Government.

Historical Reserves and **Scenic Reserves** are terms used for areas reserved for recreation or to protect cultural sites. These terms do not appear in the National Parks Act and may lead to confusion.

3.3.2 Purposes of existing National Parks

The Review determined that existing National Parks serve one or more of the following purposes:

protection of flora and fauna,
provision of nature recreation,
provision of urban recreation,
protection of scenic values,
protection of historic & cultural values,

provision of education resources,
protection of scientific values,
multiple purposes.

3.4 Protected areas established under the Fauna (Protection and Control) Act

3.4.1 Existing types and purposes

PAs which can be established under the Fauna Act are clearly differentiated and offer distinct legal mechanisms for protecting fauna

Wildlife Sanctuaries offer the most comprehensive protection. It could be interpreted to extend to protection of faunal habitat. In a Sanctuary it is an offence to take or kill any animal other than those declared by the Minister. Rules can be used to regulate the taking of the declared species; any device, equipment or method for taking or killing animals may be prohibited.

There were 3 gazetted Wildlife Sanctuaries in PNG in 1992. Two Wildlife Sanctuaries have been established on Long Island, Madang Province. The third is close to the town of Madang, protecting 470 ha of forest which is proposed for tourism/recreational development.

Protected Areas are the reverse of the approach taken in the Wildlife Sanctuaries: protection is provided for certain declared species. The local rules may allow these species to be hunted but any device, equipment or method for taking or killing them may be prohibited.

There were 2 Protected Areas in PNG in 1992, which differ greatly in size and conservation value. Baniara Island PA, in Milne Bay, covers a 100 ha coconut plantation and protects an introduced population of agile wallabies. Lihir Island PA covers the entire island (approximately 1 980 ha) and was established to protect scrubfowl and their nesting grounds from the attentions of people coming into the island to work at a proposed gold mine. A

large proportion of the nesting grounds will however be destroyed by mining.

Wildlife Management Areas are customary owned areas in which landowners form a management committee and implement rules for protection, management and exploitation of the fauna.

The intention is that establishment and management of WMAs involve consultation and participation before they are established by the Minister and the rules gazetted. The rules may provide for hunting licenses, licence fees and royalties to be paid for animals taken.

The 18 Wildlife Management Areas make up the majority of the 23 areas currently gazetted under the Fauna Act and cover the largest extent of PNG's PAs under some form of conservation management. The WMAs vary from 590 000 ha at Tonda to 22 ha at Mt Nuserang. There are marine WMAs and sites through the full range of altitude to the highlands. Some WMAs are within easy and close access to major towns and settlements; most however, are in remote locations.

3.4.2 Purposes for Fauna Act areas

Purposes were identified by discussions with landowners, Management Committee members and DEC staff and the of 16 sets of gazetted Fauna protected area rules.

Broad underlying purposes are:

- protection of subsistence resources from over harvesting by both customary landowners and/or non-landowners;
- protection of biodiversity (perceived by DEC and scientists and less by landowners);
- providing opportunity for income generation (an often unrealised expectation);
- protection of cultural values by reinforcing authority of customary owners;
- protection of significant sites or historical locations;
- developing scientific values and providing educational opportunities (Mt Kaindi,

reflecting Wau Ecology Institute's key association with this WMA).

4.0 Conclusions

4.1 Need to rationalise PA legislation and classification

Under the existing Acts, there is an unnecessarily complicated array of types of PAs, with confusing terminology. The degree of protection, type of tenure and management are not immediately apparent from the class to which a site is assigned. The Conservation Areas Act has the potential to supplement the existing system but has yet to be implemented. However, it shares some of the shortcomings of the National Parks Act in not defining purposes or objectives of Conservation Areas.

Legislation needs to be rationalised to avoid confusion and to streamline the PA system and delivery of services to local communities. The WMA has been an acceptable means of establishing areas for resource conservation in PNG and should be retained or combined with the Conservation Area concept.

A conservation area classification scheme for PNG application should serve a two-tiered strategy:

- (1) Natural areas that are considered locally to be of conservation significance, established as Local Conservation Areas and managed largely by local landowners or community groups.
- (2) Natural areas which are considered to be of national or international conservation significance, established as National Parks or National Conservation Areas, with management support by the most competent national authority.

A consolidating Act should make provision for a range of tenure options, while specifying clear objectives for each type. The Act should provide an opportunity to update PA system objectives to include protection of representative samples of

biodiversity and natural features, to protect wildlife and its habitat and to provide certain areas for sustainable use.

4.2 Tenure options

State owned land currently covers less than 4% of PNG land area. Much of it was "acquired" in colonial days. There is little possibility of increasing State owned land to accommodate the requirements of a comprehensive biodiversity conservation strategy. To acquire customary land, involves lengthy negotiations and compensation payments via the Lands Act. This has delayed finalising tenure agreements, ensuring adequate management of existing parks and expanding the system.

Consolidation of the PA Acts, or an alteration in the scope of the Acts is required to allow land to remain in customary ownership under agreements of some type.

If the National Parks Act is retained, tenure provisions for areas reserved under the National Parks Act need clarification. Lease options to accommodate specific landowner needs could be more fully utilised and described in the legislation. Implications of the Water Resources Act for marine customary tenure need to be addressed.

4.3 Complementary management by departments

Several Government Departments with resource protection legislation play a major role in securing sustainable use and protection of natural resources. Departments implementing Forestry, Water Resources and Fisheries legislation should be encouraged to initiate protected areas.

DEC should advise on criteria and site selection as a member on inter-department working groups.

Given limited resources of each Department, there is considerable advantage in developing formal complementary management agreements for management operations.

Protected areas in PNG are and will continue to be multiple use : multiple-use management requires a

broader range of skills than is found in a typical nature conservation agency like DEC. Inputs are required from several national and Provincial Government Departments.

The Review identified an apparent lack of Government commitment, since Independence, to support its excellent legislation, in both environmental and conservation management.

Many agencies, organisations and individuals exist to contribute to nature and environmental conservation, including the community and in Government, but require encouragement and support.

4.4 Towards a conservation area classification for PNG

A simple system can be described as a matrix: on one axis is level of conservation significance, from National Conservation Areas to Local Conservation Areas and on the other axis is degree of resource usage.

- A. nationally significant high protection
- B. nationally significant multiple - use sustainable use
- C. locally significant high protection
- D. locally significant multiple - use, sustainable use

Note: Type C. may not be needed in the system, unless it is applied to small sites which are closed to all use, perhaps for spiritual or tambu reasons.

Both national and local classes of PAs would need Government support (through DEC).

Careful allocation of limited resources must be introduced to ensure that both arms of the network are developed and are effective. They also need the involvement of local people and landowners to be a success. It is envisaged that in Local Conservation Areas, the Management Committee would have management authority and would receive advice and some financial support from Government.

In national areas (NPs and NCAs), management authority would rest with Government (DEC) and

local communities would participate in planning and management operations

Because of the national significance (and in some cases, the international significance) of NPs and NCAs, DEC has a responsibility to ensure continued effective management of these areas. Thus tenure must be secure, either through freehold title or a lease from customary owners which includes a Management Agreement. LCAs would primarily be on customary owned land; a Management Agreement could be part of the area's Management Plan.

The proposed classes of protected area are split according to the ways in which human activities are accommodated. Resource extracting activities would be banned from the highly-protected National Park and, if introduced, Local Parks or Protected Areas. National and Local Conservation Areas would be open to a range of compatible and sustainable uses. The means of protecting important areas of bush resources and culturally significant myth or taboo sites would be retained and promoted.

The division of PA classes by human activity can be regarded and brought into operation as a zoning scheme imposed over the National : Local categories.

Possible purposes and nature of high protection classes could include:

- to provide representative samples of biogeographic regions;
- to protect relatively undisturbed natural areas;
- to protect outstanding rare or unique geological, biological or cultural features;

to provide recreation, tourism, education and scientific opportunities;

to protect areas of outstanding value which are characteristic of harmonious interaction of nature and people;

representative of biogeographic region;

high diversity in terms of ecosystem, species, genetic resources;

control of management by national authority (DEC) with advice of Management Committees, freehold or lease, Management Agreement;

protection;

no human intervention;

habitat manipulation and harvesting for management purposes only.

Possible purposes and nature of sustainable/multiple use conservation areas could include:

compatible subsistence, sustainable use;

to provide for integration of conservation and use of natural resources;

to protect features of regional or local value;

to protect wildlife and habitat;

demonstration of sustainable use of natural resources;

demonstration of culture by: customs, social organisation, material traits reflected in use patterns, aesthetically unique patterns of human settlement;

value for wildlife and habitat;

local community involvement in management operations;

management authority with Management Committee with advice and support by DEC Management Agreement;

compatible subsistence or commercial use;

sustainable use.

5.0 The selection and establishment process

5.1 Selection of National Parks

Under the National Parks Act, sites may be considered suitable for selection as National Parks if they have particular biological, topographical, geological, historical, scientific or social importance.

A systematic approach to extending the National Park network is pursued by DEC staff with advice from scientists. A high proportion of staff time is spent on field survey of areas with high biological interest. Valuable sites are recorded and negotiations may be initiated.

The PNG reality of 97% customary ownership of land means that establishment is not feasible for many sites. In practice, the availability of the sites has been a major consideration in pursuing a proposal. Landowners are seldom willing to give or sell their land to the State and negotiations become complex when several owners are involved or ownership is disputed.

5.2 Land acquisition and compensation for National Parks

The acquisition of customary land for a National Park can make establishment a protracted process; ownership, boundary and compensation negotiations commonly take years to conclude.

The main steps may be summarised as:

- verification of ownership;
- acquisition of customary land under the Lands Act;
- designation of the land for the purpose of a reserve or a Park;
- declaration of the reserve as a National Park under the National Parks Act;

A significant proportion of DEC staff time appears is spent on reviewing proposals and developing those most likely to result in a new National Park. Other parties, including Provincial Governments or

community groups, may initiate actions to reserve land, although the acquisition would still proceed through the Department of Lands then DEC. Some of the existing parcels of land managed by DEC are reserved under the Lands Act for the purpose of a reserve or park but are not yet declared under the National Parks Act. It has been suggested that management of these sites by DEC may not be legal.

At several existing National Parks, there remains confusion about compensation and legal arrangements at the time of acquisition.

5.3 Selection of fauna protected areas

There are no statutory requirements for assessing a site's appropriateness as a protected area under the Fauna Act. In practice, proposals are received by DEC and staff respond.

Proposals come from concerned landowners who see a need for management or conservation in their area. DEC is asked for help through its field staff or in writing.

Reasons for initiating a proposal include:

- people with no customary rights hunting or taking wildlife;
- foreigners hunting on clan-owned land (eg deer or crocodile hunters);
- wildlife populations in rapid decline due to use of shotguns by local people;
- weekend hunting by people from nearby towns and properties;
- clearing of habitat required by certain species of wildlife (eg wildfowl nesting grounds);
- some animal populations being over-harvested for sale by landowners (eg crocodiles, cassowaries);
- traditional hunting rules being ignored;
- failure of traditional controls as human populations increase;

Proposals come also from Government field officers, particularly DEC's own wildlife officers, researchers or conservation organisations who have identified a need in the course of fieldwork. Each proposal and

site is responded to as a discrete case; there is no systematic effort by DEC to develop a network of related or linked fauna protected areas.

The length of time to assess and process a proposal is related to the enthusiasm of the initiators and the extent to which the landowning community is able to progress the proposal itself. Because of limited resources in DEC, proposals compete for attention. The 23 sites that are established under the Fauna Act are outweighed by the 100 proposals that have accumulated on DEC's files.

5.4 Establishment of a protected area

Establishment of a protected area is not just acquisition of the site. It includes preparing for management and getting operations and administration effectively under-way. Advance preparation for implementing management at a new site tends not to be carried out systematically for PNG's protected areas. Indications of this are the range of issues still to be resolved at the existing National Park areas and the lack of a ratified management plan for any of them.

The National Parks Act does not specify any particular process that must be used to establish a reserved area. Similarly, statutory provisions for establishing Sanctuaries and Protected Areas under the Fauna Act require only that "the Minister may, by notice in the National Gazette, declare an area".

In contrast, Wildlife Management Areas are declared by the Minister responsible for Environment and Conservation provided:

- the boundary of the nominated area is properly defined;
- a Committee of interested parties is established to manage the Area;
- a set of rules for the management of the area's resources is drafted.

A procedure for establishing all protected areas should include:

Consultation involving landowners, local people, Local Government Council, DEC, discussion of the perceived problems;

Research identifying the cause and nature of the problems; considering traditional practices which could help; verifying claims of ownership and resource access rights;

Establishment of Management Committee discussion on who should be on the WMA Committee to represent landowners; nomination of members;

Planning specific strategies to solve the problems; identification of land/ sea area to be declared a WMA; survey of proposed boundaries; formulation of rules for control of resource uses;

Formal Proposal recommendations on area, boundaries, Committee members and management rules from DEC to Legislative Council; formal boundary description by Lands Department;

Gazettal preparation of instrument of gazettal; signature by Governor-General; declaration in Government Gazette.

A clear process by which new protected areas are nominated, assessed and selected is a basic requirement of a successful conservation area system. Standard assessment criteria should be applied to proposed sites. Information on site selection procedures must be available outside the Government bureaucracy, to improve awareness and understanding about the role, values and management of protected areas and to ensure PA conservation involves (and is relevant to) local communities and landowners.

The establishment process requires landowners, Government officers and scientists having skills in negotiation, planning, resource assessment, area and boundary surveys. These skills are often lacking, which slows or even stops the process, or takes control of the process away from the local group. Enthusiasm can be lost and the proposal fails.

Arrangements are required between Government Departments, scientific institutions and NGOs to

share and contract out the limited resources and skilled personnel for identification, assessment and establishment of protected areas.

6.0 Management planning

Management planning is a pre-requisite to the goals for an area being achieved effectively and efficiently. It starts with deciding on the main purpose and

Management planning for protected areas at present is ad hoc and reactive, undertaken to address specific issues as they arise. It is not a statutory requirement under the National Parks or Fauna Acts. DEC is short of planners and field staff.

Local Management Committees have not been helped to plan systematically, through, for example, provision of training or any guidelines or instructions manual. However, draft Management Plans for 3 National Parks are useful documents; some of the sets of WMA rules show sophisticated and innovative approaches to difficult issues; and some of the new protected area proposals demonstrate a systematic and practical approach to working through the steps required before a protected area can be established.

6.1.1 The DEC Strategic Plan

The Strategic Plan prepared for DEC in 1991-92 sets a number of major "strategic directions" which are relevant to protected area management planning.

- a) Commitment to establish appropriate capacity in DEC to meet planning needs. Training and education programmes and new staff placements and deployment in DEC will cover development of PA management planning skills.
- b) Commitment to try a range of conservation management approaches, including the model outlined in the Conservation Areas Act.
Protected areas constitute one set of conservation management tools. It will be

objectives for managing the area, its biological resources and human uses and values. The Management Plan is a document which provides the basis for future decision-making. It allows management to be held accountable and its performance evaluated.

6.1 Current management planning

- useful to evaluate a number of different types of area management.
- (c) Recognition of the central role of customary landowners and the need to integrate them into the planning and operations of protected areas.
Landowners must participate fully in the process of management planning.
 - (d) Recognition of the need to strengthen links with NGOs and other conservation agencies. Planning is the important process by which the various parties can be involved and contribute to conservation and management of PAs in PNG.
 - (e) Recognition of the need to develop clear conservation management policies.
PA management plans are policy documents for managers at local or national levels.

6.1.2 Management planning in National Parks

There are no completed management plans for any of the existing National Parks. Four draft plans have been developed for the areas of Mt Wilhelm, Mt Gahavisuka, McAdams and Varirata National Parks.

Two design plans exist for sites within Port Moresby city: Paga Hill and Moitaka Fauna Sanctuary. They deal with proposed infrastructure development for picnic and lookout facilities and for tourism and zoo redevelopment.

6.1.3 Management planning in Fauna Protected Areas

Preparation of a management plan is not a statutory requirement for establishing a protected area under the Fauna Act and have been prepared for any of the

23 existing areas. The rules in place for 13 WMA, 2 Sanctuaries and 1 (Fauna) Protected Area serve as a simple form of management plan. They define policy, set the broad purposes for which the area is to be declared and managed and specify management devices to be used.

Rules are the legally enforceable controls. The range of devices used reflects the wide range of landowner concerns in managing their natural resources. There are also some devices which depart from being

strictly focused on fauna management to being concerned with broader principles.

6.2 Issues on management planning

The need for management planning

Preparation of a management plan is a pre-requisite for each protected area, as it provides the explicit statement of the area's values and its management purpose.

Except for Conservation Areas which have not been implemented, there is no legal requirement to prepare or ratify management plans for any of the types of PAs. There is similarly no statutory guidelines on the content and function of Management Plans.

Lack of planning capacity in DEC

There is a shortage of planning skills and resources for a systematic approach to meet the full range of DEC's responsibilities. Ad hoc and issue-oriented planning does not make the best use of limited resources available to achieve the conservation needs of the country.

Without clear objectives, management is likely to be poorly directed, inefficient and ineffective.

Management planning guidelines: process and plan format.

Management planning needs to be relevant and practicable. The planning process should be used to demonstrate that management of existing PAs will be brought onto a sounder footing, that genuine participation by all players will be encouraged and that support for rehabilitation will be available.

A standard management plan format and planning process should be used for each class of protected area. A review of international models of traditionally owned PAs needs to be completed and relevant ideas applied to the PNG context.

Participation in planning

Management planning should be used as the key process to bring together those involved in management or development of each existing PA. The process needs to encourage broad participation. Steering committees can be a useful mechanism to coordinate inputs and drive the planning process and could form the basis for the subsequent protected areas Management Committee.

An effective model for negotiation over land management is that recently introduced to the mining

industry in PNG - the mining forum, comprising national and provincial government representatives, members of the local landowning community and mining company representatives. Mining fora allow affected groups to present their views at all stages in the decision-making process; enable workable and, if necessary, compromise management strategies to be developed; and give future complainants a "board" to whom they can address concerns.

Setting up such a forum for conservation area establishment and management would not require legislative action, simply a change in normal practice. Decisions could be recorded as a Memorandum of Understanding, with copies held by all participating groups. This document would form the basis for the agreed management plan for the area.

In the case of landowner representatives, they would need to involve their entire communities in management discussions. This may require community meetings or other means of participation.

For many PNG village communities much decision making will be determined by the outcome of informal village "gossip" discussions. It is important to ensure that women are present at meetings and that their knowledge about land condition is shared and cooperation achieved.

Public and expert involvement in development and review of management plans is essential. They are public policy statements and there is a wealth of scientific and management expertise available in PNG and neighbouring countries. Some advice may need to be paid for, eg. resource or archaeological assessments, but in most cases comments from professionals or those active in public extension will be provided freely through a public participation programme.

Advisory committees can be a useful mechanism at local and national levels for involving a range of individuals with specialist interests in protected area management. Cooperation agreements with institutions or special interest groups, (eg. a scientific

research interest) should be encouraged to provide a variety of support for individual protected areas.

The DEC Strategic Plan has identified conservation agreements or covenants as possible ways to establish new protected areas. Management plans developed with the landowners should form the basis of legally-binding agreements. In some overseas models of joint management with traditional landowners, the conservation agreement is generally in the form of a lease. Lease conditions state that both parties agree to act according to the management plan. At present the procedures for establishing a WMA and the resulting rules are a first step in developing such agreements.

Management plans for existing PAs

A management plan is required for each area that is retained in the network to provide direction for subsequent rehabilitation work. Plans will determine how current management issues should be additional; what access, harvesting, visitor facilities etc are appropriate; what patrols, enforcement, research and management resources will be necessary. For some existing areas, the process will have to provide for the re-establishment of security, commitment and effective operations virtually from scratch; for others, the process will reaffirm existing rules and practices.

Important preliminary considerations in management planning for existing areas are:

- confirmation of values held;
- agreement on the areas' future purposes;
- confirmation of tenure, access and boundaries;
- possible extension of the area to form a larger conservation unit

Legal status of management plans

The statutory rules which can be established under the Fauna Act are useful elements for management planning for protected areas on customary land. Since management plans are not mentioned in the National Park Act, there is no clear legal basis for

Management plans and conservation agreements

enforcing rules which differ from the controls specified in the main part of the legislation.

Controls established in management plans must be capable of being effectively enforced; they must be legally based and realistically within the capabilities of the relevant authorities. To this extent, a change in legislation is required.

7.0 Protected area management operations

Once brought into operation through the planning and establishment processes, protected areas require continuing management attention. The nature and extent of this attention depend on objectives and the characteristics of the area, the way it is used and on the purposes it has to serve. Some remote or little used sites, designated for nature protection only, may need minimal care. Others will require greater attention, if under various kinds of threat or required to serve additional purposes such as education or recreation.

7.1 Existing Protected Area management operations

Management operations include site presence, enforcement, natural resource protection, recreational visitors, infrastructure.

Organising management through programming leads to efficiency and goal achievement. However, apart from a few sites which are given priority attention or have enthusiastic local Committees, there is very little ongoing management of the sites and it is carried out only as different matters become urgent and as the very limited resources allow. Strengthening of conservation area manager skills in organising operations is an essential part of the CASP.

The GoPNG through DEC, carries out management operations on National Park protected areas, but

provides virtually no management in Fauna protected areas. Responsibility for the continuing management in this case, rests with the Management Committee appointed to each area.

In Fauna protected areas, management activities are decided and acted upon within the framework of Other common, basic requirements for adequate management of protected areas include patrol and monitoring activities, regular meetings of a representative Management Committee and enforcement of the rules. These activities all require good organisation and some resources, particularly funds (eg. meeting costs) and field staff with adequate skills, equipment, transport and communications.

Management Committees are expected to meet at least every 6 months to review the success of the rules. A report is to be sent to DEC's head office through the Provincial Wildlife Officer. In many established areas, regular meetings and liaison with DEC have declined or broken down completely. Basic requirements are not being met at many WMAs and management by the landowners and local community has not been successful. Local people need to be full participants in the organisation of each protected area and to have responsibility for local management operations in order to develop effective protected areas which remain under customary ownership. This will require outside assistance, with training and probably funding.

7.2 Routine management operations in National Parks

Management operations in National Parks are constrained by the shortage of financial and staff resources allocated to the Conservation Division of DEC. There is scope for improving the situation, by employing and training people from local communities adjacent to the Parks and by re-organisation and redeployment of some existing staff. DEC employs six Provincial Rangers for National Park management in six Provinces - Central, Eastern Highlands, Oro, Morobe, East

customary and village processes. It is customary authority and decision-making which must handle management problems, especially offences against the rules. Fundamental to the successful implementation of WMA management is a strong and respected customary authority structure.

Sepik, East New Britain. These Rangers are responsible for management operations in one or more National Park areas. Main duties relate to visitor contact, local community liaison, overseeing Park work gangs, enforcement and investigation and reporting on issues. In reality, they are in a position where they have to try to tackle everything that arises, with little guidance or other support. They do a valuable job well, under difficult circumstances.

All existing National Parks have a range of major and minor operational problems which, in general, are too numerous, complex or large for the existing resources to address. In some cases, the Rangers, their equipment and facilities, are located in areas where the value of the National Park estate must be considered relatively minor. The allocation of funding and resources to the Rangers, the senior staff in the field, needs to be reviewed and amended. The Departmental Strategic Plan recommends that these positions be eliminated, but this would take out of the system a number of valuable staff who are making a significant contribution to conservation in PNG.

7.3 Routine management operations in Fauna Protected Areas

On-site presence in Wildlife Management Areas and other Fauna protected areas is provided locally.

There is a danger that persistent failure by management to address infringements will lead to a general and perhaps irretrievable breakdown of order at a site.

7.4.1 National Park infringements

Illegal activity is a major issue in many of the existing National Park protected areas, to the extent that, in some, the basic purpose of conserving natural resources is not being met. The problems relate to the lack of law and order in surrounding communities and vary in extent from place to place. National Park protected areas appear to suffer from a general disrespect for State property and regulations,

To some extent this arrangement appears to be suitable: the land owners and the local community involved are living close by and are in a good position to know what is going on in the district. However, in the majority of existing Fauna protected areas, proactive management does not exist. DEC staff or Provincial officers do not patrol or undertake site work in these Areas. As a result, local management is declining, primarily through lack of enthusiasm and support.

7.4 Enforcement

Protected area management is based on controlling human activities which are considered damaging or threatening to the resources of the area, or which are incompatible with other uses. To be effective, controls on access, resource uses and behaviour should be reasonable and simple. They should be made known and their rationale explained to users and potential users of the area, as part of education and information programmes.

In a number of existing National Park and Fauna protected areas, various controls are ignored. At some sites, notably where tenure or compensation is disputed, serious encroachments and infringements are occurring - illegal squatting, mining, logging, gardening, hunting, vegetation burning. Other issues of concern include non-compliance with limits on taking fauna and paying royalties.

with frequent but minor incidents of vandalism and hunting.

The National Park areas at Baiyer River and McAdams have problems with serious (eg hold-ups, rape) and minor crime (vandalism). Rascals are a problem at many National Parks.

McAdams National Park is under serious threat from mining activity and from a growing squatter population, against which legal action has been ineffective.

At Paga Hill there is a serious problem with squatters; some have been living there for 25 years.

Successful prosecution of offenders is a rare occurrence, despite considerable effort being made to enforce the law in some cases. Enforcement actions remain a continual drain on the resources and efforts of DEC.

7.4.2 Infringements of Wildlife Management Area rules

The WMA Management Committees are expected to uphold the rules in their Areas. A clan or village person or Committee member can take a person breaking a WMA rule to the village court. Serious cases are referred to Port Moresby for guidance and endorsement.

Landowners in a number of Areas have asked for help from DEC in enforcing the rules, especially as they apply to squatters. DEC's response may involve communications with other Departments and police, with visits to the area to check the facts, provide advice, verify site condition and boundaries. In a few cases, legal action has been taken.

In practice, police are often unaware of the rules and are not sure about prosecuting offenders. Similarly, many village court magistrates are not briefed. To remain innovative, to maintain a free flow of ideas and to regenerate local enthusiasm, research should be encouraged in WMAs. Researchers from UPNG, Unitech and outside universities could help generate local interest, broaden the basis of local

adequately on how to deal with such cases. Breaches of the gazetted rules appear to be a recurrent problem in many Areas. Part of the problem appears to be in exercising customary authority to enforce what are essentially non-customary rules.

7.5 Natural resource protection

Protection and compatible use of natural resources is the primary goal of protected area management. In PNG, a number of existing National Park and Fauna protected areas are degraded by a varied history of human disturbance - settlement, gardens, burning, mines, logging, dynamite fishing, feral animals and weeds. Many of these impacts are continuing at an unacceptable level, not able to be addressed by management. In some cases the integrity or overall value of the protected area has been substantially reduced by such damage.

Wild animal populations in particular, are being harvested at unsustainably high levels in a number of protected areas (WMAs). Rules for controlling hunting and fishing are often not based on good population survey data; may not be realistic; and the level of compliance is generally low. In the long-term, for some protected areas, considerably greater security of land tenure may be required to achieve adequate conservation.

7.6 Assessment of resources, uses and threats

Survey and monitoring of resources, uses, threats and impacts need to be carried out in PNG's protected areas, to provide the scientific basis for management decisions and actions. Monitoring is essential to understanding how well management is working. Surveys and monitoring are of particular importance in areas managed for multiple purposes, where the various influences of human activities are an integral, dynamic factor and where conflicts can arise between different activities and purposes. knowledge and help in incorporating traditional local knowledge into the management processes.

Recommended research topics could be circulated. Guidance and coordination could be provided by an

ad hoc Research or Scientific Advisory Group for protected areas management. An additional way to maintain outside involvement in management would be to establish a "studentship" for groups of senior students (Environmental Management, Geography or Biology) to visit protected areas and assist with workshops, management planning or training.

7.7 Education & information

Education about nature and the natural environment is an important purpose of protected areas and can play a major role in increasing the availability of environmental education.

The protected area network of a country or province is a valuable, permanent resource for educational study, experimentation, interpretation and demonstration. The potential benefits of such programmes to society as a whole and to protected areas themselves, are well documented.

Information about a site's natural features, history, resource uses, management objectives and activities, can enhance a site's value and peoples' interest in and attitudes to it. With one or two exceptions, the existing protected areas appear not to be used for educational or nature study visits.

7.8 Recreational visitor management

Many of the existing National Park protected areas were established for recreation and education of visitors as well as for protection of nature or wildlife. Similarly, the prospect of attracting paying visitors to Fauna protected areas is regarded as the main justification for many of the sites. Generally, visitors are not well provided for and are not numerous in either protected area category.

Facilities for visitors such as access roads, walking tracks, shelters, toilets, and particularly items like overnight accommodation and transport (roads, vehicles, jetties, boats) can be expensive to build, operate and maintain. Demands on staff resources for running facilities and programmes for visitors can be high. To provide an attractive service, high standards must be maintained.

A visitor programme can more easily be a costly rather than a profitable proposition.

Varirata National Park is PNG's most-visited protected area, yet even the visitor programme is probably not self-financing through collection of visitor fees.

In PNG, there are cases where visitors are provided with facilities outside the area or are taken to the area by a commercial operator, but the protected area management does not receive adequate or any compensation.

Problems to be overcome, if recreational visitors are to be attracted are:

- small total numbers of potential visitors in the country;
- rascals and unsafe travel to and in many protected areas;
- lack of focus on what potential visitors are seeking and may gain from a visit;
- lack of attractive facilities or services at sites;
- little publicity or promotion of protected areas as destinations;
- plenty of alternative, natural venues outside the protected areas network.

7.9 Infrastructure development and maintenance

At a number of existing protected areas, facilities for people to access and use the sites have been developed. Many such facilities in PNG's existing areas appear to be neglected and in disrepair. As built structures are usually the most obvious indications of protected area management, their neglect can reflect badly on all other aspects of management.

Good planning and design are essential prior to any development work in a protected area, to ensure that it is compatible with the management objectives for the area and is of an adequate standard. Infrastructure should not be developed unless adequate resources are available to maintain it in

good condition and appearance. For existing protected areas, the necessity, suitability, design and condition of any developed facilities should be confirmed through the management planning process.

8.0 Resources for Protected Area Management

A variety of resources are required to establish and manage protected areas including:

- the organisation and institutional arrangements for protected area management;
- the participation of people in protected areas and their development and training;
- funding for protected areas;
- information for management of protected areas.

8.1 Attitudes to conservation and development

The availability of resources for management is linked closely to attitudes towards protected areas - how they are regarded in local communities, by landowners, non-government sector, industry, scientists and teachers, government administrators and politicians. Changes in basic attitudes and policies towards protected areas are needed, if they are to make an effective contribution to the conservation of nature in the country.

Protected areas need to become more widely accepted and accessible as a means of using land and sea resources wisely. They need to be integrated with other forms of environmental protection and other patterns of natural resource use - subsistence agriculture, hunting and fishing; commercial agriculture and forestry. There needs to be fostered a much wider recognition that protected areas are a common good; that, at different scales, local communities and PNG society as a whole benefit from the existence of successful protected areas.

The long-term goal must be for nature conservation to become widely accepted and practised as wise use of natural resources and therefore complementary to wise development.

8.2 Participants and institutional arrangements

People are the key to protected areas management - as owners, as users of the resources, and as the area managers. Obviously, the ways in which different groups of people are involved in protected areas in PNG are crucial to their success.

8.2.1 Government

National Government, through the Department of Environment and Conservation (DEC) has responsibility for setting up and overseeing the country's protected areas system. The role of Government and its relationship with the people and particularly the land-owning community is of great relevance.

The Department of Environment & Conservation

DEC is the primary conservation management authority in Papua New Guinea, with a range of responsibilities for protected areas, both direct and in support of land-owners, Provincial Governments and other national Government agencies. At present, DEC does not have sufficient resources allocated to adequately run either the overall system or individual sites.

Staff positions appear to have inadequate operating funds attached: field staff lack basic facilities and funds for travel and communications. DEC's shortages in trained staff, in funds to support establishment of new protected areas or management of existing ones, and in administrative, technical and scientific support contribute to the neglected state of many parts of the protected areas system and the accumulated backlog of remedial actions required. There has been a lack of overview, no clear directional planning or encouragement of inter-divisional cooperation within DEC.

Despite these overloads, new National Park proposals are actively pursued by DEC staff; establishing a new protected area appears to be a valued indicator of the Department's performance. Local communities and NGOs need to be involved

more and Government must use its skilled resources selectively to do a better job of supporting and DEC's management and field staff should focus on providing technical, legal and scientific advice and other specialist support as well as general encouragement to local efforts.

Increases in staff and budgets for protected areas work are necessary. DEC and the role and resources of Provincial Governments need strengthening. Increased resources are required to complement external sources of support and enable the rehabilitation programme to be implemented.

A short-term 'capacity boost' is needed, in the form of a multi-skilled unit, organised to provide complementary assistance, primarily to DEC and Provincial Governments, but also to local communities, Management Committees and NGOs, to implement the recommendations arising from the Protected Areas Review.

Other Government Departments

In PNG, the main natural resources sectors of forestry, fisheries and agriculture are handled by separate national Government Departments. It appears that "environment and conservation" is treated as another sectoral interest against which to compete - both for land and for Departmental resources. DEC is seen as set up to "defend" the environment: Government as a whole appears not to accept conservation as "wise development".

PNG's protected areas involve resources being used to a greater or lesser extent. Many existing sites are for subsistence use by local communities; commercial activities occur in others. There are protected area development schemes, involving mainly tourism, recreation, agriculture and sustainable resource harvesting. In these ways, protected areas are for conservation in the broadest sense.

This is one indication why DEC and the main resource development-oriented Departments should cooperate and assist one another. They should

facilitating.

pursue a common agenda of ecologically-sustainable development. The main ways in which cooperation could be improved include sharing skills, resources and specialised knowledge.

Another reason for inter-Departmental cooperation is that DEC does not undertake all aspects of protected areas management. Lands, Justice and police have key roles in establishment and maintenance. Having assumed responsibility for managing protected areas and promoting its own role, Government has not met that responsibility fully: inter-Departmental arrangements and DEC resources and programmes have not been adequate to manage the sites or the system.

Development of a national Conservation Strategy for PNG could be a useful means of stimulating appropriate interaction and promoting conservation as wise development.

8.2.2 Local communities, landowners and non-Government organisations

A protected area is a significant local land use, which can affect neighbouring communities both positively and negatively. Examples of potential, local benefits include conserving water supply, taboo sites, soils and wildlife for hunting or fishing; opportunities for employment and income generation; and enjoyment of landscape and nature. Negative consequences of a local PA may include limits to access and loss of opportunities to use resources; disturbance by outside visitors including increased consumption of resources, pollution of water and air and social disruption; harbouring of weeds, feral animal and disease vectors; and being a source of wild-fire.

Given these complex interactions, it is essential that local landowners and neighbours of protected areas are full participants in all aspects of protected area establishment and management.

Effective participation of local communities and landholders in PNG's protected areas has been

limited. There is an expectation, which may be encouraged by officers' attitudes, that Government will provide the necessary resources and training. This support - encouragement, training, funds, advice - has not been forthcoming, so there is local disillusionment and loss of interest.

Encouragement and technical support is required to facilitate local, non-government initiatives to nominate, establish and manage protected areas. A new relationship between protected areas, local communities and Government needs to be fostered, one which is based on local communities and community groups being given responsibility for many aspects of protected area management and in which Government has a supporting and facilitating role.

The key to improved resource management, including protected areas, lies in enhancing the decision-making capability of land-owning groups. This has implications for developing the general education system in PNG; for increasing landowner awareness about legislative rights and environmental matters; and increasing availability of information to help them make rational choices and decisions.

The local community should have the primary role in managing protected areas which are of local significance. For sites of national significance, the national Government must retain responsibility for ensuring that standards of protection and management are met, but should still involve local communities and (prior) landowners as fully as possible in decision making and managing the areas.

Re-formation, reconstitution, training, technical guidance and encouragement of the Management Committees, as necessary for each protected area, will be an important strategy. While its structure and responsibilities are likely to vary between areas of local and national significance, all classes of protected area should have a committee to bring local and other interests together and to take a strong role in directing or guiding management. Attention to the Management Committee will be at an early stage of rehabilitation, linked to re-confirmation of

the values and purpose of each existing area and to subsequent management planning.

Protected area management committees

Existing protected areas under customary tenure are managed by the landowners and local community, through a Management Committee. DEC undertakes virtually no operations at the Fauna protected areas. Its input is limited to the selection and establishment phases and to responding to requests for specialist assistance. Some Committees provide only poor representation of local interests; regular meetings are not supported. With one or two exceptions, the Committees have not functioned effectively.

With some support and organisation, Management Committees will be an important mechanism for protected areas. For locally-run areas, they should represent the landowners and local community and would be the management authority; setting rules and controlling expenditure and revenues, staff and facilities.

Local communities appear not to be involved in management of the National Park protected areas, beyond negotiations regarding ownership, during establishment. A Committee or Board should be established under national authority for each National Park and other protected areas. These Committees must provide for representation of local community and land-owner interests, as well as other parties with an interest in the area's protection and development.

Non-Government Organisations

An important role is played in PNG society by an increasing number of community groups working on promotion and delivery of services and support, particularly in rural areas. With one or two exceptions, the priorities for these groups have been rural development, health, education, social justice and related issues, rather than nature conservation and protected areas.

Local NGOs could play a greater role and serve a useful function in rehabilitation and development of PNG's protected areas for nature conservation and sustainable resource use. NGOs have developed good capabilities in delivering ideas and services throughout the country. They support local initiatives and interests, and provide important bridges between people and Government administration. To participate effectively, NGOs would need to acquire additional skills and resources, largely through training and outside funding.

8.3 Training

Management of protected areas requires well-informed and efficient managers and field staff with a wide range of skills: management is constrained in some areas by lack of skills. Training and related forms of staff development have not been organised in recent years.

Additional training for existing and new staff at all levels is needed, to cover all aspects of protected area management, including the rehabilitation programme. Special teaching materials may need to be developed, for example, to introduce low-cost survey and monitoring programmes by local staff. Improved management, organisational and communications skills are also a priority. However, training should not solely be for DEC staff. A number of groups are involved in protected area management. These should also be encouraged and allowed to develop their skills and effectiveness through training.

Key among them are the local Management Committees, the proposed Community Rangers, field and managerial staff in DEC and in other resource management agencies, and NGO participants in the CASP.

Good, practical, in-service training, carried out regularly and catering for all, is considered likely to be more useful than paying for a few staff to attend an overseas study tour or conference. Special projects can also be a useful device for skill

development. Adequate attention to staff development in this way is crucial in a system that has the potential to grow rapidly, such as PNG's protected areas.

8.4 Protected area funding - budget planning

8.4.1 National Parks

Funds for National Park protected area management derive from national Government and are allocated to DEC. Budgets are earmarked to particular sections of DEC and to works undertaken at individual Parks.

Limited funding arouses competition between sections in the Department at a time when co-operative and complementary programmes which integrate wildlife, conservation, environmental and water resources protection are particularly important.

There appears to be insufficient funds and no security of future funding for the existing protected areas in PNG. Funds for capital developments or purchases are rarely available. Operating funds (staff travel, site maintenance, etc.) seem to be scarce perennially.

8.4.2 Wildlife Management Areas

WMAs do not receive Government funding apart from the costs of the wildlife officers' field operations. Many WMAs have associated schemes for deriving some income for the land-holding community and for the protected area by charging users for the use of resources. The most common scheme is to collect a royalty for the taking of an animal (fish, deer, crocodile, megapode eggs) from the area.

WMA management requires money primarily for local travel, meetings and some education and training, rather than capital works. Many of the WMAs cannot afford to run even a minimal programme of management, because of the costs.

A number of WMA Management Committees have organised trust accounts to receive and hold a proportion of incoming monies. Administration and enforcement procedures for fair and efficient collection of fees and royalties appear to need improving at several areas.

The majority of WMAs apparently do not have such arrangements and hold no funds for financing management.

Protected areas need to have a reliable and adequate funding base for management to be planned and carried out effectively. It would be beneficial to establish an annual grant of a minimum guaranteed amount for each gazetted protected area. The grant would vary between areas according to a predetermined scale and would be supplemented by local income generation. Income would be from use of the area's resources - by visitors, hunters, researchers, collection of specimens, etc., and from local community, institute and business sponsorship.

It is important that such a subsidy is available to locally-owned and run protected areas as well as to sites of national significance. The criteria would include conservation value, legal gazettal and some form of management plan and conservation agreement.

A budget should be attached to the management plan for each protected area, so that from gazettal, there would be agreement on an assured level of funding for a base level of management. The budget plan should project both income and expenditure.

For the many small protected areas which have no access to funds for development or to improve management and little or not potential for generating income, a national Trust Fund would be of particular value. The Fund could be initiated by a combination of Government and aid funding, with additional subscriptions by all protected areas. The Fund could make loans and grants against endorsed development plans.

8.5 Income generation from Protected Areas

One of the main incentives for landowners and local communities to establish a protected area, either by selling land to the State or managing it themselves, has been the prospect of gaining some income from the area. This prospect is important to landowners,

who otherwise consider establishment of a protected area as foregoing opportunities to use the resources of the area.

This prevalent attitude is of concern in situations where nature protection objectives conflict with economic objectives. Local commercial logging especially confronts protected areas and presents landowners with the choice of cash for timber, or the continued presence of the Area.

In a small number of cases, the local community gains a significant economic boost from its protected area. Tonda is perhaps the best example of an economically productive Wildlife Management Area, with commercialisation of hunting and fishing centred on the tourist lodge at Bensbach. This is the only public access point to the WMA; hunting services are provided and fees and royalties collected.

Government as well as landowners are interested in revenue from protected areas. DEC has attempted to offset costs of managing protected areas by various 'user pays' schemes. Income-generation schemes in place at existing National Parks or Fauna protected areas include charging outsiders to use sites, for recreation (facilities for visitor recreation are installed at a number of sites) and for hunting the wildlife. Such schemes have not been particularly successful.

Very little support has been available from government or non-government sources, for land-owners or management committees to plan, trial and introduce income-generation schemes.

There is a need to encourage landowners and local communities to see beyond the narrow potential of a protected area as a source of income, to appreciate the wider range of benefits of protected areas as well as the costs.

Ways in which income generation can be associated with protected areas need to be developed, proved and demonstrated as models for landowners, local communities, and for conservation planners and managers.

8.6 Management Information

Managers and their advisers need information on a range of subjects in order to run a protected area and a protected area system efficiently and effectively. There is little information available in any organised form, to guide protected areas management in PNG. Library resources need updating, file management needs to be more stringently controlled, record keeping in the field needs improvement. Use of more modern information management equipment (eg. computers, data bases, GIS) would facilitate action.

A Management Information System (MIS) to support protected areas management in PNG is a key element of the CASP. It would usefully serve the needs of all Government Departments and Provincial Government, NGOs, educational and science institutions, as well as the field managers and Management Committees.

The protected areas MIS should be integrated with other elements of information storage and retrieval used by DEC and other parts of Government. The MIS should be maintained and developed by DEC. The protected areas MIS should serve as a resource for the broader Education & Information Programme.

Government of Papua New Guinea
Conservation Areas Strengthening Project

Appendix 3

Protected Areas Review

Summary list of recommendations

**Protected Areas Review
Summary List of Recommendations**

In the Protected Area Review report, recommendations were made on actions to be taken to address the issues raised. All of the recommendations made are collated. For each recommendation an indication is given of the relevant Activities in the proposed CASP for 1993 - 1997.

PROTECTED AREAS CLASSIFICATION

Recommendation 5.1

Development of a policy paper to update conservation objectives for the PA system and provide a more straightforward system of designating and naming PA classes.

The system should provide for strict reservation of areas of land and sea, at one end of the spectrum, and multiple-use conservation areas, at the other end. It should also provide for appropriate designations for sites which are of local or provincial significance as well as for national significance. Existing PA legislation should be consolidated and rationalised and regulations amended according to the policy paper.

Recommendation 5.2

A policy paper needs to be prepared which explores and makes recommendations for tenure options for the range of PAs on land and water.

This could include straight purchase, lease agreements, Conservation Agreements, joint management

Recommendation 5.3

Liaison between Government Departments with resource protection capabilities, for joint assessment of areas for protection on a strategic level and to share resources and skills to fulfil management commitments.

Recommendation 5.4

Development of a well-publicised National Conservation Strategy with input from the public and NGOs would help raise national awareness of conservation.

SELECTION AND ESTABLISHMENT PROCESS

Recommendation 6.1

Confirmation of procedures and production of written guidelines for natural sites to be nominated by landowners, community groups, or Government agencies, and for the nominated sites to be assessed and selected as proposed protected areas.

Recommendation 6.2

Specification of clear objectives, criteria and procedures for selection of sites to an appropriate class of PA, to ensure conservation goals of the Protected Area system are met in PNG.

Recommendation 6.3

Confirmation of a strategy to identify a national system of biogeographically representative sites, and to protect these sites within National Parks or National Conservation Areas.

Recommendation 6.4

Training programmes for development of technical skills among DEC staff, landowners, community groups who become involved in planning and managing protected areas.

Recommendation 6.5

Development of working relationships between Government Departments, and with scientific institutions and NGOs to pool resources and skills.

MANAGEMENT PLANNING

Recommendation 7.1

Management planning should be built into the routine process of establishing every protected area and should be a requirement incorporated into government policy and legislation.

Recommendation 7.2

A planning process and draft management plans should be organised for new sites established during the 5 years PA Action Programme (CASP)

Recommendation 7.3

DEC staff need improved planning skills through training and employment of additional staff.

Recommendation 7.4

Standard management planning process and plan formats should be incorporated into government policy and legislation.

Recommendation 7.5

Develop a systematic, participatory approach to protected area management, to share information about the site, to discuss its perceived values, to address together concerns held for its future use and management, and to reach agreement on a set of explicit decisions. Landowners and other "stakeholders" should participate in the planning process from the beginning.

Recommendation 7.6

Public participation, Advisory committees, cooperation agreements and other mechanisms need to be developed to involve other interested members of the public and specialists in management planning.

Recommendation 7.7

Management Plans should be incorporated into any Agreement between landowners and conservation interests when establishing new parks.

Recommendation 7.8

Organisation of management planning for each existing protected area, to address the management issues identified for each site.

Recommendation 7.9

The controls established in the Management Plans must be capable of being effectively enforced; they must be legally based and realistically within the capabilities of the relevant authorities; the legal status of "management rules" under the National Park Act should be investigated and amendments made to the legislation, if necessary.

PROTECTED AREA MANAGEMENT OPERATIONS

Recommendation 8.1

Each protected area should receive a minimum level of effective management attention. Provision for the necessary inputs and resources for each area should be built into the establishment procedures.

Recommendation 8.2

A programme of on-site presence and patrols should be designed and implemented for each existing protected area.

The programme can be designed as part of the management planning process.

Recommendation 8.3

Genuine commitment must be given to the 'ownership' of protected areas management by local communities and landowners; local Management Committees must be strengthened; local needs must be ascertained and initiatives encouraged and supported; DEC staff redeployment should be designed to achieve the most effective organisation of field management.

Recommendation 8.4

A Management Operations Manual should be compiled, dealing with common management issues encountered, specifying the desirable types and levels of management actions for each class of protected area, and detailing standards to be applied in management and site development works.

Recommendation 8.5

Maintain a routine effort to explain and enforce rules at all protected areas in a consistent and sustained manner.

Recommendation 8.6

Plan and implement major exercises as required, to tackle serious infringements.

Recommendation 8.7

An education/awareness program should be developed to ensure that local police and local court magistrates have an understanding of management "rules".

Recommendation 8.8

Training programmes for landowners and Management Committee should include an understanding of the "rules" and enforcement techniques.

Recommendation 8.9

Amend legislation to provide for broader habitat and environment protection in all classes of protected areas

Recommendation 8.10

Design and facilitate resource protection and restoration actions specific to each existing protected area, during the management planning process.

Recommendation 8.11

Develop policy of requiring the proponent of any activity that is likely to affect a protected area to provide for the scientific assessments necessary to justify the reasonableness or otherwise of the proposal.

Recommendation 8.12

Incorporate a program of research and management in each PA's management plan. Undertake the recommended assessment surveys for individual protected areas.

Recommendation 8.13

Plan and organise a 5 year rolling programme for research relevant to protected area management.

Recommendation 8.14

Strengthen a unit of DEC to undertake resource assessments and train local people in data gathering and monitoring techniques.

Recommendation 8.15

Develop a policy for encouraging, supporting and deriving maximum benefit from scientific research on protected areas.

Recommendation 8.16

Establish a project to promote visits to protected areas, address constraints and introduce ways of increasing recreational visitor numbers.

Recommendation 8.17

Develop or improve visitor programmes at selected existing or new sites; to be considered as part of each protected area's management planning, in conjunction with income generating opportunities.

Recommendation 8.18

Design and initiate a series of conservation education and information programmes, with appropriate materials to be used in Parks and Conservation Areas, schools, public meetings, training courses.

Recommendation 8.19

Establish within DEC an extension/ advisory service responsible for responding to requests and proposals from local communities, land-owners and the public; provide training to staff and NGOs and involve NGOs in this advisory service; produce materials for use by the unit.

Recommendation 8.20

Introduce Policy on standards for unique PNG design, operation and maintenance of site infrastructure.

Recommendation 8.21

Include infrastructure design, operation and maintenance in the management planning process.

Recommendation 8.22

Subsequent to rehabilitation management planning, implement an infrastructure development programme at all existing protected areas to be retained in the system, to cover renovation, re-development or removal as required.

For new areas, include infrastructure development in the establishment planning process.

RESOURCES FOR PROTECTED AREAS MANAGEMENT

PARTICIPANTS AND INSTITUTIONAL ARRANGEMENTS

Recommendation 9.1

Establishment of a Protected Areas Management Assistance unit (PAMA), to provide assistance to DEC, other Government agencies, landowners, community groups, for a five-year period (1993 - 1997).

Recommendation 9.2

Extension of the current Protected Areas Review to study the present deployment of DEC staff to management of protected areas; preparation of a plan to optimise deployment to reflect the proposed 5-year Action Programme and the availability of complementary outside resources over this period.

Recommendation 9.3

Design and establishment of a Community Conservation Ranger service, for local community members to join, receive training, and be given responsibility for various aspects of managing a local site.

Recommendation 9.4

Establishment of an inter-Departmental committee to coordinate and develop complementary management between resource management Departments

Recommendation 9.5

A study, as part of the staffing review, of where and how staff and other resources can be shared between Government Departments, to serve each Department's goals.

Recommendation 9.6

Creation of a Protected Areas Advisory Group, of specialists interested in various aspects of protected area management (scientists, managers, lawyers, Government and non-Government; to provide DEC and other partners in PNG's protected areas with analysis and advice.

Recommendation 9.7

Initiate a consultative and educational process to develop a multi-sectoral Conservation Strategy for Papua New Guinea.

Recommendation 9.8

Design and implementation of a local Management Committee support programme, to organise re-formation as necessary, provide training and on-going support.

Recommendation 9.9

Design and implementation of an NGO involvement programme, to provide training and arrange for participating NGOs to take on aspects of protected area management.

Recommendation 9.10

Development of policy guidelines for the provision of a suitable level and quality of staff support to each protected area and each part of the general PA management system; the guidelines should be based on a modular or project management approach.

TRAINING

Recommendation 9.11

Analysis of present skills, education and training needs of people engaged in protected areas management;

Recommendation 9.12

Design and implementation of protected area management training programmes, for local Committee members, Community Rangers, DEC field and managerial staff, NGO members.

PROTECTED AREA FUNDING

Recommendation 9.13

Budget planning for each protected area, as part of the management planning process.

Recommendation 9.14

Planning a realistic annual budget subsidy for GoPNG funding for each protected area.

Recommendation 9.15

Creation of a Trust Fund to support establishment and development of protected areas.

Recommendation 9.16

Analysis of existing schemes that incorporate or are associated with income generation or cost-cutting for protected areas.

Recommendation 9.17

Feasibility study, design, testing, development and demonstration of viable income-generating schemes for protected areas.

Management Information

Recommendation 9.18

Design and development of a protected areas Management Information System.

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Conservation Areas Strengthening Project

Appendix 4

Papua New Guinea: Diversity and conservation opportunity

Papua New Guinea: Diversity and conservation opportunity

Papua New Guinea has a number of special characteristics which must be taken into account when considering nature conservation. These include its physical geography, natural resources, its people, their lives and culture.

Geography

The island of New Guinea is the largest and highest tropical island in the world. Papua New Guinea (PNG) comprises the eastern half of the island (85% of the PNG's land area), the Bismarck and Louisiade Archipelagos, the island of Bougainville and numerous smaller islands, just south of the Equator. The total land area is 462,840 km², and the country's marine area (Exclusive Economic Zone) extends over 3 million km².

PNG's dramatic geography includes a central spine of a high mountain range with peaks over 4 000 metres high; two of the world's largest rivers in terms of annual water flow; extensive and diverse coastal mangroves; expanses of annually-flooded grasslands in the west; central Highland valleys; volcanic and mountainous offshore islands; and striking coral reefs and cays in the Bismarck Sea and Milne Bay area.

The landforms make transportation by land, air or sea difficult and to some extent, unreliable and dangerous. A high proportion of Papua New Guineans have an isolated existence living in remote and small communities.

Resource use, traditional lifestyles and conservation

PNG's natural resources are rich and relatively undeveloped. The land has been occupied, with hunting, harvesting, burning and forest clearing for gardening, for many thousands of years. Throughout

this time, people have been dependent upon the natural vegetation and wildlife, crops and domesticated animals, for food, building and a wide variety of other uses. This dependence continues today for the majority of Papua New Guineans. It gives rise to close relationships between the people (living by subsistence agriculture in small villages) and their natural environment.

Diversity of human cultures

The high biological and geographic diversity is matched by incredible cultural diversity, indicated by the estimated 700 plus spoken languages. Four regional groupings reflect cultural and historical links: Papuans, Highlanders, New Guineans and Islanders. The high cultural diversity is reflected in varying social structures, customs and stunning artefacts and crafts.

Population and settlement distribution

The total human population is 3.8 million and overall density is relatively low. Some major parts of the country are sparsely-settled. The isolation and many languages make communication tenuous. In recent years, provincial towns and the national capital have grown rapidly, as large numbers of people leave the villages and the traditional lifestyle.

Land and sea tenure

Most of the land and coastal seas of PNG are under customary ownership, where use of different areas and resources is controlled by individual land-holders and through kinship groups. A review of environmental protection and resource legislation by Fingleton (1992) concludes that customary landowners have the necessary authority to exercise many controls to prevent land, water and resource degradation. The ethnographic record indicates that

custom tenure systems in Papua New Guinea are diverse, flexible and dynamic and capable of regulating many kinds of subsistence and commercial activities associated with fishing, hunting and gathering. They are not broken down traditions but living customs related to basic resource management tasks.

Land and sea tenure and access to resources are vested in kinship groups; use rights are inherited from a common ancestor. Land and sea tenure provides people with more than subsistence: it gives them their identity and constitutes the basis of their social relationships. Conservation strategies, marine and terrestrial and their legislative bases need to recognise customary land and marine tenure and provide for ecologically sustainable levels and types of resource use.

Thus the key to improved resource management lies in enhancing the decision-making capability of the landowning groups.

This has implications for improving the general education system in PNG; increasing landowner awareness about legislative rights and environmental matters; and increasing availability of information.

Lack of law and order

The lawlessness that prevails in many areas of Papua New Guinea has serious consequences for virtually all aspects of life, with periodic, serious disruption of activities in many villages and rural areas as well as towns. Conservation or protected areas management is often difficult to implement under the current social conditions. In protected areas such as Baiyer River, Gahavisuka, Mt. Wilhelm, Wom and those in the Madang and Owen Stanley areas, management has been ignored in the face of local law and order problems. The physical safety of rangers and managers in these areas has resulted in an unwillingness to place themselves at risk by walking far from their vehicles in isolated areas, at times of local unrest. Though there is otherwise good potential for a major nature-based tourism industry

in PNG, this will not be realised until law and order are clearly restored.

Biodiversity and its use

The term biodiversity represents more than just the sum of species numbers; it encompasses the variety, variability and uniqueness of genes, species and the ecosystems where they occur. With its wide range of natural habitats, rich plant and animal resources and high numbers of island and montane endemics, Papua New Guinea is recognised as a centre of biodiversity, perhaps supporting as much as 5% of total world biodiversity.

Papua New Guinea's biological resources are economically important. Dipterocarps, myrtles, mahoganies, ebonies and Agathis are valuable commercial timbers. Several plant species of global and national importance are indigenous to Papua New Guinea, including sago and some rattans.

Many species of plants and animals are utilised on a daily basis: either harvested from the wild or cultivated in swidden gardens. Agriculture and to a lesser extent hunting and fisheries, are the mainstay of the nation's subsistence economy.

Numerous wild plants and animals are harvested for domestic or commercial consumption for food, handicrafts, medicines, rituals, fuel and building materials. Increasingly, wildlife utilisation is seen as an income earner, from activities such as crocodile farming, cassowary rearing and butterfly farming.

Most of Papua New Guinea's 3.9 million people depend on subsistence agriculture and utilisation of biological resources for their livelihoods. It is the poorest rural people who suffer first and most when natural habitats are destroyed, degraded or otherwise impoverished. Other sectors of the nation's economy are also dependent, directly or indirectly, on the diversity of natural ecosystems and the environmental functions they protect. Conservation of biodiversity is crucial to the sustainability of sectors as diverse as agriculture, forestry, fisheries, health care, science, industry and tourism.

Biogeography

Papua New Guinea, together with the rest of New Guinea (Irian Jaya), is recognised as having a distinct flora and fauna with predominantly Indo-Malayan affinities but also showing strong Australian affinities due to Pleistocene land connections. The savannas of the south-east coast and the Fly Platform, however, differ in many respects from the rest of the island and occupy a transition zone with strong Papuan and Australian affinities. Papua New Guinea spans three major biogeographical regions: New Guinea, Bismarck Archipelago and Solomon Islands each with a characteristic complement of plants and animals (Dahl, 1980). These regions can be further divided into as many as 30 biogeographic districts which take into account the restricted ranges of many local and endemic species (Beehler et al. 1992).

Species Richness and Endemism

New Guinea is the largest tropical island and the highest island in the world. It is geologically young and its complex geology is reflected in the diversity of its flora and fauna, represented in a wide range of habitats from sea level to alpine peaks over 4,000 m: coral reefs, coastal mangroves, wetlands, lowland alluvial forests, hill forests, montane and alpine vegetation. Because of its large size New Guinea has many of the attributes of a small continent, including centres of endemism on mountains, in isolated lowland valleys and on offshore islands, each with its own complement of unique species. New Guinea's importance for biodiversity is a product of the island's species richness and the high levels of endemism. Some 6,789 endemic species of plants and animals have so far been described for New Guinea, many with very localised distributions (IUCN, 1989).

New Guinea's rich flora and fauna have been derived from both the Asian and Australasian regions. The flora is essentially Malesian but there are far less dipterocarp trees than are found in western Malesia.

New Guinea has 1,465 plant genera, of which 84 are endemic.

The total number of vascular plants is not known but is estimated at between 15,000 - 20,000 species, including 2,000 ferns and more than 2,000 species of orchids. Probably 60% of the plant species are endemic to New Guinea (Johns, 1992). The lowland rainforests are the most species rich with more than 1,200 species of trees including economically important species such as mahoganies, dipterocarps, laurels and myrtles. Floristic diversity declines with altitude but species endemism increases. The higher mountain peaks such as the Finisterres and Mts Wilhelm, Giluwe, Amungwiwa, Victoria and Albert Edward, are particularly rich in endemics.

Most of the very rich New Guinea fauna is Indo-Malayan in origin, the principal exception being the savanna fauna which has close Australian affinities, especially the insects and birds.

Most of the invertebrate fauna, however, derives from the Indo-Malayan region whereas the vertebrate fauna, which comprises less than 1% of the total New Guinea fauna, shows strong Australian affinities. New Guinea has more than 220 mammals, 124 of them endemic, including two of the three monotremes, all of the world's tree kangaroos and many other native marsupials. New Guinea and its offshore islands have a rich and varied bird fauna with about 740 species (644 recorded from Papua New Guinea), 10% of them endemic (Beehler et al., 1992). The Papua New Guinea herpetofauna with 505 species, is large and diverse, comprising about 5% of the world's total with many endemics. It includes at least 98 species of snakes, 195 lizards (59 endemic), 13 turtles and two crocodiles as well as 197 species of frogs (115 endemic). Of the 282 species of freshwater fishes known from PNG, 179 are purely freshwater species. About 150 of these species are endemic to New Guinea (Allison, 1992). The New Guinea insect fauna is also very rich with high levels of endemism: 80% of the known species of butterflies are endemic. As with plants, species richness for many animal groups is generally higher

in the lowland habitats but endemism increases with altitude.

New Guinea's coastline and coastal waters are important habitats for marine life and one of the world's richest areas for marine biota. This richness is due to the mixing of two marine faunas, the Indonesian and Australasian-Pacific. Papua New Guinea's coral reefs are virtually pristine and the reef fisheries are among the richest in the world. Unfortunately they are under increasing threat from higher siltation and effluent in coastal waters and damage from dynamite fishing. New Guinea has

some of the most extensive mangroves in the Asia-Pacific region and the most species-rich mangroves in the world. Extensive mangrove swamps (160,000 - 200,000 ha) occur on the south coast along the Gulf of Papua. These mangrove areas are important spawning and nursery grounds for prawns and many marine fishes. Six of the seven species of marine turtles forage in coastal waters around Papua New Guinea and five species are known to nest here. Surrounding and within these areas is important habitat for dugong.

Threats to Biodiversity

Papua New Guinea is exceptional among the countries of the region in that 77% of the land is still covered in natural forest. These forests are now coming under increasing pressure from shifting cultivation (highlands, coastal areas), logging (lowland forests and mangroves), fuel-wood collection (highlands, densely populated lowlands) and conversion to plantations (lowlands).

Approximately 20% of the total land area of Papua New Guinea is currently used for agriculture with 10% (46,000 sq. km) under intensive cultivation (IUCN,1989).

Only about 5,000 sq. km or 1% is suitable for agriculture with no limitations; this consists of alluvial and volcanic ash-covered plains in parts of Madang, Central Province, Milne Bay provinces and along the north coast of New Britain. Land of moderate agricultural potential and/or suitable for grazing includes many coastal areas highlands, Markham and Ramu valleys, the Sepik lowlands and much of Western Province and accounts for another 28%. Much of the remaining 71% is mountainous or swampy and considered unsuitable for large-scale agricultural development although in many areas it supports subsistence shifting agriculture. An estimated 22 000 ha of forest are cleared annually for shifting cultivation (FAO, 1987). Some highland forests threatened by shifting cultivation are areas of high biodiversity.

The most significant natural resource problems facing Papua New Guinea are forest depletion through agriculture and commercial logging, soil loss and reduced soil fertility in the mid-montane valleys, degradation from large-scale mining and agricultural activities and exploitation of coral reef fisheries. Forests are being logged at an estimated rate of 70 000 ha per year (FAO, 1987) mostly for commercial logging, including clear felling.

A large proportion of all lowland forests are currently within logging concessions and this proportion is likely to increase in the near future if

new timber rights purchases (TRPs) go into production. Following logging, sizeable areas of land are acquired for rubber, coffee, oil palm and timber plantations.

Such monocultures support very little biodiversity and often require high inputs of agro-chemicals which can contribute to environmental pollution. Papua New Guinea is relatively free from industrial pollution except in coastal areas where much of the industry is sited. Mining activities, however, can contribute significantly to water and other environmental pollution, especially when the by-products of processing are discharged directly into waterways.

The impact of the Ok Tedi mining activities on water quality and river communities along the Fly River system, far from the mining site, have only recently been appreciated. Apart from its detrimental effects for human communities, pollution also reduces biodiversity, often impacting most on species which have restricted ranges or are endemic. Coastal and marine habitats and wetlands are particularly vulnerable to development activities far removed from their boundaries.

Economic growth dependent on extensive exploitation of natural resources, an increasing human population and increasing expectations are placing ever greater pressures on Papua New Guinea's natural habitats. Individual species, especially the larger mammals and some birds are also threatened by over-hunting.

Species which are particularly threatened are those which are slow-moving and have restricted ranges; some marsupials have been hunted to extinction in densely populated localities. Species now recognised as seriously threatened include 12 species of bird and 8 mammal species. Several of these remain important elements in local economies.

While many of Papua New Guinea's biological resources are under threat from exploitation, the very extensive remaining areas of natural habitats, low population densities, a traditional conservation ethic

and government commitment to conservation are all positive factors for conservation of biological diversity.

Conservation

The Government of Papua New Guinea (NEC) has made a commitment to protect 20% of the total land area for conservation. This is an ambitious target. The present protected area network covers only 2% of the country (9 869 sq. km) consisting of four national parks, four provincial parks , 24 wildlife management areas (WMA) and wildlife sanctuaries and nine sites in other categories.

The existing protected area network has developed on an ad hoc basis, often where local communities have wished to protect their resource use in a WMA. Apart from the Maza WMA (184,200 ha) and Tonda MA (590,000 ha RAMSAR site) most of the existing conservation areas are very small by international standards (less than 5,000 ha). As such, they are unlikely to conserve their present flora and fauna in the medium to long-term, especially if surrounding lands are cleared of forest and there are no opportunities for species migration.

The Conservation Areas Rehabilitation/Review Project (CARP) executed by World Wide Fund for Nature (WWF) in co-operation with DEC has assessed the extent and current protection and management levels of existing protected areas.

The CARP 1992 report recommended extending and strengthening the current protected area network as well as strengthening DEC's capability to plan and manage the existing and an expanded system. This project document is a direct result and the logical extension of the CARP and seeks to implement the recommendations.

The present network is in no way representative of all of PNG's diverse habitats, flora and fauna and the many, usually small areas, often do not overlap with areas of high biodiversity. Adequate protection of PNG's biological resources will require development of a national system plan which represents all major

habitats and ecological communities in each biogeographic region of the country. Equally important are the spatial relationships of conservation areas to one another and the degree of disturbance of habitats in between. Even protecting 10% of certain habitat types may be inadequate to maintain all the constituent species in the long-term. If these habitats are isolated from similar ecosystems so that there can be little or no migration of species, genetic viability is threatened.

Island biogeographic theory shows that small islands (reserves) support fewer species than do larger areas of similar habitats. Distant islands (reserves) support fewer species than those close to the mainland (remaining forest areas or other reserves). A tenfold increase in reserve size results in a doubling of the species that can be supported in equilibrium. The smaller the reserve, the greater the need for manipulative management to retain species. Generally the larger the area the better is the potential to preserve biodiversity. In some cases, however, a system of smaller reserves or conservation areas may support as many or more species as one large reserve, especially if the smaller system covers a wider range of habitat types; this model may fit well with PNG land tenure and multiple use of forests. There is considerable literature on system planning for conservation areas (MacKinnon and MacKinnon, 1986) to guide PNG's actions.

The first steps in planning a comprehensive conservation system for Papua New Guinea have already been taken. The Conservation Needs Assessment Project (CNA) identified areas of high biodiversity for flora, different faunal groups, wetlands and coastal and marine areas. From these data it was possible to identify and map areas of high biodiversity. At least 30 such areas have been identified on mainland New Guinea and the offshore islands. The next step is to identify appropriate conservation sites within the high biodiversity areas based on biological, socioeconomic and other opportunity factors.

In designing protected area systems a useful strategy is to include at least one large protected area within each biogeographic division and supplement this with medium and small reserves to give more complete habitat and species coverage (MacKinnon et al. 1986). Beehler et al. (1992) have identified 30 distinct biogeographic districts for Papua New Guinea. Opportunities for establishment of conservation areas will vary between districts depending on other landuse options and government priorities. Thus a priority for conservation should be the establishment of one or more large conservation areas (several hundred thousand hectares) within each biogeographic region.

These reserves should be selected to include centres of biodiversity and endemism and a continuum of several habitat types, including, whenever possible, the richest example of these habitats. It is particularly important to identify and secure sizeable tracts of lowland rainforests, the most threatened of all New Guinea habitats.

Medium sized conservation areas (50,000 to 100,000 ha) should be established to augment these larger conservation areas to protect additional habitat types, a greater area of a particular threatened habitat e.g. lowland rainforest and sites of known species richness or endemism.

50,000 ha is usually considered a minimum size for maintaining viable populations of rainforest species and the CNA review (Beehler et al, 1992) has suggested reserves of minimum size of 80,000 ha to conserve viable populations of rare and wide-ranging species e.g. larger mammals and birds.

Some small reserves may also be included in the national conservation system to protect sites of special archaeological, cultural, spiritual, biological or recreational interest, such as caves, cultural and sacred sites, turtle nesting beaches and wildlife management areas which protect harvestable resources. Whenever possible smaller reserves should be linked by corridors of little-disturbed natural habitats to increase the overall effective area of conservation.

Special attention needs to be paid to wetlands and coastal and marine habitats. Such habitats are particularly vulnerable to environmental impacts caused by landuse changes outside their immediate boundaries. Moreover, since many marine and wetland areas often sustain high human use, it may be difficult to give them strict protection status. It is often more appropriate to manage such areas for conservation and sustainable utilisation as part of an integrated regional landuse programme, zoning areas according to management objectives and involving local communities as participants in the management process. Within this broader land use strategy, conservation areas could be established (a zone) as one of the land use categories. The viability of such a zone or conservation area would be reliant on surrounding buffering zones.

Given the special circumstances of PNG customary land tenure it may also be unrealistic to gazette very large areas of terrestrial habitats as strictly protected conservation areas.

A solution may be a system of smaller but linked reserves within a multiple use conservation area with zoning according to management objectives. The planning and management approach applied to the Great Barrier Reef may have particular relevance to PNG.

Persuading landowners to agree to conservation and protection measures, rather than opt for economic gains from unsustainable exploitation, will require innovative measures such as the linkage of conservation and development. Local communities, landowners and other non-governmental groups will have a crucial role to play, working in partnership, to establish conservation areas (appropriately buffered). Equally, their involvement in the design and implementation of appropriate management systems will be essential.

The GEF, ICAD-approach will form part of GoPNG's overall conservation and management strategy. Existing national parks, reserves and wildlife management areas all contribute to the national network and will be retained and expanded.

Tonda WMA, for instance, would represent the largest reserve in the Trans Fly biogeographic region. The conservation value of this large area is further enhanced because it abuts the 460,000 Wasur N.P. in Irian Jaya. The two together form an important transfrontier reserve protecting savanna and wetland habitats.

It is important to recognise that while conservation areas may be established primarily for conservation of biodiversity they can also contribute to regional development in many other ways:

- protecting watersheds and water supplies, stabilising water run-off, protecting soils;
- contributing to climatic stability through maintenance of natural vegetation cover;
- conserving renewable, harvestable resources, preserving genetic resources; and
- providing opportunities for research, education, recreation, tourism and associated employment opportunities (MacKinnon et al, 1986).

The economic benefits of conserving biological resources needs to be assessed, not just in terms of revenue derived directly from harvesting and other forms of exploitation, but also with respect to their replacement value. The costs of restoring degraded habitats and restoring biological resources to former productivity or finding and implementing technological solutions to replace their environmental roles can far exceed any economic gains derived from their exploitation (Salm and Clark, 1984; McNeely, 1988).

Tourism in PNG has considerable potential for diversifying local community employment, yet it is poorly developed. It is likely that an ecotourism and cultural tourism industry could be readily established in PNG. Whilst consideration of this potential is beyond the scope of this project, it is salient to emphasise and consider that ecotourism relies on the existence of conservation areas. Without such areas as foci for ecotourist action, an industry cannot exist. In addition employment of local community members in guiding activities in conservation areas would bring a direct source of funding, illustrating

that conservation can have immediate and positive economic benefits to local communities.

Species Issues

As a general rule, protection of habitat will be the major activity for protecting component species of those habitats. Special attention may need to be paid, however, to protection of species with limited distributions and also to those threatened by over exploitation through wildlife utilisation.

Additional protection measures such as regulation of hunting, control of harvest, special conservation initiatives, may be required. The GoPNG, through the Department of Environment and Conservation, is in the process of upgrading its research and biological inventory of the status and distribution of restricted, threatened and heavily utilised species of plants and animals. Species action plans need to be prepared for such species or for selected groups (e.g. marsupials and monotremes, birdwing butterflies, crocodiles, birds of paradise) or for other species which are utilised on a commercial basis. Such action plans must emphasise the need for in situ conservation as well as monitoring of utilised wildlife populations and to collect accurate data on levels of harvesting to ensure that harvesting is sustainable. Often such specific species research and management will be required on WMAs.

Ex situ conservation measures are also needed, particularly where captive breeding will supply the wildlife and horticultural trade and reduce harvesting levels on wild populations. For some species, specific conservation initiatives may be required. The Queen Alexandra birdwing project links conservation of birdwings with an oil palm plantation development. Regulation of the harvesting and utilisation of plant and animal species will also require total protection for certain endangered species.

Thus in species management, three levels of action are required:

- in situ, in conservation area management
- in situ, external to a conservation area

ex situ, in farms or horticultural initiatives.

DEC must have the capability to monitor, regulate, manage and advise in all of these situations. An effective field ranger force will be required to not only respond to requests for advice but also to implement positive species conservation programmes.

Sustainable utilisation

PNG biodiversity conservation will require, not only an effective protected area system but also the establishment and management of an integrated conservation area system. This will contribute to in-situ conservation outside the protected area network in forests, wetlands, coastal and marine habitats and agricultural landscapes. Increasingly conservation of biodiversity will depend on sustainable utilisation of biological resources with exploitation that minimises environmental damage.

Sustainable utilisation includes:

- regulated and sustainable exploitation of fisheries and timber and sustainable harvesting of non-timber forest products.

- promotion of non-consumptive and ecologically benign uses of ecosystems: research, education, recreation, tourism.

- regulation of harvesting of trade in flora and fauna to maintain sustainable harvesting levels

- cultivation, propagation and captive breeding of commercially valuable species e.g. rattan plantations, orchid culture and crocodile and butterfly farming

- environmental plans to determine and to provide recommendations to minimise the detrimental effects of development and maintain, as far as possible, the ecological and environmental functions of natural ecosystems.

- conservation education and extension programmes, aimed at a range of target audiences from schoolchildren to landowners and national planners emphasise the benefits of conservation and sustainable

utilisation of natural resources and the real costs of exploitation.

Papua New Guinea must develop a National Conservation Strategy that incorporates all of these elements - protection and maintenance of ecosystems, conservation of biodiversity, a network of conservation areas, sustainable utilisation and conservation education and awareness.

The CASP is at the exemplifying edge of nature conservation and represents the minimum that needs to be done to protect PNG's valued resources. A complete, representative and well managed conservation area system will be the yardstick whereby other conservation initiatives will be assessed.

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Government of Papua New Guinea
Conservation Areas Strengthening Project

Appendix 5

World Wide Fund For Nature

World Wide Fund for Nature (WWF)

WWF World Wide Fund for Nature is the world's largest private international nature conservation organisation. Since its founding in 1961, WWF has worked in 140 countries to implement more than 3,000 projects aimed at stopping and eventually reversing the accelerating degradation of our planet's natural environment.

In response to the growing conservation needs of the South Pacific and the importance of the region's biological diversity, WWF International established a South Pacific Conservation Program in 1990. The Program draws upon the resources and experience of WWF's 28 National Organisations, with WWF Australia, United States, United Kingdom, New Zealand and Japan playing substantial roles.

WWF's mission is to achieve conservation of nature and ecological processes by:

- preserving genetic, species and ecosystem diversity;
- ensuring that the use of renewable natural resources is sustainable, for the benefit of all life on earth;
- promoting actions to reduce pollution and the wasteful exploitation and consumption of resources.

WWF APPROACHES IN THE SOUTH PACIFIC

THE CONSERVATION OF BIOLOGICAL DIVERSITY

Protection and wise use of the South Pacific's rich land and marine biological resources are vital to the continued health, wealth and happiness of South Pacific Islanders. Many South Pacific communities retain and rely on their traditional links with their natural surroundings and to resources which are often scarce or vulnerable. WWF's approach to the conservation of biological diversity in the South Pacific includes assistance with the identification, protection and management of biological resources.

In Papua New Guinea, a 'Conservation Needs Assessment' has compiled information in the known conservation values of PNG's environments. A joint WWF and PNG Department of Environment &

Conservation review of the country's protected area system has been completed recently and will strengthen the role that a protected area system, specifically adapted to the needs of PNG, can play in the conservation of biodiversity and in resource management by local communities and landowners. WWF has provided assistance also with the management of Ngerukewid Islands Nature Reserve in Palau, and with the conservation management of the endemic Fijian Crested Iguana.

COMMUNITY RESOURCE CONSERVATION

Most South Pacific nations recognise the customary tenure and access to natural resources by local people. The natural environment provides food and materials for their subsistence and well being. As the owners of land and its living resources, local communities are the key to achieving conservation and the sustainable use of renewable natural resources.

WWF is working with local communities and community groups in Solomon Islands and Papua New Guinea to help villages assess and manage their living natural resources. Traditional knowledge of plants and animals, and the management of their use is combined with modern scientific information to produce and implement sound guidelines for future use and conservation. The projects aim to assist local communities conserve their natural resources on which their health and well being depend and to identify and develop uses of their natural resources that are ecologically sustainable and socially beneficial.

INFORMATION TO SUPPORT THE SUSTAINABLE USE OF NATURAL RESOURCES

In the South Pacific there is a great need for rural communities to be able to access good, technical information on how to make use of available natural resources so as to bring cash and other benefits to the community, at the same time as maintaining the ecological and social values of those resources. Although there is a substantial body of resource management information relevant to the South

Pacific, very little is in an appropriate form or accessible to rural communities.

WWF is piloting an initiative that will organise sustainable development information for the care and wise use of forests, fresh water, coastal land and marine resources, and for the management of activities such as village tourism, waste management, sustainable gardening, smallscale logging, cash crop production and the harvest of marine animals.

SUPPORT FOR CONSERVATION PARTNERS

WWF works with non-government organisations (NGO's) and government and international agencies as partners in conservation work and to help increase the capacity and effectiveness of local institutions.

The WWF South Pacific Conservation Program is currently working with a range of NGOs and government agencies. The Program's work in Papua New Guinea involves initiatives with the National Association of Non-government Organisations and the Department of Environment and Conservation. WWF and FSP are working together on projects at the interface between conservation and development. Similar local NGO partnerships are sought for the majority of projects in the region.

The role of NGOs is very important in Pacific Island countries. WWF maintains an NGO Small Grants Scheme to support the work of indigenous NGOs, with assistance with training, information, education, organisational development and equipment.

WWF attaches importance to its relations with SPREP, the South Pacific Regional Environment Program. SPREP has a key role as the amalgamated environment program of the Governments of the Pacific Islands and their neighbours, Australia, New Zealand, the United States of America and France. WWF is able to assist in a variety of ways, with programme and project design and implementation.

WWF has also provided technical assistance to the United Nations Development Program, Global Environmental Facility Projects in the region.

EDUCATION AND TRAINING

Creating awareness of the threats to nature and the positive role that conservation of natural resources can play in economic and social development has been central to WWF's work over 30 years. This experience is available to assist Pacific Island governments and NGOs to develop local conservation educational activities and materials.

Supporting local and regional training is one of the most effective ways of improving and extending conservation efforts. In the South Pacific, opportunities for training in conservation related fields is limited. The WWF South Pacific Program has established a Pacific Conservation Fellowship Scheme to fund conservation training for Pacific Islanders. This has supported electronic mail training for NGOs, wood carving and marketing training, a herbarium study tour, international conservation experience for local NGOs and forestry studentships.

INTERNATIONAL CONSERVATION SUPPORT FOR THE SOUTH PACIFIC

Conservation in the South Pacific is partly dependent on the actions of nations outside the region. International conventions on climate change and the conservation of biological diversity are most important to the future of the region and the individual Pacific Island countries. Through its National Organisations and its international Programs, WWF supports conservation initiatives of importance to the South Pacific. The South Pacific Program works to build support for conservation in the South Pacific by its neighbours, including Australia, New Zealand, Japan and the United States of America.

WWF's international policy work urges governments to address the climate change challenge, the rising loss of the earth's biological diversity and to follow

up with effective action from the United Nations
Conference on Environment and Development.

**WWF SOUTH PACIFIC PROGRAM
CURRENT AND COMPLETED PROJECTS**

SPREP Conservation Educational Materials Handbook on Reptiles and Frogs of the South Pacific
PacTok Training Workshop
Information for Community Conservation and Development
Community Resource Conservation Programme - Solomon Islands
World Bilong Iumi Seminar - Solomon Islands
Yadua Taba Management Plan - Fiji
Plant Conservation of Islands - Fiji
Pilot Ecological Survey and Resource Conservation Review - Western Samoa
Management of Ngerukewid Islands Nature Reserve - Palau
Crocodile Survey - Palau
Program Support for FSP Environmental Planner - Tonga
FSP Small Scale Forestry - Vanuatu

**WWF CONSERVATION ACTIVITIES
PAPUA NEW GUINEA 1990-1993**

CURRENT AND COMPLETED PROJECTS

Protected Areas Rehabilitation Program, Phase 1
1992 - WWF and DEC review of management and status of protected areas in PNG, under the National Forest and Conservation Action Program; leading to recommendations for system and site management strengthening.

Australasian Marsupial and Monotreme Action Plan
1992 - Species Survival Commission, IUCN - plan for protection of endangered, vulnerable and potentially vulnerable marsupials and monotremes in PNG, Irian Jaya and Australia.

Conservation Needs Assessment
1992 - WWF Biodiversity Support Program initiative to review knowledge of PNG's biota and its conservation requirements.

Review of Illegal Tropical Timber Trade in Asia & Pacific

1992 - TRAFFIC office review

Kaiam Community Small-Scale Forestry Project
1992 - preliminary assessment of options

Environment Resource Centre
1992 - Friends of the Earth and Melanesian Environment Foundation - support to establish centre for public and NGO information on environment and development.

Carver Buyer Training, Hunstein Range, ESP
1992 - Friends of the Sepik - support for carver training in marketing and quality control

Newsletter Production
1991 - Friends of the Earth - newsletter production

Drama Tour, Hunstein Range, ESP
1991 - Friends of the Sepik and Raun Is - drama tour to develop community awareness on logging and alternative ways of utilising forests.

Forest Awareness Project
1990 - Melanesian Environment Foundation

Environment Task Force, National Forest Action Plan
1990 - funding for Task Force operations

PNG Conservation Training Needs Assessment
1990 - WWF review of conservation training activities and needs in PNG government and non-government sectors

Friends of the Sepik - Conservation Drama Tour - PNG

FSP Institutional Support - PNG

Friends of the Earth - Newsletter - PNG

MEF/FOE Environmental Resource Centre - PNG

Wokabaut Somil Training Manual Project

Lasanga Islands Conservation Program

Kikori Basin Conservation Project

Strategies for Community Resource Conservation

**Community Resource Conservation and
Development, PNG**

CONSERVATION FUNDS

Small Grants for NGOs Schemes

to support conservation initiatives by local
community groups and non-Government
organisations

Pacific Conservation Fellowships

individual study tours, fact-finding and training for
Pacific Islanders involved in conservation

Government of Papua New Guinea
Conservation Areas Strengthening Project

Appendix 6

Component specifications

Component specifications

Component 1.1

Reporting relationships for the CASP

Specification

GoPNG-Technical Assisting Agency Memorandum of Understanding (MOU)

The MOU would include the following features:

The Technical Assisting Agency would be responsible as part of the CASPEX for the employment of CASPA unit personnel;

The Technical Assisting Agency would be responsible for the expenditure and accounting of funds allocated to it by the CASPEX for the purposes of the CASPA unit.

The CASPEX will administer preliminary components of the CASP directly.

Component 1.2

PNG Conservation Areas Strengthening Project Assistance (CASPA)

Specification

A number of key factors were considered in proposing the special assistance unit:

ready mobilisation of people, equipment and financial resources to implement the CASP rapidly and efficiently;

ability to work in both Government and non-government arenas and to assist in developing partnerships between the two;

flexibility in bringing in additional personnel to cope with varying workloads and the diversity of specialist skills required;

a large number of short-term remedial activities are required to improve efficiency and effectiveness, as well as major increases in long-term commitment of resources;

administrative convenience and efficiency of dealing with an integrated, multi-skilled

unit rather than a large number of different consultants, scientists and temporary staff.

The CASPA unit would consist of a core team, with the ability to engage and disengage additional skills and services as the CASP progresses.

The CASPA unit would include three or more permanent staff from DEC or other agencies on special duties or secondment, as required by GoPNG, plus short term secondments for specific project tasks.

The CASPA unit is to have its own budget, equipment and other resources.

The CASPA unit should have an office in DEC head office and would carry out activities under the direction of CASP Executive.

The CASPA unit would liaise and work closely with other Government Departments, the National Alliance of NGOs, other individual NGOs, local communities, researchers and academic institutions.

The unit would be administered and supported managerially and technically by the Technical Assisting Agency.

Terms of reference are to provide technical assistance in:

conservation area management planning;

training in environmental/ conservation management and planning;

training is to be a built-in component of all Activity;

development of a Community Ranger Service;

assessment of resources and uses of existing and potential conservation areas;

rehabilitation of existing sites;

establishment of new sites;

expansion of a national network of conservation areas;

drafting of manuals and procedures;

design and setting up management systems;

drafting educational and interpretive materials;

development of a series of demonstration conservation areas;

design, implementation and evaluation of schemes for income generation from/for conservation areas.

Personnel specifications

Position

CASPA Unit Manager

Location

DEC Head Office, Port Moresby

Responsible to:

The CASP Executive (CASPEX)

Responsible for

All staff employed as part of CASPA unit;

All consultant specialists contracted for the purposes of implementing the CASP;

Coordinating all activities of the CASP with DEC, NGOs, other departments; related conservation projects and relevant community groups;

Reporting and monitoring requirements of the CASP;

The efficient and effective implementation of the CASP and administration of resources provided to the CASP;

Preparing detailed action plans as required to implement the CASP.

Qualifications:

Tertiary qualifications in a field relevant to nature conservation and conservation area management;

Proven management and administrative skills and experience appropriate to the CASP and conservation areas;

Extensive experience (10 years) in conservation area management or related land use management at a senior level and preferably experience in developing countries;

Proven ability to effectively and efficiently fulfil the responsibility requirements of the position;

Proven ability to liaise at the range of levels inherent in the CASP.

Language

Fluency and skilled in oral and written English is essential;

Knowledge of, or a commitment to becoming fluent in PNG languages is required.

Remuneration and Conditions

Remuneration, insurance, leave, allowances etc are on standard conditions.

Position:

Clerk/Business Manager

Location

DEC Office, Port Moresby

Responsible to

The CASPA Unit Manager

Responsible for

All administrative requirements of the CASPA unit including:

Assisting with budget preparation;

Filing and records;

Fiscal planning and management;

Correspondence;

Preparation of administrative procedures and manuals relating to conservation area management;

Co-ordination of data retrieval system relating to conservation area management;

Other duties directed by the CASPA unit manager relating to administrative procedures of conservation area management.

Qualifications

Extensive experience in public administration, preferably in an area relating to land management;

Relevant tertiary qualifications would be an advantage;

Proven capability in finances management including budget preparation, purchasing and accounting;

Demonstratable understanding of filing and data retrieval systems;

Proven capability to communicate clerical needs of a conservation and managing organisation.

Language

Fluency and skilled in oral and written english is essential;

Knowledge of or a commitment to becoming fluent in PNG languages is required.

Remuneration and Conditions

Remuneration, insurance, leave, allowances etc are on standard conditions.

Position

Clerk/Secretary

Location

DEC Head Office - Port Moresby

Responsible to

CASPA Unit Manager through the Clerk/Business Manager

Responsible for

Organising the secretarial functions of the unit;
Assisting the Clerk/Business Manager;
Supporting and assisting other officers of the unit as required.

Qualifications

Experience in keyboard operation to a satisfactory level is essential;
Experience in word-processing (preferably with Wordperfect) is desirable;
Experience in desk top publishing would be an advantage;
Experience in the organisation of meetings, workshops and related minute taking.
Proven capability to develop within the position to contribute to the administration functions inherent in the implementation of the CASP;
Preference will be given to a PNG national with sound English skills;
Competency in additional PNG languages will be an advantage.

Language

Fluency and skilled in oral and written english is essential;
Knowledge of or a commitment to becoming fluent in PNG languages is required.

Remuneration and Conditions

Remuneration, insurance, leave, allowances etc are on standard conditions.

Position

CASP Regional Manager (Resource Planning Specialist-Terrestrial)

Location

DEC - Southern, Highlands or Momase

Responsible to

CASPA Unit Manager

Responsible for

Regional operations of the CASP;

Planning and coordinating all elements of the CASP project relating to system design, policy planning, resource inventory, management planning and operation planning;

Preparing technical manuals relating to conservation, planning and management;

Delivering training programmes to conservation area managers;

Planning and implementation of plans produced as part of the CASP;

Supervision and direction of all specialist consultants employed for the technical components of the CASP;

Fully integrating DEC staff allocated to the CASP to maximise on-the-job training;

Other duties as directed by the CASPA unit manager related to the technical elements of conservation area management.

Qualifications

Tertiary qualifications in the natural sciences or natural system management plus proven experience or sound knowledge of conservation area planning and policy development;

Experience in conservation area management at the field level is desirable plus proven experience in implementing and managing capital works projects;

Experience in planning and coordinating field research relevant to conservation area planning and management.

Language

Fluency and skilled in oral and written english is essential;

Knowledge of or a commitment to becoming fluent in PNG languages is required.

Remuneration and Conditions

Remuneration, insurance, leave, allowances etc are on standard conditions.

Position

CASP Regional Manager (Resource Planning Specialist-Marine)

Location
DEC Islands, Rabaul
Responsible to
CASPA Unit Manager
Responsible for
Regional operations of the CASP

Planning and coordinating all elements of the CASP project relating to system design, policy planning, resource inventory, management planning and operation planning;

Preparing technical manuals relating to conservation, planning and management;
Delivering training programmes to conservation area managers;
Planning and implementation of plans produced as part of the CASP;
Supervision and direction of all specialist consultants employed for the technical components of the CASP;
Fully integrating DEC staff allocated to the CASP to maximise on-the-job training;
Other duties as directed by the CASPA unit manager related to the technical elements of conservation area management.

Qualifications

Tertiary qualifications in the marine sciences or natural system management plus proven experience or sound knowledge of conservation area planning and policy development;
Experience in conservation area management at the field level is desirable plus proven experience in implementing and managing capital works projects;
Experience in planning and coordinating field research relevant to conservation area planning and management.

Language

Fluency and skilled in oral and written english is essential;
Knowledge of or a commitment to becoming fluent in PNG languages is required.

Remuneration and Conditions

Remuneration, insurance, leave, allowances etc are on standard conditions.

Position

CASP Regional Manager (Conservation Area Development Specialist)

Location

DEC Southern, Highlands or Momase
Responsible to
Resource Planning Specialist
Responsible for

Regional operations of the CASP;
Coordinating and planning capital works associated with rehabilitation and development of PNG's conservation area system;
Coordinating, planning and documenting operations for PNG's conservation area system;
Training of conservation area managers in park operations;
Other duties as directed through the Resource Planning Specialist by the CASPA unit manager relating to conservation area management operations.

Qualifications

A trade, associate diploma or equivalent qualification plus extensive experience in practical construction and maintenance works, preferably relating to conservation and management;
Proven experience in planning, scheduling and implementing capital maintenance works;
Proven experience in managing field based staff and supervising contract construction works.

Language

Fluency and skilled in oral and written english is essential;
Knowledge of or a commitment to becoming fluent in PNG languages is required.

Remuneration and Conditions

Remuneration, insurance, leave, allowances etc are on standard conditions.

Position

CASP Regional Manager (Human Resource Specialist)

Location

DEC Southern, Highlands or Momase
Responsible to
CASPA Unit Manager
Responsible for:

Regional operations of the CASP;

Co-ordination of CASPA activities to ensure maximum on-the-job training for people involved in PNG conservation area management;

Preparation of training, management procedure and other manuals developed as part of the CASP;

The planning, preparation, co-ordination and implementation of training programmes identified as part of the CASP;

Coordinating community and inter-agency consultation elements of the CASP;

Planning, coordinating and implementing a community education programme relevant to conservation areas in PNG;

Supervision and direction of specialist input to manual documentation and other training and communication elements of the CASP;

Preparing a programme for ongoing pre-employment and in-service training relevant to the conservation area management;

Other duties as directed by the CASPA unit manager related to human resource development for conservation areas and consultation with all stakeholders.

Qualifications

Tertiary qualifications in psychology, natural science or business management or a field relevant to the responsibilities of the position;

Extensive experience in training and staff development and a sound knowledge or experience in public consultation processes and community participatory planning activities;

High level competencies in oral and written communication, preferably with editorial and publication production experience;

Experience or knowledge of protected area management systems;

Language

Fluency and skilled in oral and written English is essential;

Knowledge of or a commitment to becoming fluent in PNG languages is required.

Remuneration and Conditions

Remuneration, insurance, leave, allowances etc are on standard conditions.

Position

Conservation Area Technical Assistants (8 positions)

Location

DEC Southern Region, Port Moresby

DEC Highlands Region, Mt Hagen

DEC Momase Region, Lae/Madang

DEC Islands Region, Rabaul

Responsible to

the relevant CASPA Regional Manager

Responsible for

Assisting the CASPA Regional Manager in all aspects of their duties.

Qualifications

It is proposed that four positions will be initially filled on a secondment basis by an experienced middle manager within DEC but later advertised as new positions.

Either...

Tertiary qualifications preferably with a major emphasis on biology/ecology or earth science, planning or social sciences.

Component 2.1

CASP linkage

Specifications

Intra-departmental coordinating group

This group will be responsible for advising the CASPEX on co-ordination arrangements between branches of the DEC to implement DEC's contribution to the CASP. The Assistant Secretary (Parks and Wildlife Branch) will be secretary to the group. The group will convene at least quarterly or as required.

Upon formalisation of the Conservation Resource Centre and its coordinating arrangements, this group may become unnecessary.

Inter-departmental consultative group

This committee will aim to improve understanding of the CASP and facilitate CASP implementation and assistance through resource sharing. It will be convened at least quarterly by the CASPEX. The committee may already be established as part of other projects and initiatives prior to CASP execution.

Ad hoc Conservation Area Advisory Group (CAAG)

This group will be comprised of scientists, managers, field staff, conservation area management committee members and others likely to assist in the implementation and coordination of the CASP. It is envisaged that the CAAG will consist of approximately 10 members with the ability to establish a number of working groups to consider and address particular conservation area issues. The CAAG will be convened by the CASP Operational Group (CASPOG) and report to the CASPEX, via the CASPOG.

It is envisaged that this group will be formalised as part of the CASP to continue after the project is completed, giving on-going advice and assistance to DEC.

Conservation Areas Planning Consultative Groups

These groups are area specific and established as part of the planning process to facilitate consultation, decision making and extending resources for the planning process. It is expected that this group may be, in some cases, simply an existing management committee or, for new areas, will likely become the management committee for the conservation area.

The consultative group will normally interact with the CASPOG but may take any grievances or issues for resolution to the CASPEX.

Component 3.1

Conservation area classification scheme

Specification

The conservation areas classification system will provide a basis for conserving valued components of

PNG's natural and cultural heritage and for establishing a representative system of biodiversity, conserving unique features and wildlife, cultural values reflected in harmonious land use and associated site selection criteria. Draft criteria for site assessment and selection for each type of conservation area are given in the Protected Areas Review and Appendix 8.

The conservation area network which is described by a classification system and associated criteria for selection must meet the particular needs of PNG. It needs to be appropriate for customary owned land and provide several options for tenure/management arrangements and agreements. The criteria will include assessment of biodiversity representativeness, naturalness, uniqueness, human use values (sustainable use), feasibility and income-generation capability.

The policy changes need the support of DEC staff, Government as a whole and interest groups (landowners, NGOs). Hence time must be allocated for such liaison. The role and support of the proposed Conservation Area Coordinating Committee and Advisory Group (Component 1.2) will be important in this regard.

It is envisaged that a management plan will be a requirement for all conservation areas prior to their 'gazettal'.

Provision is needed in all conservation areas, including those established under the Fauna Act, for general environment or habitat protection and management. This should extend to both terrestrial and marine environments. Mechanisms are needed to enable special features or zones to be given a higher degree of protection in multiple use classes of conservation areas and for temporal closures to be put in place.

Amendments to legislation (Component 3.2) are likely as well as conservation area management policies and rules controlling use of individual sites.

The outputs of this component will be capable of inclusion in a national conservation strategy.

Component 3.2

Conservation areas legislation drafting instructions

Specifications

It is envisaged that specialist assistance contracted for the preparation of green papers will be continued to prepare the drafting instructions.

Recent legislative initiatives relating to the Great Barrier Reef, the Wet Tropics of Queensland World The process of establishing an operational conservation area, following a site's selection as a proposed area, will be made clearer and more efficient through consultation and negotiations between the parties involved. This will be an important item for inter-Departmental CA Coordinating Committee and the broader Advisory Group (see Component 1.2).

The establishment process requires a series of planning and legal procedures to be carried out, from confirming the initial concept and its feasibility; assessment of the proposed area, its resources, uses and values; deciding on the future purpose of the area and planning how it is to be managed and used; to formal agreements, endorsements and gazettal and implementation of management.

Options for land tenure arrangements (leases, covenants, agreements), and procedures for negotiating with landowners will be explored. Boundary survey methods and process will be required of Lands Department.

Management planning will be built into the routine process of establishing a new conservation area. A management plan will be prepared for each existing area which is to be retained in the network.

Since it is envisaged that national and local level conservation areas will result from other activities, manuals and procedures for planning and establishment will be required for each class of

Heritage Area and the Queensland Nature Conservation Act are expected to have elements applicable to the PNG situation.

Component 3.3

Establishment and management planning procedures

Specification

Whilst the green paper and legislative drafting instructions will provide guidance to this Component, the Component intends to detail the process of establishment and management planning.

conservation area. The manuals will describe the intent and techniques for selection criteria, including rapid vegetation and wildlife surveys, landform assessment and cultural values such as archaeological, historical, and harmonious land use.

A training programme will be required to build a multidisciplinary team within DEC and to transfer skills to provide field support by landowners/ local communities.

Information from selection and evaluation assessments will be used in management planning, so techniques and practicalities need to take this into account.

Component 4.1

Management operations manual

Specification

The Manual will deal with the common issues encountered in conservation area management in PNG, detailing suitable strategies and techniques, outlining appropriate types and levels of management Activity for each class of conservation area, recommending standards to be applied in management and infrastructure development works.

The Manual should be suitable for and accessible to conservation areas managers at local as well as national level. A training programme to introduce the manual to those undertaking management duties is required.

The manual will consist of at least two volumes and compliment the establishment manual. A ring-binder format is envisaged for upgrading and expansion as well as for tailoring the manual to specific conservation areas.

Volume I will include:

- a copy of the act and an aide memoir to the act;
- a comprehensive list of operational policies relevant to the class of area;
- overview of conservation area establishment procedures and management arrangements for each class of area.

Volume II will include operational guidelines on:

- administrative procedures (budgeting and reporting);
- site inventory and research (ecological and use monitoring, upgrading information systems, routine area inventories);
- site and operational planning (scheduling, project planning);
- development standards (structures, tracks, signage);
- maintenance standards;
- resource management procedures (fire, wildlife management);
- use management procedures (landholder liaison, recreation management, law enforcement);
- communication and interpretation.

Component 4.2

Training and education

Specification

The education and training programme for people directly involved in conservation area management will be a key component of the CASP. It is proposed as a principal means of disseminating information, sharing views and thereby increasing the contribution made by individuals to the development of a useful conservation areas system.

The programme will be linked closely to the Education & Information Programme (Component 5.6), and will cover introductory ecological and conservation education in addition to all aspects of conservation area management - administration, enforcement, resource assessment, management planning. It will be based on manuals prepared as part of other activities. However it is likely that interim training workshops will be required at an early stage and somewhat ahead of final resolution of many of the activities of the CASP.

The training programme will be based on analysis of the needs of the individuals involved in conservation area management. It will cater for local Management Committee members, trainee Rangers, head office staff, Provincial Government and local workers. Outside individuals such as members of voluntary conservation and community groups could also take part.

The programme will comprise a range of educational, training and briefing activities, with both in-service and special courses for individuals and groups, study tours, external work experience and workshops/ seminars. Courses and meetings organised by outside organisations would be accessed.

The pre-employment opportunities component of this Component will involve negotiation with both tertiary institutions both in PNG and overseas. It is envisaged that a relationship should be established between U.PNG and an overseas university to provide "short courses" in natural systems and

wildlife management, to be later undertaken solely by the U.PNG. Project documentation will be required to fund the long term establishment of an approved course of study. The concept of establishing a Melanesian Conservation Training Institute would be explored.

Component 4.3

Conservation Information Service

Specification

The Unit is a small office set-up to provide advice on conservation areas and conservation in 3 main ways:

- (a) response to individual requests (in person, by phone or mail);
- (b) distribution of standard materials to Government offices and schools;
- (c) servicing a weekly radio &/or TV broadcast.

Component 4.4

Development of human resources

Specification

The DEC Strategic Plan (1991-92), identifies general Conservation Division staffing issues. The recommendations from the CARP Review are concerned with part of the Division's responsibilities and should be matched with those in the Strategic Plan and implemented.

DEC and the Provincial Governments need more staff to work on conservation areas management, particularly in the ranks of middle-level managers with sound technical skills. These staff would organise provision of technical, legal and scientific support to field staff and Management Committees.

The review of staff deployment and skills should be carried out in the light of the CASP, to ensure that staff resources will be available to complement external sources of support and implementation of the CASP. The orientation and administrative procedures manual is to be principally focused on the conservation areas component of DEC.

Component 4.5

Community conservation ranger service

community members to take on responsibilities and to participate in conservation area management.

Specification

The Community Ranger Service will provide a concrete opportunity and formal mechanism for local The Community Ranger will be responsible to the local Management Committee for a range of management operations, including site presence and patrols, routine enforcement, visitor information, school visits, infrastructure construction and maintenance, boundary marking, fire management, site restoration works, resource and use surveys and monitoring. The Rangers will have an important role in maintaining liaison with local communities, land-holders and other agents such as local business, Government offices and schools.

One or more Community Rangers will be employed by the Management Committee to work in and around the particular conservation area. The appointment will be to a standard set and supervised by DEC, to ensure that a high calibre Service is established. Local wages and other running costs will be covered by contributions from the community (local conservation area), DEC (national sites) and the proposed national Trust Fund. At some small, local conservation areas, a Community Ranger may be a voluntary position.

Recruitment, training and other support will be assisted by the CASPA unit. A training programme will be provided in different locations at regular intervals through the CASP. It will lead to a national certificate for satisfactory candidates.

Component 4.6.1

Management information system

Specification

The structure and content of the conservation areas Management Information System must meet the requirements of field staff and area Management Committees as well as DEC head office and Provincial offices.

The MIS should be integrated with other elements of information storage and retrieval used by DEC and

other parts of Government, including Agriculture, Forestry, Fisheries, Lands and Provincial Governments.

The Register developed for the Conservation Areas Review will provide the basis for a permanent Register.

Maintenance and development of the CA MIS including the CA Register should be coordinated by DEC.

The CA MIS should use technologies appropriate to the situations in which it will be used and the people using it; it must use hardware suitable for and capable of being maintained in PNG.

The MIS should serve as a resource also for the broader Education and Information Programme, for example through the Conservation Advisory Unit (Component 4.3).

Component 4.6.2

Computerised mapping system

Specification

The computerised mapping system is a geographic information system (GIS) set up to support conservation area planning and management. By allowing organised storage and retrieval of data on

natural resources and other relevant factors,. The system will enable the biogeographic assessment of existing and proposed conservation areas and prediction of habitat areas for rare and endangered species.

The mapping system will be an integral part of the conservation area MIS. The system will be designed and made available for use by DEC and other land resource management agencies. It will be designed to complement other current developments under the National Forest & Conservation Action Programme.

Component 4.6.3

Resource assessment programme

Specification

Resource assessment team needs strengthening to include human use, archaeological, socio-economic and management feasibility considerations.

Research Advisory Group will advise on standardised assessment techniques, training requirements, and site priorities.

Component 4.6.4

Research programme

Specification

The Research Advisory Group and a comprehensive plan of research needs will increase the focus of scientists on PNG's conservation areas.

Encouragement and support can be given to potential researchers in the form of advice, site access, Ranger assistance, grants and the prospect of collaboration in a coordinated research programme.

Biological, geological, use and impacts, tenure, cultural aspects and management of conservation areas - both marine and terrestrial - should all be addressed by the programme.

Component 4.7.1

Improvement of funding for protected areas

Specification

Budget planning should be integral with management planning during the establishment process for a new conservation area. Areas should not be established if management is likely to fail through lack of funds. Budget planning should aim to balance projected costs, income and profit-taking, if any. Cost-effective means of managing and developing the conservation area will be evaluated and demonstrated through the Training and Education Programme.

A guaranteed Government subsidy for each gazetted conservation area will identify a base level of management for each class of conservation area, without which its natural values are unlikely to be maintained. Details of the 10-year projected costs of the scheme will be presented.

A Local Conservation Development Fund will be of major value in establishing local conservation areas and related conservation schemes. It is envisaged that the Fund would be subscribed to by conservation areas and a combination of Government and aid funding. Fund disbursements would be guided by a Board representing Government, aid agencies and non-Government conservation organisations. Through loans and grants, the Fund would finance development and improved management of local conservation areas.

Component 4.7.2

Development of income generation schemes Specification

The Component will concentrate on developing, testing and demonstrating to others, a series of models for income generation in association with conservation areas.

Potential models will be sought from existing local and national conservation areas and similar work elsewhere in PNG and overseas. The financial performance and ecological and social soundness of existing and new, pilot income generation schemes will be monitored and analysed.

Promising schemes will be developed and documented as operational models, to provide demonstrations to conservation area managers and landowners of a range of alternative ways in which conservation areas can be financially attractive forms of resource-use.

The preliminary list of income generation mechanisms that will be evaluated includes the following:

- recreational visitor schemes;
- nature-based tourism;
- hunting and fishing licences;
- harvesting natural products;
- farming and ranching biota;

Demonstration of the developed models to planners, managers, Management Committees, landowners and field staff of other conservation areas will be included in the Training & Education Programme and in the proposed conservation areas Management Manual.

The introduction of income generation schemes will be an important part of the planning and (re-development of new and existing conservation areas).

Component 4.8

Co-ordination and consultative strengthening

Specifications

These are the formalised consultative bodies established in Component 2.1.

Inter-Departmental CA Coordinating Committee:

to improve understanding of the role and requirements of conservation areas; facilitate CA administration selection, establishment and management; increase cooperation, consultation and resource sharing

Conservation Areas Advisory Group :

comprising scientists, managers, field staff, Management Committee members and other nominated individuals from Government, academic and non-Government backgrounds; to provide advice on CA issues.

Conservation Management Group :

to be established for each conservation area and be locally-representative; their role will vary between national and local conservation areas. For national sites, the Committees will have an advisory role to DEC and will be responsible for organising prescribed, routine management operations. For local conservation areas, the Committee will be the main management authority, responsible for deciding upon and implementing most aspects of management; DEC's role will focus on provision of technical and scientific advice and support.

These proposals, with their particular focus on conservation areas, are intended to complement those of the DEC Strategic Plan (1991-92).

Component 5.1

Conservation system application

Specifications

The **rapid appraisal approach** is to be based on the register of conservation areas and available information and DEC knowledge of proposals. A proforma is to be devised for seeking additional information on proposals from nominators or others

who may have an interest or knowledge of the proposed area.

Prioritization for re-establishment action is to be designed to exemplify on-the-ground outputs from the CASP as rapidly as possible and capable of being perceived by PNG decision makers as a valuable contribution to PNG's national goals.

Interim management guidelines will define preliminary values and purposes of each area and, in conjunction with developed manuals, provide advice, direction for conservation area management.

Because of the magnitude of this Component, streamlining and is essential.

Component 5.2

Re-establishment of existing conservation areas

Specification

An initial 10 existing CAs will receive management planning; this will start by negotiations to confirm the site's status and intended purpose; the sites will be used for testing, demonstration and training.

Important preliminary considerations in re-establishment management planning for existing areas are as follows:

- . confirmation of values held;
- . agreement on the areas' future purposes;
- . confirmation of tenure, access and boundaries;
- . possible extension to secure larger unit.

Planning for the area will be done by the local Committee facilitated by CASPA - DEC. The planning will consider issues and needs for management strengthening at the site; guide subsequent rehabilitation; determine how current management issues should be tackled; what access, harvesting, visitor facilities are appropriate; what patrols, enforcement, research and management resources will be necessary.

The management plan will be implemented for each area, including strengthening management operations as specified in Activities 6.1 to 6.7.

Component 5.3

National representative conservation areas

Specification

This Component is concerned with identifying sites that will form a national network of representative conservation areas. Some of the existing sites will be in the network but there are substantial gaps in biogeographic representation as well as inadequacies in terms of site size.

The following process is proposed:

- identification of priority areas to provide representativeness - spatially (by biogeographic region), process-orientated (by ecosystem/ habitat type) and genetically (by spp. richness/ endemism); assessment should incorporate traditional resource knowledge;
- development of conservation area models with local communities
- negotiation and establishment of conservation areas to extend the existing system.

Site conservation assessment criteria and their application are defined in the Conservation Areas Review.

As new sites are confirmed as proposals, the establishment - management planning process will be initiated. This should be done by processing small groups of sites together.

Implementation of management as outlined in Activities 6.1 to 6.7 will follow ratification of plans and agreements and securing commitments on management resources.

Component 5.4

Local conservation areas programme

Specification

The conservation area will be made an accessible and useful tool for resource conservation and

management by local communities and traditional resource owners.

Local groups will be able to make some commitment to establish a conservation area or similar conservation scheme over an area they own or control, and 'sign on' to the programme to receive some assistance with planning and management. Joint funding of capital works could form part of assistance but would have to meet criteria established for such funding (eg. broad PNG community benefits or strategically important to achieve DEC objectives).

Assistance will be in the form of an extension or advisory service, with support for surveying, planning, training, arranging formal gazettal or agreements and other technical matters.

Component 6.1

Infrastructure management

Specification

Infrastructure for conservation areas can include access roads, walking trails, visitor shelters, staff and visitor accommodation, information and wildlife watching facilities, fencing and other devices.

Such developments should enhance the protection, use and enjoyment of an area. Inappropriate or badly-designed or maintained facilities can detract from the ecology or use of an area. Design standards should be based on local PNG styles.

Infrastructure development must be preceded by good planning and design to ensure:

- (a) that it would serve the management objectives for the area;
- (b) that it would be of an adequate standard; and
- (c) that adequate resources would be available to operate it and maintain it in good condition.

Component 6.2

Regular maintenance programme

Specification

Component 6.3

Resource management and site restoration

Specification

Activity to restore the natural condition of a protected site, control an ecologically-damaging Component, or introduce reasonable levels and styles of animal or plant harvest must be based on scientific data derived from field surveys and, in some cases, field experimentation.

Biologists will work with field staff to assess the condition of resources, design restoration projects,

and recommend harvesting regimes for existing and proposed conservation areas.

Scientific information obtained will be used in management planning and setting regulations for each conservation area.

Restoration projects will be designed and initiated progressively through the 5-year programme, as detailed in prepared management plans, at all existing sites where there is a need, with priority given to cases of highest conservation significance and urgency.

Component 6.4

Use and visitor management programme

Specification

Visitor management will include:

- promotion of recreational use;
- facilities for visitors;
- visitor services;
- control of visitor impacts.

Enforcement needs to be maintained as a routine part of conservation area management, with an emphasis on prevention and dealing with problems as they arise.

Controls on conservation area access, behaviour and use of resources should be reasonable and simple. They should be made known and their rationale explained to users and potential users of the area.

Field staff including Community Rangers, DEC staff and other involved agencies, and Management Committee members must receive adequate training and briefings in relevant aspects of enforcement.

Improved cooperation between DEC, police and other Government agents is required for effective conservation area enforcement. Cooperation, pooling of resources, good communication between agencies and subsequent evaluation of the exercises' effectiveness is especially important when addressing enforcement issues.

The decision to launch a major enforcement exercise should be taken only after the current and possible future values and condition of the conservation area have been weighed against the possible costs of resolving the specific set of persistent enforcement issues. It is a "last resort" option when other approaches have failed.

Planning of each enforcement exercise should be comprehensive, with careful regard to the methods, resources and timetable available; consideration should be given to use of all possible methods to achieving a lasting resolution to the situation; public relations, education, physical force, adjustment of

boundaries, amendment of regulations and alternative compensation arrangements may all be applicable.

Site presence and patrols

For the majority of conservation areas, a reasonable level of protection and other management attention requires field staff to be present or patrolling at the site as a routine review of site condition, visitor services, boundaries, infringements. The appropriate frequency and extent of the routine presence or patrol varies between sites, from full-time to, say, an annual inspection. The nature and location of the site, its uses and management objectives for the conservation area need to be considered.

A programme of site presence and patrols in each conservation area should be scheduled at a predetermined frequency and level. Provision for the necessary resources for site presence and patrols should be built into the establishment management planning process for new conservation areas.

It is important that the programme is designed to be regular and sustainable, even if it is to be minimal because of staff shortages or other constraints. Consistency and routine can be important in running a conservation area; field staff become familiar with the routine and skilled in implementing it; regular feed-back is available to management; users know what on-site support is available.

Community Rangers will provide the major on-site presence and staffing for patrols. Deployment of DEC and Provincial Government staff should be optimised to provide regular support to Community Rangers and management operations at all sites rather than allowing some sites to have no Government officer presence for a number of years.

Patrols to remote areas or locations should be multi-tasked for efficiency, using staff with the necessary range of skills and equipment. At times, it may be necessary to involve local and head office staff and additional, outside experts such as scientists. Cooperation and sharing resources between the several national resource management agencies could be valuable, and this should be

addressed by the recommended inter-Departmental CA Coordinating Committee.

Education and information programme

Specification

The information programme should cover the nature of PNG's conservation areas, how they are managed, and why they are an important part of nature conservation; the range of benefits provided by conservation areas - conservation of forest animals, fish, birds; plants for medicine, shade, wind protection, building materials, food;

Component 6.5

water supply; soil; landscape and local amenity; coastal protection; taboo sites; visitor activity; the controls in force on access, behaviour and use of resources of each conservation area. Information programme should use pidgin and English, and motu if spoken in the area.

A standard package will be prepared to cover each individual site as well as the overall system. Information on individual species or taxa will be included (eg. birds of paradise, dugong, tree ferns, mangroves). An information package for land-owners and local communities will illustrate how to nominate sites for protection and have a central role in their establishment and management.

Government of Papua New Guinea
Conservation Areas Strengthening Project

Appendix 7

Budget Breakdown

Government of Papua New Guinea
Conservation Areas Strengthening Project

Appendix 8

Establishing a conservation area system in Papua New Guinea

Approach to establishing a system of conservation areas in PNG

Introduction

Conservation areas may be established to protect a variety of features, such as:

- characteristic or unique ecosystems;
- special species of interest, value, rarity or under threat;
- sites of unusual species diversity;
- landscape or geophysical features of aesthetic or scientific value and interest;
- hydrological protective functions: soil, water, local climate;
- sites for nature based recreation, tourism;
- sites of special scientific interest;
- sites of cultural value.

The degree of protection given to such features is usually related to:

- the significance of site features,
- threats which are, or have the potential to diminish intrinsic values; and
- the ability of features to maintain their integrity under the influence of manipulative management and utilisation (their resistance and resilience to change).

For conservation areas in PNG (as elsewhere), protection may range from total protection (as per a IUCN Category I site) to sustainable use (as per an IUCN category VII site). Of paramount importance in the management of conservation areas, with an increasing level of utilisation of resources, is that use does not erode or threaten the integrity of significant values for which the area was given protection.

Most classification systems around the world for conservation areas can be considered to fall along two axes:

- a. level of significance ascribed to the intrinsic values of the area, which is often reflected by the level of organisation (government) given responsibility for area management;
- b. level of utilisation/manipulative management appropriate to resource significance and protection of the integrity of resource values.

IUCN categories or protected areas strongly reflect axis (b), whilst in practice, many nations, in applying management and legal protection, overlay mechanisms which reflect axis (a).

The naming of an area as a particular class becomes relevant only to the extent of providing a 'shorthand' indication of the types of values being protected and the type of management regime in place.

Papua New Guinea has need for a system of conservation areas which is capable of including within its protection mechanisms: areas which sustain vital ecological processes of water and soil protection; areas of biodiversity value and representativeness; and sites of cultural significance.

The size and characteristics of these areas, including their degree of utilisation, may vary considerably and still fulfil their protective functions of valued resources or ecological processes.

In PNG, total protection of natural resources may be the exception rather than the rule. Rather, the system of conservation areas should provide flexibility, with an emphasis given to managing sustainable use to a level which does not jeopardise the integrity of the resource being protected or diminish conservation values.

Throughout the preparation of this proposal, it has been assumed that the mechanism for providing the appropriate level of flexibility of management would be through statutory planning instruments which would identify a variety of zones within (and possibly external to) a conservation area. Such zones would be required to clearly identify the values to be protected. In turn, the zoning would require the identification of uses and levels of use which are considered to be detrimental to sustaining the prescribed values. Ideally use and level of use should be defined more by 'limits to acceptable change' rather than use *per se*. However, the lack of existing knowledge is likely to preclude this approach in the short term.

Objectives for PNG's conservation area system

The establishment and management of a conservation area system in PNG is seen to contribute to the goal of conserving the natural and cultural heritage of PNG for the benefit and well being of existing and future generations of the people of PNG and the world community. Of relevance to this project proposal and towards the achievement of this goal, is the promotion of conservation practices which compliment the conservation area strategy, so that conservation of PNG's natural and cultural heritage is achieved across the nation and not merely in 'reserves'.

The conservation area system in PNG should be established to protect, for transmittal to and the well being of future generations:

- ecological systems which sustain life processes, the earth's natural productivity and human quality of life;
- a representative sample of the ecological resources of PNG;
- the biodiversity resources of PNG;
- significant landscapes and landscape features which are valued by PNG society;
- places of significance because of their natural or near natural qualities and their ability to contribute sustainable benefits to local communities;
- places of cultural significance which reflect the nation's cultural past as well as contemporary living traditions.

The establishment of a conservation area system assumes that the powers and mechanisms of government can assist the achievement of these objectives.

Ideally, the outcome from establishing conservation areas towards these objectives will be a system of areas linked by supporting land use practices which:

- (a) protect key ecological and especially hydrological processes;
- (b) preserves the biodiversity of PNG;
- (c) protects the landscape diversity of PNG;
- (d) provides for the physical and aesthetic needs of PNG communities, and;

- (e) preserves the nation's cultural heritage.

Whilst areas selected to realise the objectives are not mutually exclusive, the land area required to minimally sustain the achievement of the objectives will generally decrease from areas required to protect ecological processes (a), to areas for the preservation of cultural heritage (c).

Criteria for conservation area establishment

Full realisation of these objectives for the conservation area system will not be achieved by the system alone. It will require the combined action of GoPNG and PNG society in general. Therefore, criteria for establishment of a conservation area system should reflect a prioritizing approach for DEC action in the immediate future.

By defining criteria for conservation area establishment, a process is inherently devised to establish areas which are the minimum requirement for achieving objectives. This minimalist approach is based on existing levels of understanding of ecological processes and management skill and may or may not be what is actually required. When applying criteria, this uncertainty should be buffered by considering and, wherever possible, incorporating the management of land resources outside of the conservation area.

Criteria for conservation areas which protect broad ecological processes

Because protection of key ecological processes usually requires catchment wide land use strategies, conservation areas will tend to form only part of the strategy, although possibly a core component. It is expected that the establishment of conservation areas to achieve other objectives will in part, fulfil this objective. Thus, for the purposes of this project proposal, no specific criteria are given for the establishment of conservation areas for the realisation of this objective. However, when establishing a conservation area for other purposes, the contribution the area makes to protecting broad ecological processes should be made explicit. The contribution will lie in maintaining water quality,

reducing soil erosion, reducing flooding, maintaining seasonal water availability and generally protecting the existing productivity of down stream areas.

Criteria for conservation areas which protect a representative sample of the ecological resources of PNG

Criteria for establishing conservation areas to protect a representative sample of a nation's ecological resources are given in the Protected Areas Review and a variety of other publications (eg. MacKinnon *et al* 1986).

For the purposes of this project document, the biogeographic areas identified in the Protected Areas Review and Conservation Needs Assessment as well as priorities identified in these reports, are fundamental to the criteria given below.

Criteria fall into three broad areas;

- the nature and quality of the ecological system;
- the nature and quality of components of the system, and;
- human perspectives and influences.

This last group of criteria will have a significant influence in determining priority of actions.

Ecological system characteristics

Biotic richness and diversity as exemplified by the number of vegetation/habitat types contained in the area.

Biotic representativeness as exemplified by the proportion of vegetation/habitat types contained in the area when compared with the biogeographic area as whole.

Naturalness as defined by the degree and nature of existing disturbance, as well as the potential for natural and human assisted restoration of ecological integrity.

Fragility as defined by the ecological community's level of resistance and resilience to perturbations likely to effect the area.

Ecological stability contribution with respect to processes identified above.

Component characteristics

Biotic richness and diversity as exemplified by the diversity of the varying taxonomic levels (Family, Genus, Species).

Genetic considerations as exemplified by the presence of endemic taxa and wild forms of domesticated plants and animals.

Human perspectives and influences.

Intrinsic appeal as reflected by areas of outstanding natural beauty.

Scientific interest as reflected by a history of base line research.

Existing level of protection in terms of whether the biogeographic area is already adequately represented in the system and the degree to which the area being considered supplements existing conservation areas.

Threats to the valued components of the area, assessed both in terms of impact and risk.

Sustainability as assessed from evaluation of threats and the natural integrity of the area under consideration: its ability to be self sustaining or the level of management input needed to protect values. Sustainability also includes an evaluation of **community support** for establishment of the conservation area as well as buffer areas and linkages to supporting natural areas.

Location with respect to the area's ability to provide other community benefits (such as income generation and tourism/recreation ventures) as well as exemplify the benefits of conservation areas to the broader community.

Socio economic benefits that the conservation area might bring local and regional communities may influence the viability of the area as well as exemplify short term benefits that conservation areas can bring.

Criteria for conservation areas which protect biodiversity resources of PNG

In addition to the above criteria, biodiversity objectives will require consideration of the following.

Rarity as exemplified by taxonomic distribution and abundance, including the degree of endemism.

Indispensability as exemplified by the degree to which the area supports or protects other systems or

represents key habitat for species, such as those that are migratory.

Criteria for conservation areas which protect valued landscapes or landscape features

Aesthetic qualities include grandeur, contrast, colour pattern and texture, the presence of water and view-ability.

Criteria for conservation areas which contribute to bringing sustainable benefits to local communities

All of the above criteria may apply to conservation areas with an emphasis in bringing sustainable benefits to local communities. An additional criterion is **capability**, or the ability to develop the capability, expertise and commitment to ensure sustainable utilisation of the resource for community benefit.

Criteria for conservation areas which contribute to the protection of cultural heritage

Again the above criteria can be applied to areas which exemplify or reflect the cultural heritage of PNG. Areas which may require protection as a conservation area will exhibit **extant remains** or have **locational significance** relating to events in the growth of PNG as a nation or represent past cultures and human habitation of PNG or require special protection to maintain local **cultural traditions**. In many such cases, management may be most appropriately undertaken at the local level rather than national level.

Socio-economic and political criteria

For pragmatic reasons, the establishment of conservation areas will also be influenced by socio-economic and political factors, at least in the immediate future. Areas gaining a higher degree of attention will include those where:

conflicts and difficulties between landowners and/or other groups are likely to

Criteria applied to biotic features can equally apply to geophysical features (e.g. rarity, representativeness) however aesthetic considerations also apply.

be minimal, taking into account factors such as in-migration to the area, stability to tenure patterns, law and order situation and population density;

landowner commitment to conservation area establishment exists or where local communities have expressed an interest/commitment to conservation or to participating in a programme that links conservation and sustainable utilisation of wildlife resources;

there is existing or likely **provincial and local government support** for conservation areas;

opportunities exist for sustainable economic development that is environmentally benign;

active NGO community development programmes and/or education and awareness programmes exist;

existing research stations and/or other **conservation initiatives** exist and good relations/linkages with local landowners are already in place.

access enables the development of model sites, with regular monitoring and inspection visits.

Conservation area re/establishment

Three phases have been identified for the re/establishment of individual conservation areas.

Phase one Participation/agreement of the landowners

The stakeholders are the individuals or groups with a direct interest in the use and management of the conservation area. The stakeholders include the local resource users (landowners, local communities), government agencies and planners,

local NGOs, extension workers and others e.g. international NGOs, donors, industry. The ultimate stakeholders are the local landowners, their initial agreement and continuing support is essential to sustainability of the conservation area. After initial identification of the area (on the specified criteria), the most important step is to enlist the active cooperation and agreement of the landowners to the establishment of a conservation area.

It may be necessary to appoint a broker to negotiate with the local landowners, to evaluate opportunities and, if feasible, secure their agreement for a conservation area.

This will require discussion:

- to establish the broker's credibility and authority to discuss conservation area management with the local community; and
- to assess whether there is strong interest and agreement to participation in the planning and management process.

If these preconditions are not met then the area will be downgraded in priority for DEC action.

A second phase of negotiations establishes the basis for local participation and design input, including any agreements that may be needed. Once this process is legitimised by the landowners, effective consultation mechanisms will be required to maintain communication channels between the DEC and the local communities.

Field staff will play an essential role in maintaining community interest in and support for the conservation area.

Phase one leads into, and will overlap with, phase two,

Phase two Management planning

A: Preliminary Planning

Prior to initiating detailed planning, background information will be gathered from available sources

especially the CRC. Specific investigations will include the following:

- regional overview to provide information on social, political, economic and conservation data including:
 - political/linguistic affiliations;
 - population density;
 - migration;
 - government and church services;
 - village infrastructure;
 - ownership and maintenance;
 - subsistence and cash crops and other traditional economic activities (fishing, hunting, trading);
 - gender issues;
 - traditional conservation activities;
 - provincial planning for development;
- Identification of resources users;
 - resource ownerships and inheritance;
 - social organisation;
 - identification of responsibilities;
 - needs overview of local community groups based on any socio-economic surveys and community aspirations;
 - rapid appraisal of the values and significance of ecological and geophysical resources based on available information;
 - priority assessment based on criteria given previously in this discussion;
 - assessment to determine whether to proceed to an Interim Management Guideline (IMG) level of planning or a detailed Draft Management Plan and the level of additional study needed to affectively plan.

Establishment/recognition of a landowner group based on traditional groupings with agreement to proceed with the planning process.

B: Conservation planning

Three levels or types of planning are envisaged.

Interim Management Guidelines (IMGs)

IMGs will be prepared for all areas where a high level of community commitment exists to conserve a particular site. An IMG will be based on the best available knowledge of the area and will involve little or no additional resource inventory.

These are envisaged to be rapidly prepared documents to guide management until a more detailed prescription for management can be given. IMGs will incorporate rules for management and legal requirements as well as prioritized actions.

The process for preparing an IMG is:

- consultation with landholders, the broader community, DEC staff, scientists and persons likely to be able to offer an appraisal of values, significance and issues relating to the conservation of the site;
- preparation of a draft values, significance and issues statement and policies relating to the resolution of issues and protection of significant values;
- preparation of prioritized actions to implement policies, identifying who is responsible for undertaking action and any resource requirements;

consultation with landholders to ratify and adjust the IMG;
publication of the IMG.

Area Conservation Plan

An Area Conservation Plan is the preliminary documentation of the information base, resource evaluations, significance assessment and issues identification. The conservation plan identifies broad policies for determining management action. The conservation plan is an issues based document and will often follow the preparation of an IMG.

The process for preparing a Conservation Plan is:

- review and upgrade the IMG in consultation with landholders and the broader community;
- identify the requirements for additional information;
- prepare resource inventory documentation based on available information (Preliminary Planning) and additional field research;
- clarify values and significance appraisals and define implications for management;
- define policies which will ensure the conservation of the area and can be expressed as management action.

Area Management Plan

The Management Plan follows directly from the Conservation Plan and is separated only to ensure that consultation occurs at the policy level, prior to proceeding to detail actions.

The process for preparing a management plan includes:

- landholders and community consultation with respect to the Conservation Plan;
- identification of priority actions, responsibilities and evaluation criteria;
- identification of resourcing requirements;
- identification of the time frame for action.

The Management Plan is operationally based and addresses action required to:

- improve the resource information base for improved management decision making in the future (inventory);
- detail additional planning for specific operational tasks such as site planning or detailed wildlife management (planning);
- establish capital works which strategically conserve and realise area values (development);
- maintain the capital investments for long term realisation of area values (maintenance);
- manage the valued and significant resources from degradation (resource management);
- manage use of the area, including enforceable rules, with respect to recreational and productive use of the land resource, including income generating schemes (use management);
- communicate area values and significance to landholders, area users, the broader community as well as resource protection behaviour (communication - education, advocacy, awareness and extension);
- evaluate the effectiveness of policies and management action with respect to the achievement of objectives (monitoring);
- effectively implement the management plan including the identification of resource needs (administration).

Phase 3: Implementation of plans

Implementation follows directly from the IMG or Management Planning process. Budgets, prepared as part of the process, will require funding approval.