



**Adelbert Mountains Forest Conservation Program of
The Nature Conservation
in partnership with the
WWF Forests of New Guinea Program**

**Lessons Learned in Community-Based
Conservation in Papua New Guinea**

FINAL

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As the overview of people spoken to shows, discussions were not limited to the big international NGOs but also included a number of local organisations working with rural communities at the grassroots level. What is remarkable is that independently of the nature of the organisation, its size and donor base, all seem to grapple with the same conservation and development issues and the same strategic choices vis-à-vis the communities that they work with.

I hope this report manages to at least tease out some of the practical questions and choices that community-based conservation practitioners in Papua New Guinea are faced with, that it will generate fruitful discussion in the Kamiali group and that it will stimulate thinking on how to move forward with the difficult task of balancing the needs and aspirations of local communities with the wish to conserve Papua New Guinea's spectacular biodiversity.

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ACRONYMS

BRG	-	Bismarck-Ramu Group
CBO	-	Community-based organisation
CI	-	Conservation International
CITES	-	Convention on the International Trade in Endangered Species
CM	-	Conservation Melanesia
DEC	-	Department of Environment and Conservation
FA	-	Forest Authority
FPCD	-	Forum for People and Community Development
FORCERT	-	Forest Management & Product Certification Service
GEF	-	Global Environment Facility
GPS	-	Global Positioning System
ICAD/ICDP	-	Integrated Conservation and Development
LMMA	-	Locally Managed Marine Area
LMMAC	-	Locally Managed Marine Area Committee
IUCN	-	World Conservation Union
LLG	-	Local Level Government
MAB	-	Man and Biosphere
MPA	-	Marine Protected Area
NCC	-	National Conservation Council
NEC	-	National Executive Council
NFA	-	National Fisheries Authority
NGO	-	Non-Governmental Organisation
PNG	-	Papua New Guinea
PRA	-	Participatory Rural Appraisal
PWM	-	Partners with Melanesians
RAPPAM	-	Rapid Assessment and Prioritization of Protected Areas Management program
RCF	-	Research Conservation Society
SCCP	-	Strengthening Conservation Capacity in PNG project
TNC	-	The Nature Conservancy
UNDP	-	United Nations Development Program
VDT	-	Village Development Trust
WCS	-	Wildlife Conservation Society
WMA	-	Wildlife Management Area
WMC	-	Wildlife Management Committee
WWF	-	World Wide Fund for Nature

1 INTRODUCTION: RESOURCES AND PEOPLE IN PAPUA NEW GUINEA

Papua New Guinea consists of the eastern half of the island of New Guinea. The island is characterised by a high east-west mountain range with vast floodplains to the north and south of the country and four large islands. After the Amazon Basin and Central Africa, PNG has the third largest remaining tropical forests on earth, while its marine life belongs to the most diverse on earth.

Due to its rugged geography, its high levels of forestation and its long separation from other landmasses, the island of New Guinea is characterised by a highly diverse and unique ecological make-up. Estimates by Alcorn and Beehler (1993) and Sekhran and Miller (1994) suggest that PNG harbours some 5-10 percent of global biodiversity counting among others some 20,000 species of ferns and flowering plants; 190 species of mammals; more than 750 different species of birds; 500 species of reptiles and amphibians; 3000 species of fish, and at least 200,000 species of insect of which most are still to be classified. Among all of these groups the levels of endemism is high, ranging from an estimate of some 7,5 percent for flowering plants to some 53 percent for birds and 81 percent for mammals. A total of 54 species are listed on the IUCN Red List of threatened animals.

As by far the largest proportion of terrestrial biological diversity is found in the tropical rainforests, the rapid conversion of forest habitat constitutes the greatest threat to biodiversity in PNG. Other threats to biodiversity include the impact of mines, forest conversion for oil palm plantations, the possible extinction of species as a result of over hunting and fishing, the consequences of climate change and the impact of exotic species. In recent years the conservation of PNG's marine life and coral reefs has gained considerable attention, leading to a shift from terrestrial activities to marine projects. This is a remarkable move given that the level of threat to PNG's terrestrial ecosystems is much higher than that faced by its marine ecosystems.

1.1 People, resource ownership and conservation

Papua New Guinea is home to some 5 million people, divided over thousands of clan groups speaking some 800 different languages. While the country is rich in resources and classifies as a Middle Income Country, in human development terms it finds itself among the Lesser Developed Countries. Papua New Guineans are deeply disappointed at the failure of their Government to provide them with the most basic amenities in the form of infrastructure, health and education services and income earning opportunities. Even as people are distrustful of their politicians it is ironic how many regard engaging in politics as one of the few remaining avenues to access the development services that they and their communities need.

PNG continues to be a distinctly rural society with some 85 percent of the population still dependent on subsistence agriculture supplemented by meagre cash incomes. The relatively low population density in most of the country should not be taken to mean that PNG is an uninhabited wilderness. People own all land and all ecosystems are impacted by human activities in the form of gardening, hunting, fishing, burning, and the cultivation of semi-domesticated food crops. Many of these activities have left clear marks in the landscape; others may be more difficult to see.

Land in PNG remains essential, not only in terms of subsistence and cash crop production, but also as a source of identity, status and security. The close connection between people, their land and their resources has led some to argue that Papua New Guineans are more inclined towards conservation than other peoples. This argument is supported by reference to the traditional taboos on hunting certain species or the temporary closure of fishing and hunting areas found among numerous clan groups. Others argue that the conservation benefits of such taboos are an unintended consequence of local belief systems and that Papua New Guineans have not yet had to prove their conservation mettle. According to this view the country has only recently started to experience serious environmental degradation as a combination of low population growth and limited technology has curbed the extent to which Papua New Guineans have transformed their environment. The fact that people have not been able to significantly degrade their environment in the past says little over what they will do in the future.

Undeniable, however, is the fact that the lack of services and development opportunities is influencing the way in which Papua New Guineans view their natural surroundings. Whereas previously the environment was primarily a source of subsistence, in recent years the perception has taken hold that the exploitation of natural resources may constitute a short cut to development. The best imaginable deal these days is to have some foreign company exploit the available resources with the owners to consume the royalties. The Government has demonstrated remarkable little willingness to regulate the activities of logging companies with successive cash strapped Governments have actively supporting the development of new timber concessions. The extent of timber operations and especially the way in which they are conducted, continue to constitute the single largest threat to conservation in Papua New Guinea.

The most critical societal feature of natural resource management in PNG is the fact that local clan groups hold land and resources. These tenure rights are recognised in the Constitution. 97 percent of land is held under customary tenure, a mere three percent is State-held. Customary tenure not only covers land and terrestrial flora and fauna, but also extends into freshwater and marine resources, covering beaches, reefs and fishing grounds. Only the rights to open seas, mineral resources, Government land and protected fauna are vested in the State. Although the *Land Act* formally allows for the alienation of land and resources, in practice its politically sensitive and technically

complicated nature prohibits the Government of PNG to access, manage or exploit land and natural resources without the consent, co-operation, and compensation of local resource owners.

Unlike the conservation experience elsewhere which is grounded in the alienation of land and resources from their original owners, the customary tenure system in PNG implies that legislation concerning land and resources cannot be used in a directive sense. The PNG government simply cannot force a community into conserving its resources in the interest of society as a whole. The result is that conservation agencies cannot hope to conserve nature unless they can demonstrate that conservation is directly attractive to local resource owners. It is all carrot there is no stick.

Not surprisingly, PNG has a very limited system of formally protected areas. The officially gazetted areas combined cover no more than 2.7 percent of the nation's landmass and are not representative of its diversity of landscapes and ecological systems. The predominantly used legal instrument is that of the Wildlife Management Area. The Conservation Areas Act, an in itself promising instrument which was drawn up in 1978, has yet to become operational. The management of PNG's protected areas is weak and many areas suffer from threats related to population growth local land use in the form of gardening, hunting and encroachment.

Box 1: The RAPPAM process in PNG

WWFs Rapid Assessment and Prioritization of Protected Areas Management program is an inventory of the state of protected areas in a number of selected countries. In PNG RAPPAM encountered a number of serious problems related to the system of customary land tenure, the lack of information within the Department of Environment and Conservation and the fact that a number of protected areas that were established on the ground were not formally gazetted. As a result, the WWF and a number of partner organisations in PNG had to go through an intensive data collection exercise, visiting many protected areas to conduct village interviews. In a number of cases these areas had not been visited by NGOs or Government officials in more than a decade, while in other cases the communities were even not aware that part of their land was in a protected area. The main threats to existing protected areas in PNG consist of gardening, hunting, and the conversion of forestland for permanent agriculture. Most worrying in the short-term however is the fact that the PNG Forest Authorities declares logging concessions over the top of protected areas. At this moment 12 of the 51 protected areas identified by RAPPAM are threatened by forest development. Marine protected areas are threatened by climate change, over fishing and in the case of Madang lagoon by industrial pollution. The study also showed that a significant effort to develop protected areas is underway, which may double the area under formal protection in years to come. The final report will be published next year (PC Ruby Yamuna).

The growing recognition that the State of PNG is unwilling to curb destructive logging and unable to develop adequate conservation mechanisms has driven a number of conservation agencies away from the policy-debate at Government level. In a political

environment where even the most powerful international donors fail to make a difference, and where the prime decision-makers over the use of resources live in scattered rural hamlets, it may make more sense to shift attention towards strengthening local-level conservation mechanisms.

1.2 Integrating conservation and development

During the early 1990's many conservation NGOs were conducting awareness programs to convince local resource owners that participation in logging ventures constituted a short cut to poverty and environmental degradation, rather than a short cut to development. Landowners, however, often simply refused to accept the idea that their present situation is to be preferred above the offers of a logging company. As a result many conservationists regard the development of alternative income-generating options as a central part of their conservation efforts.

The international experience with integrated conservation and development (ICAD) projects offered the theoretical framework for this approach. The fundamental difference was that whereas elsewhere ICAD methods were generally used to reduce the pressure on existing protected areas, in PNG such methods were used to establish conservation areas. The ICADs became very popular in a short period of time. Where the Lak ICAD project would be the first of its kind in 1993, by 1995 there were no less than 8 projects of this type (James 1996).

ICAD approaches aim to develop income-generating activities that are predicated on the presence of an intact environment. Such approaches take a variety of different shapes with widely different scales of operations and modes of participation. They have in common that they tie the development interests of local resource owners with the conservation interest of the donor. By forging explicit linkages between environmental management and income generating activities, the economic benefits derived from an intact environment are captured by local people, thus reducing the incentive to seek more destructive alternatives. In PNG such 'linked' activities usually take the form of biological research activities, eco-tourism, eco-forestry and the harvesting and sale of various non-timber forest products.

As NGOs vied to make conservation economically competitive with logging, the situation shifted to one in which timber companies and conservation agencies competed head-on at the level of the local community. Both tried to put together the most attractive package of resource-related benefits in an effort to sway local people to follow their lead. A result of the predominant ICAD paradigm was that the attractiveness of conservation to local groups was often cast in purely economic terms.

There are however increasing indications that whatever conservation proponents put up against logging and mining interests, they can never out compete such interests when local landowners are motivated by short-term economic gain. As a result, there is

an increasing awareness that other non-economic motivations for conservation may play a crucial role in the decision making of resource owners. Such non-economic motivators for conservation may be related to i) the genuine wish to conserve part of one's environment in the face of rapid change; ii) the fear of loss of cultural identity associated with the land on which people live and iii) the enlistment of conservation agencies in land and resource conflicts between clan groups.

The motivation to take part in conservation may also be related to the way in which the project behaves in its interactions with local communities. While ICAD projects are cast in Economic terms, life in Melanesia is based on social relationships. Many conservation projects turn out not to be particularly good at building up relations with communities. Projects seldom give their field staff the type of support that they need and often do not take the time to get to know the social scene in which they operate, to think about the best way to do away with unrealistic expectations, and to move at the pace of their partners. Too often well-meaning conservationists do not realise that there is a strong element of negotiation in one's interaction with communities and that it may be necessary to say no. Papua New Guineans, however, are very good negotiators, and many projects find that they can be extremely tough to deal with.

Whatever the reason for local people's interest in conservation, the existing system of resource rights in PNG emphasises the need to focus on communities. This focus on people rather than resources inevitably demands a participatory approach in which local people's views of their land and resources, as well as their perception of change, and the often strongly-felt need for socio-economic development are from the start dealt with in project design, planning and implementation.

1.3 Lessons-learnt in PNG conservation

While a number of organisations were already working on community-based conservation arrangements in the 1980's, the 1990's saw the development of a wide range of community-based conservation and sustainable use projects in the country. Of importance to the levels of information exchange within the conservation community in Papua New Guinea were especially the establishment of the GEF-funded PNG Biodiversity Conservation and Resource Management Programme and the establishment of the Biodiversity Conservation Network in 1993.

The UNDP-DEC executed programme was one of the first large scale international interventions in the field of community-based conservation in PNG. Next to trying to develop two large conservation areas, the Biodiversity Programme also established a habit of organising regular workshops and publishing a series of very relevant reports. It produced the 1994 Country Biodiversity Study for PNG but is foremost known by its two frank and highly readable lessons-learnt documents by the name of "Race for the Rainforest". The first "Race for the Rainforest" document analyses the failure of the Lak project and outlines the principles of a new non-economic approach to

community-based conservation in the Bismarck-Ramu area. The second “Race for the Rainforest” document describes the results of the Bismarck-Ramu project and the extent to which the lessons from Lak were borne out in reality.

Of particular importance was also the careful documentation of project experiences by the Biodiversity Conservation Network (BCN). The BCN investigated the manner in which local enterprise development could support community-based biodiversity conservation in the Asia/Pacific Region, taking its PNG cases from the Lakekamu Basin, Crater Mountain and East New Britain and publishing these in its report titled “Final Stories from the Field”.

Box 2: A selection of publications on community-based conservation in PNG:

The following publications provide a good introduction to some of the issues encountered in executing conservation projects in Papua New Guinea:

- *The PNG Country Study on Biological Diversity* (1994) by Nikhil Sekhran and Steve Miller (eds).
- *Processes for Effecting Community Participation in the Establishment of Protected Areas* (1997) by Arlyne Johnson.
- *The Motupore Conference: ICAD Practitioners' Views from the Field* (1998) by Simon Saulei and Julie-Ann Ellis (eds).
- *Race for the Rainforest I* (1997) by Rob McCallum and Nikhil Sekhran and *Race for the Rainforest II* (1998) by Julie-Ann Ellis.
- *Loggers, donors and resource owners* (1998) by Colin Filer.
- *Final Stories from the Field* (1999) by the Biodiversity Conservation Network.
- *Through the Thicket* (2001) by Flip van Helden

Anthropologists have also contributed to the study of conservation interventions in PNG. Most notably in the form of the work by Colin Filer on the early interventions in the Lak and the Bismarck-Ramu area, Paige West in Crater Mountain, Joeri Kalwij and Jessica de Koning on the Lakekamu Basin and Flip van Helden in the Bismarck-Ramu area. Next to these efforts a number of other community-based conservation projects in PNG have been described in various project reports, articles and briefs. Altogether the 1990's generated quite an impressive body of reporting on the experiences with community-based conservation projects in Papua New Guinea.

From the end of the 1990's onwards the habit of publishing project experiences and especially that of carefully describing project-people interactions has slackened

somewhat. Although projects continue to produce project briefs and power-point presentations these tend to focus on the policy aspect of project development rather than on experiences from the field. In recent years WWF and The Nature Conservancy have revived the habit of exchanging lessons-learnt through the inception of the Kamiali Group. This group of conservation practitioners from a number of organisations meets once or twice a year to exchange information on issues relating to protected area establishment and community-based conservation.

In 2004 the TNC and WWF decided to commission a lessons-learnt study to analyse the state of play with regard to community-based conservation in PNG. This study took place on the basis of a review of the available literature on conservation in PNG, visits to a number project offices around the country and the 5th session of the Kamiali workshop held on Motupore Island between 19 and 21 April 2005.

1.4 Outline of this study

During the 1990's conservationists throughout the country saw the establishment of conservation-related income generating possibilities as the best method to establish and secure conservation areas. Looking back it is clear that many projects have not been successful and that a number of conservation areas – even those formally gazetted - are under severe pressure from mining, oil palm and logging ventures.

The experiences with these ICAD methods have led to the development of an alternative approach that is based on the principles of community development. Rather than focusing on the resource that needs to be protected and emphasizing the use of economic incentives, this approach focuses on the internal organization of the communities that own the resource and their possible motivation to conserve. It emphasizes the need for people to make decisions and to organize themselves.

These two schools of thought, the resource-oriented versus the people-oriented approach can be distinguished by their vision on 1) the role of participation; 2) the use of economic incentives; 3) the flexibility built into their site selection process, and 4) the way in which they engage communities. Following from this introduction the second chapter of this paper looks at these issues and some of the lessons that can be drawn from them.

The third chapter introduces the various methods used by the Bismarck-Ramu group and the TNC to engage communities in their conservation work. The chapter ends with some comments on the way in which also sustainable use projects may make use of some community development strategies.

Chapter four introduces the community and the difficulty for outsiders to assess its internal divisions and leadership structures. It argues that many conflicts cannot be solved by conservation projects as they find their origin in old patterns of enmity. It

also provides an overview of the typical conflicts that arise *as a result* of conservation interventions and the need to carefully discuss project activities with local communities *before* undertaking them. The chapter ends with a discussion of the uses and risks involved in establishing a variety of committees.

Chapter five assesses the available options for conservation-related development activities and describes how conservationists using the ICAD approach on the one hand promise to deliver development in exchange for conservation, but in practice simply lack the means to do so. Many of the activities undertaken by conservationists raise expectations that simply cannot be fulfilled. Not surprisingly many landowners become increasingly disenchanted with conservation, instead turning towards more promising developments in the form of logging, mining and oil palm ventures.

Chapter six and seven provide an outline of the available conservation options under PNG law. While chapter six outlines the available options under state law, chapter seven looks at the extent to which conservation initiatives can be supported by local-level legal means. Specific attention is given to the work of TNC in drawing up local-level conservation acts on the basis of the provisions of the 1997 New Organic Law.

Chapter eight looks at the contradiction between the size of protected areas sought for by conservation organizations and the dynamics of clan based landholdings in PNG. The chapter argues that while projects aim to conserve very large areas encompassing multiple clan groups in practice they end up developing much smaller conservation set-asides located within the confines of a clan's landholdings.

Chapter nine looks at the issue of land use planning arguing that rather than jumping towards the establishment of conservation set-asides, projects should take note of the totality of clan's resource use patterns in order to optimally adapt the conservation area to the clan's needs and development taking place in the wider surroundings. The chapter also outlines some of the measures that are available to ensure the sustainable use of resources such as wildlife, timber and non-timber forest products.

The paper ends with chapter 10 which states that many of the lessons-learned stipulated in this study are readily available to conservation practitioners in PNG if they take the time to take notice. It also argues that there is a need for a more systematic gathering of conservation-related publications, reports and archives and makes a number of recommendations to strengthen the work of the Kamiali group.

2 RESOURCE VERSUS PEOPLE-ORIENTED APPROACHES TO CONSERVATION

Any conservation intervention in the context of PNG resource tenure is punctuated by a number of fundamental choices on the part of the intervening agency. The first of these has to do with the level of participation by local communities in shaping the actual conservation intervention that it will accept, the second with the extent to which it intends to use incentives to secure conservation and the third with the way in which it selects its site of work. These issues are closely interrelated and together determine the way in which the project motivates resource owning communities to engage in conservation as well as its flexibility and negotiating position vis-à-vis those communities.

2.1 Whose agenda comes first?

Conservation practitioners agree that in PNG the only way to conserve biodiversity is to go through the local communities that own that biodiversity. All agree that it is necessary to take a participatory approach. This however, generates a dilemma, as invoking the principle of participation does not defuse the tension between the project's conservation agenda and the often development-oriented priorities of local communities. The question thus becomes to what extent conservation agencies are able and willing to take local people's motivations into account.

While there is a broad spectrum of participatory approaches (see box 3), there are two broad approaches to dealing with the dilemma generated by participatory conservation. The mainstream approach argues that it is simply unavoidable to prohibit certain activities in order to achieve conservation. If necessary the opportunity cost of restricted resource use can be compensated through the provision of development opportunities. As Wells and Brandon argue (1992: 47) 'Overlooked by most projects is the fact that ICAD projects by definition limit participation. For an ICAD project to achieve its basic objective – biodiversity conservation – people can only be empowered in aspects of development, that do not lead to overexploitation or degradation of the protected wildlife and wildlands'.

The opposing view argues that in the context of PNG land tenure and in the absence of legal enforcement mechanisms conservation can only be secured if the landowners drive the process. Conservation agencies may just as well adopt an open-ended and fully participatory approach aiming to select those communities that have an interest in conservation for its own sake. The upshot of this approach is that one enters into a dialogue with a community of resource owners without knowing where this dialogue will lead.

These two approaches differ in the sense that the first focuses on conservation through the use of economic incentives, while the second focuses on motivating communities to

conserve for its own sake. This choice however is fundamental as it shapes the process from beginning to end.

BOX 3: A TYPOLOGY OF PARTICIPATION

Type	Characteristics
Manipulative participation	Participation is a pretence.
Passive participation	People are being told what has been decided for them.
Participation by giving information	People participate by giving answers to 'extractive' questionnaire surveys, but cannot influence proceedings.
Participation by consultation	People are being consulted but external agents are under no obligation to take their views on board.
Participation for material incentives	People participate in return for material incentives, but have no stake in prolonging project practices when these incentives end or when a competing source of income provides higher rewards.
Functional participation	External agencies see participation as a means to achieve project goals. This may involve shared decision-making, but tends to arise only after major decisions have already been made.
Interactive participation	People participate in joint analysis, the development of action plans and the formation or strengthening of local institutions. Participation is seen as a right, not just a means to achieve project goals.
Self-Mobilisation/ Active Participation	People participate by taking initiatives independently of external institutions. They develop contacts with external institutions for the resources and technical advice that they need, but retain control.

Source: Adapted from Bass, Dalal-Clayton and Pretty 1993: 24.

2.2 The use of incentives in conservation

A second question, but one that is closely related to the view with respect to participation centres on the use of incentives.

Mainstream conservation thinking in PNG is based on the idea that conservation-related economic activities are a necessary incentive to secure the cooperation of landowners. In this view development activities are a means to and an end, rather than an end in itself. Landowners do the same, be it that in their search for development opportunities they may regard conservation as a means to an end rather than as an end in itself. The project becomes a transaction in which the conservationists are not

particularly interested in development, while local people don't really care about conservation.

This does not have to be a problem to the conservation agency as long as local people have no alternatives. However, if people are primarily motivated by short-term economic benefits, than the arrival of more highly rewarding resource uses in the form of logging and mining will trigger a rapid shift in allegiance. Experience shows that many communities will opt choose to swap conservation for mining, logging or oil palm plantations once these opportunities become available.

BOX 4: THE CRATER MOUNTAIN EXPERIENCE

The Wildlife Conservation Society first conducted research in the Crater Mountain south of Goroka in 1977. From 1987 onwards research by a variety of researchers have undertaken studies on a large number of different topics. As local people became interested in conservation and its benefits the initial work done in one village expanded to encompass four villages and eventually led to the gazettal of the Carter Mountain Wildlife Management Area with a size of 270,000 hectares in 1993.

In 1990 the Research Conservation Foundation was founded to work alongside WCS in Crater Mountain. Its main aims were to manage local landowner relations, to conduct conservation awareness training and to develop conservation-related income generating activities. The RCF undertook capacity building trainings and developed a number of activities in the form of eco-tourism facilities and an artefact business. In comparison to other similarly remote areas the people of Carter Mountain have received relatively high cash incomes from the lease of the research facility, the services provided to researchers and tourists, the artefact business and the sitting fees provided to the local WMA Committees. In many ways Crater Mountain appears to be the area in PNG where the ICAD methodology has been most rigorously applied. From the late 1990's onwards RCF operations in Crater Mountain were affected by a lack of funding and repeated staff changes. The WCS in the meantime managed a research facility and continued to train PNG biologists and conservationists.

By the end of 1990's it became clear that the threat in the form of logging and mining ventures was growing. By 2004 the PNG Forest Authority included the area to the south of the WMA in a forest concession, while intensive gold and oil exploration is taking place in large parts of the WMA. While the Forest Authority has identified the middle of the WMA as a possible development area this area is characterised by very difficult terrain and a harvestable forest resource of limited quality and quantity. It therefore appears that within the WMA the threat from mining activities is more immediate. Notwithstanding the long-term presence of RCF and WCS in the area and a vigorous conservation education effort for many years, many people prefer to opt for these more highly rewarding options thus throwing the conservation effort into jeopardy. The RCF and WCS are now reconsidering their strategy in the light of these developments.

The experience with shaky conservation projects in PNG leads to two possible responses in respect to the use of incentives. One side argues that conservation should be seen as a competitive form of resource use. Local people should therefore be provided with jobs, goods and services for forgoing the use of their resources, just as they would be paid for handing their resource over to a timber company. If

competition increases due to the arrival of resource developers then the price of conservation goes up.

Some exponents of this school of thought go one step further by arguing that conservation agencies should not dabble in conservation-related development activities at all. Instead they argue that direct payments coupled to conservation performance contracts provide a cost efficient approach to achieve conservation goals (Ferraro and Kiss 2002). In PNG schemes that pay landowners to conserve have not been tested, although TNC has considered using Incorporated Landowner Groups linked with an endowment fund during the earlier phases of its Adelbert Programme. The possibility of these schemes actually becoming feasible has grown considerable now that the Clean Development Mechanism of the UN Framework Convention on Climate Change has become operational. The perspective of being paid to conserve is gaining interest among resource owners in PNG (PC Helen Perks).

The other school of thought argues that casting the conservation debate in economic terms open the doors to a commercialisation of the environment which will inevitably backfire on conservationists. Its argument consists of two parts. The first is that conservationists - through the use of ICAD mechanisms - emphasize the monetary value of the environment over its subsistence, cultural, aesthetic and spiritual values. Conservationists themselves thus draw communities into the market economy and are thus partly responsible for the increasingly shallow view of the environment found among resource-owning communities in PNG (PC Lester Seri). The second line of this argument stems from the fact that conservation simply cannot compete with other resource uses. The experiences in Lak and in Crater Mountain suggest that conservation projects are unlikely to put together a package of development activities of sufficient size to out-compete large resource development.

These two approaches to the use of incentives in conservation represent the extremes of a continuum between the resource-oriented school that argues that conservation should be secured through economic incentives and the people-oriented school that says that conservation can only be secured if landowners see it as valuable for its own sake. In practice most projects in PNG find themselves somewhere in the murky middle trying to muddle their way through with the use of a variety of more or less rigorous ICAD-like approaches.

2.3 Flexibility in the site selection process

Conservation agencies tend to regard protected area establishment as the work of biologists and conservation managers. These experts assess the ecological significance of potential protected areas on the basis of ecosystem characteristics, species composition and endemism, levels of disturbance and possible threats. Once these matters have been settled does the project come to deal with local people.

The drawback of this approach in PNG is that designing a protected area on the basis of ecological parameters by definition also determines the landowner group with whom one is to work. Conservation interventions however, generate a variety of responses. Some communities see projects as a source of short-term rewards that need to be captured here and now, sometimes leading to aggressive and opportunistic behaviour. Other groups may have a genuine interest in establishing long-term relations with the project as a result of their experience with environmental degradation or their fear with respect to the rate of social and cultural change. In order to deal with this lack of predictability project teams may wish to retain a certain amount of flexibility in selecting their partners and thus their area of work.

The upshot of the need for flexibility is that while many projects spend considerable time and funds assessing biodiversity and drawing maps, doing so in PNG generally has limited value in terms of conservation area planning. The project team cannot possibly predict the outcomes of its conservation program, as these are not so much the result of its own planning process, but the result of the day-to-day interactions between the project and local resource-owners. As a result a number of projects have decided that rather than predetermining the exact site of its intervention it may be more useful to get a general understanding of the biological value of a certain area, subsequently determining the exact spot where one works on the basis of social indicators and the outcomes of a community facilitation process.

Box 5: The site selection process of the Bismarck Ramu ICAD project

People-based approaches to site selection may generate unexpected results. In 1996, the general lack of socio-economic information on the Bismarck-Ramu area and the growing realisation that such information was essential to the success of the project prompted the UNDP Biodiversity Program not to narrow itself down to a specific area of some 50,000 hectares which was to be protected. Instead it deliberately selected an Area of Interest of no less than 325,000 hectares in the Bismarck range as the site for its second ICAD project. Social criteria were later superimposed. The intensive community facilitation process developed by the project eventually led to the establishment of two large WMAs of together 70,000 hectares which happened to largely fall outside the initially selected area of interest. The highlands groups that dominated the area of interest proved much less amenable to conservation due to their high population densities, their internal fragmentation and the unrealistic expectations with regard to the level of benefits that a conservation project would provide (Ellis 1998; Van Helden 2001).

The fact that conservationists depend on people has led to the realisation that social and economic indicators are at least as important for protected area design as biological indicators. Roughly speaking there are three sets of overlapping requirements for successful protected area establishment. One needs 1) a biological resource worth conserving, 2) a community of resource owners that is willing and able to partake in conservation, and 3) options for the development of conservation-related

development. In practice PNG has huge amounts of biodiversity worth protecting, a limited number of resource-owning groups with the motivation and ability to conserve and very few opportunities to develop resource-related enterprises in remote rural areas.

In order to deal with the second aspect a number of projects such as the Bismarck-Ramu ICAD project (Van Helden 1998), the Milne Bay Community-based Coastal and Marine Conservation program (Kinch 2001) have conducted so-called social feasibility studies that attempt to systematically assess the best locations for conservation on the basis of social considerations. In the case of the Bismarck-Ramu ICAD the combined knowledge of the community facilitators and the social feasibility researcher led the project to 'score' local communities on a number of indicators relating to i) resource pressure and the clarity of resource rights; ii) community cohesion, decision-making and participation and iii) possible motivations for conservation (Van Helden 1998). Other projects such as the TNC Adelbert project have commissioned more general ethnographic studies (Sullivan et Al 2002).

2.4 New roles in conservation

The recognition of the need to involve local people in conservation initiatives has led to a change in the composition of conservation project teams. Whereas previously the process of establishing protected areas was one dominated by natural scientists, the growing awareness of the importance of socio-economic and cultural aspects of conservation has led to the involvement of a range of social scientists such as anthropologists, community development specialists and economists. Co-operation between conservationists and social scientists is not always easy. Not only do both fields of study and practice consist of expert systems with their own rules of debate, concepts, language, training and culture, but they also have very different focuses. Where conservationists tend to concentrate on the needs of nature, social scientists often represent the views of local people, thus reproducing the stand-off between conservation and development within the project teams responsible for the implementation of 'integrated' conservation and development projects.

More important than the presence of social scientists is the trend to use Papua New Guinean community facilitators in the development of community-based conservation projects. Known under various names such as community development, community facilitation or community engagement teams, they are the ears and eyes of the project in the field. This type of people is becoming increasingly important to many projects, not only because they tend to have a better understanding of village life, with most being villagers themselves, but also because – as Papua New Guineans – they are well equipped to read peoples responses to the project, to identify possible risks and to think about ways to remedy them.

The community facilitators often also represent the project in the area of work and the way in which they and other staff enter the field, the things they say and do, and the manner in which they behave are of crucial importance to the perception of the project by local people to the level of expectations generated. Community facilitation, however, is a totally different field of play and many conservation agencies in PNG are struggling to understand its principles and techniques. Some do so in order to try to use its ideas as a means to fundamentally change their approach to conservation. Others merely try to use its techniques as a means to further their own agenda rather than to develop a meaningful dialogue with resource owners.

3 ENGAGING THE COMMUNITY

In 1995 the GEF funded Bismarck Ramu ICAD project first coined the idea of using community facilitators and a “community entry approach” to structure its work with local people. Many conservation projects now make use of teams of community facilitators that take communities through a systematic series of steps with the use of PRA tools. The intent with which, and the manner in which this is done may vary considerably.

This chapter outlines the basic ideas behind the community development approach as developed by the Bismarck Ramu ICAD project before describing the approach taken by TNC in the Almami area. The chapter ends with a few comments on the way in which sustainable use projects can incorporate some of these principles.

Box 6: The case of Managalas and the importance of getting it right the first time round

People’s responses to outside interventions are always shaped by their earlier experiences. In many cases the first interactions between project staff and local people determine the view that people hold of projects and how they will in future respond. Changing such ingrained perceptions and attitudes is very difficult and points to the importance of getting the community entry approach right the first time round. Partners With Melanesians (PWM) has been working on the Managalas Plateau since the late 1980’s. During its initial work in the field of awareness raising and literacy training its teams established the habit of paying villagers for everything they provided to the trainers. This now means that every service, however small, provided by local people has to be paid for. These days the PWM is trying to establish a conservation area on the plateau with funding from the Norwegian Rainforest Foundation. The PWM however finds it difficult to assess whether people are genuinely interested in conservation, as it not only pays for meals and accommodation, but also has to pay sitting fees for the community-based organizations it has established to work on conservation and eco-enterprise development. In addition people don’t adhere much importance to what the PWM staff has to say. A number of people are highly educated and have seen it all before. They have a “*mipela save na mipela ken mekim*” (“we know and we can do it”) approach and would rather establish their own CBOs or NGOs to tap directly into donor funds than work through the PWM office in Port Moresby. Establishing a meaningful conservation partnership under such circumstances may prove very difficult (PC Steven Sukot).

3.1 The Bismarck-Ramu community entry approach

In early 1996, the Biodiversity Program and its two ICAD projects were in a state of crisis. The project team was about to terminate its operations in Lak while things in the Bismarck-Ramu area were not progressing well. The project was facing repeated attempts to extort money and there was a serious conflict over the biological survey that it had had held in the Jimi Valley. Everything suggested that both projects had

failed to establish good relations with local landowners. The project team reviewed its interventions up till then and decided to turn away from economic incentives as a means to establish a conservation area. Instead it aimed to establish an open-ended working relationship with local people through the use of teams of community facilitators.

In the analysis of the BRG many Melanesian communities tend towards “cargo thinking”. Communities feel they are unable to improve their situation themselves instead deciding to wait for outside forces such as the government, mining and logging companies but also a variety of ‘projects’ to provide basic services, infrastructure, jobs, royalties and goods. This state of mind keeps people from taking responsibility for their own situation through joint community action. The irony of the matter is that well-meaning outsiders often enforce this state of mind. As they tackle a problem for the community they inadvertently reinforce the view that the community itself is not able to deal with the issue.

The only way to counter this is to refrain from taking responsibility for local people’s problems. Instead one helps the community to gain confidence and to organise itself in such a way that it starts dealing with its problems on its own account. In this view conservation should not be ‘bought’ with the help of development activities but be grounded in communities that are firmly convinced that conservation is worthwhile in its own right. The trick is not to set up a conservation-for-development deal but to identify those communities with an inherent interest in conservation and to help them achieve it through a process of community organisation and empowerment.

The BRG community facilitators would thus do everything they could to emphasise self-reliance and reduce expectations. The starting premises of this new approach were that communities can only make a change for the better if they organise themselves and that they will only organise themselves around issues that generate strong emotions in the form of anger, fear or enthusiasm. In order to find out what moves communities the community facilitators were taught not to “preach” conservation. Recipient populations often act strategically in the face of outside interventions and once communities perceive the project to be after something, many groups will simply make the necessary statements to secure the goods, jobs and money that are associated with the project. If people have a genuine interest in resource management issues this would come out during communal discussions, informal ‘*storying*’ sessions and the use of Participatory Rural Appraisal tools (PRA). Training emphasis was therefore placed on the technique of asking a series of interconnected questions, to arrive at the root of the problem as seen by local people.

The community facilitators thus engaged communities in an ongoing dialogue on the nature of social, economic and environmental changes, the good and the bad in those changes, the dreams that communities had for the future, and the things they could do for themselves. This dialogue thus shifted the focus of the Bismarck-Ramu project away from its initial conservation-for-development agenda towards the question what

communities could do for them selves. The selection of a broad area of interest gave the project the flexibility to allow conservation initiatives to evolve in an open-ended and long-term discussion between its community facilitators and a wide range of local people.

In order to emphasise self-reliance and to avoid raising unrealistic expectations the community facilitators were to follow a number of rules with regard to their behaviour and their use of language. Unnecessary exhibitions of wealth in the form of helicopter transport, project equipment and the consumption of urban foods were thought to lead to unrealistic expectations with regard to the 'share' of wealth that would be made available to the community. As a result the new approach meant that project staff were no longer flown into the area but had to walk from village to village. They were to stay, eat and work with local people.

The community facilitators were very careful with paying local people for services rendered. While unavoidable when people carry luggage for days in end or prepare food for a group for several days, it was not stimulated. The community facilitators were the guest of villagers and would work with them in their gardens or during community maintenance days. They would pay some money where appropriate but would always aim to develop a *social* rather than an *economic* relationship with local people. The bottom line was they were doing people a favour by being there, not the other way round. If a community would only tolerate them there because they paid their way, than there was no point in trying to work with that community anyway. The payment issue thus became part of the community selection process.

The community facilitators were also clear about what they were not and what they did not do so as to defuse some of the expectations that would inevitably arise. During their first meeting with communities the community facilitators thus stated clearly that they were not there to 'bring' money or government services, not a logging or mining company, not a church that came to win souls and not a political party that came to win votes. Neither would they bring anything. The community facilitators were there 'only to talk'.

3.2 A step-wise approach to conservation

Patrols were undertaken for two to three weeks at the time at eight to ten week intervals and would be preceded by intensive briefing sessions. During these sessions the patrols were scheduled and speeches, role-plays, and PRA tools were practised. After the patrols, a debriefing session would record the experiences and problems that the teams had encountered and would pave the way for the next round of patrols. The systematic write-up of experiences in patrol reports and the establishment of a series of village files would allow for a tailor-made approach in each community.

Box 7: Introducing conservation with the help of PRA

The Bismarck Ramu team realised that stating up-front that the project wanted conservation, would make it difficult to separate communities 'genuinely' interested in resource management issues from those just making such statements in order to secure the project. Where people were truly interested in conservation, communities would not be deterred by the fact that the project did not bring development, but would be prepared to tackle conservation through a process of self-mobilisation. The decision not to put its conservation agenda up front, however, did not mean that the Bismarck Ramu ICAD project did not want to direct its discussions with communities towards resource management issues. As a result the project decided to strategically structure its encounters with local people with the help of PRA tools. One of these consisted of a resource mapping exercise in which communities were to draw their community and its resources in the past as well as in the present. The difference between these two maps and the patterns of environmental change that become obvious would lead to animated discussions over how those changes have taken place, who is to blame and possibly about what can be done to stem them. In addition, it was decided to ask communities to conduct two timeline exercises. The first looked at the increase of the number of people, the second at the changing rewards from hunting. Over time the Bismarck Ramu developed an elaborate seven-step process using a variety of speeches, metaphors, PRA tools and pictures in its discussions with a wide variety of communities in the Bismarck Ramu area.

The community entry approach gradually evolved into a series of steps in which the first patrol would aim at trust building with an emphasis on self-reliance, the second aimed at discussing the changes in resource use and the environment with the use of PRA methods, the third involved the analysis and prioritisation of community needs and wants and the fourth and further patrols focuses on aspects of action planning and community mobilisation so as to help people to plan and mobilise resources in addressing some of their local problems. Not surprisingly the most urgent problems identified by communities had to do with the lack of health and education services and with the lack of infrastructure and market access. Other problems that came out in the Ramu Valley had to do with the difficult relations between Jimi settlers and the Ramu landowners.

As time wore on, a number of communities became tired with the Bismarck Ramu community facilitators. During repeated meetings the communities insisted that the project should 'do' or 'give' something to demonstrate that it was serious about working together with local communities. The community facilitators, however, would reply that they were not there to bring anything. People were always given the option of asking the team to leave, as it was their land and their community. In the end some communities asked the project not to come back, while the project itself decided to cease its work in the Jimi Valley following a raft of problems associated with its biodiversity survey and the 1997 elections. Two groups of Ramu landowners however, became key partners to the project, eventually leading to the establishment of two large WMAs along the Ramu River.

In recent years the Bismarck Ramu Group has revised its step-by-step process somewhat. The most important change probably is that it no longer enters into the field without being invited. Landowners hear about its work and come and visit the office to ask them to come and talk. The initiative thus lies with the community not with the project. Once the BRG teams go in, they use a first set of four steps to get to know a community and the issues at play within the community. If people appear to be most interested in development services it helps them to prioritise their problems and to define what the community itself can do about tackling these. In some cases it may bring people in touch with the relevant authorities or NGOs active in that field.

When people want to talk and think about conservation the Bismarck Ramu Group uses a second set of steps to implement the type of conservation that people feel suits their purposes best. In a number of cases this conservation process has led to the establishment of wildlife management areas and the signing of conservation deeds.

3.3 The Almami Conservation area establishment process

The community entry process developed by TNC to structure its interventions in the Almami area resembles the process of the Bismarck Ramu Group in many ways. The project makes use of patrols that travel through the area and uses a number of similar steps and PRA tools in its initial community development process. The main difference however, is that whereas the Bismarck Ramu Group uses its community entry process to find out what motivates people, the TNC uses the community facilitators to smoothen the process of conservation area establishment. It knows what it wants to achieve and aims to convince the Almami landowners to put aside part of their land for conservation. The community entry process is the 'soft' precursor of a more-output oriented conservation area establishment process.

Box 8: TNC COMMUNITY ENTRY AND CONSERVATION AGREEMENT PROCESS

Community development process	Conservation agreement process
P1-Community Entry	S1-Introduction
P2-Community History	S2-Community meetings for initial agreement
P3-Resource Mapping	S3-Documentation
P4-Conservation Area Planning	S4-Resolving boundary issues
P5-Ward development plan	S5-Writing up reports of meetings
P6-Community visioning	S6-Community letter to Advisory committee
	S7-Boundary demarcation
	S8-Finalizing information
	S9-Signing of Conservation Agreement

Upon entering the villages the TNC community facilitators explain the community who they are and why they are there, subsequently taking them through a timeline and resource mapping exercise. This visit also gives the community facilitators the opportunity to collect information on the area and its people. They also discuss the development needs of local communities culminating in a ward development plan. Following the community development process During subsequent visits the community facilitators take the villagers through a step-by-step process leading to the establishment of a conservation area and the drawing up of a conservation agreement that is formalised under the Almami Environment and Conservation Act.

Next to the community-based conservation planning the TNC has two parallel processes. The first is called the Biological Science Process and collects data on local ecosystems and biodiversity with a view to identifying and aping biodiversity conservation targets, i.e. those systems, species and areas that warrant special attention. A threats analysis is made to identify the most likely causes of disturbance and degradation of these conservation targets. The TNC uses this information to explain to villagers engaged in the establishment of their conservation area and the drawing up of their management plan why some areas are of higher importance than others and why certain rules with regard to the management of the area may need to be taken.

The third component of TNC's work consists of the Development Planning Process. TNC staff and the community facilitators make clear that they are not there to provide development assistance of any kind. The TNC however, is looking for local partners that may assist the local-level government in acquiring health and education services, improved water supplies, and support for small business development. At the moment the project is assisting the 18 wards that fall under the Almami local-level government to come up with so-called ward development plans which together feed into the local-level government development plan and its budget submission to Bogia District, Madang Province and the National Government. TNC has sought funding assistance from CDS to engage Spice Tech specialist to provide training in the growing, processing and marketing of vanilla. TNC is also discussing the option of setting up a micro-finance scheme.

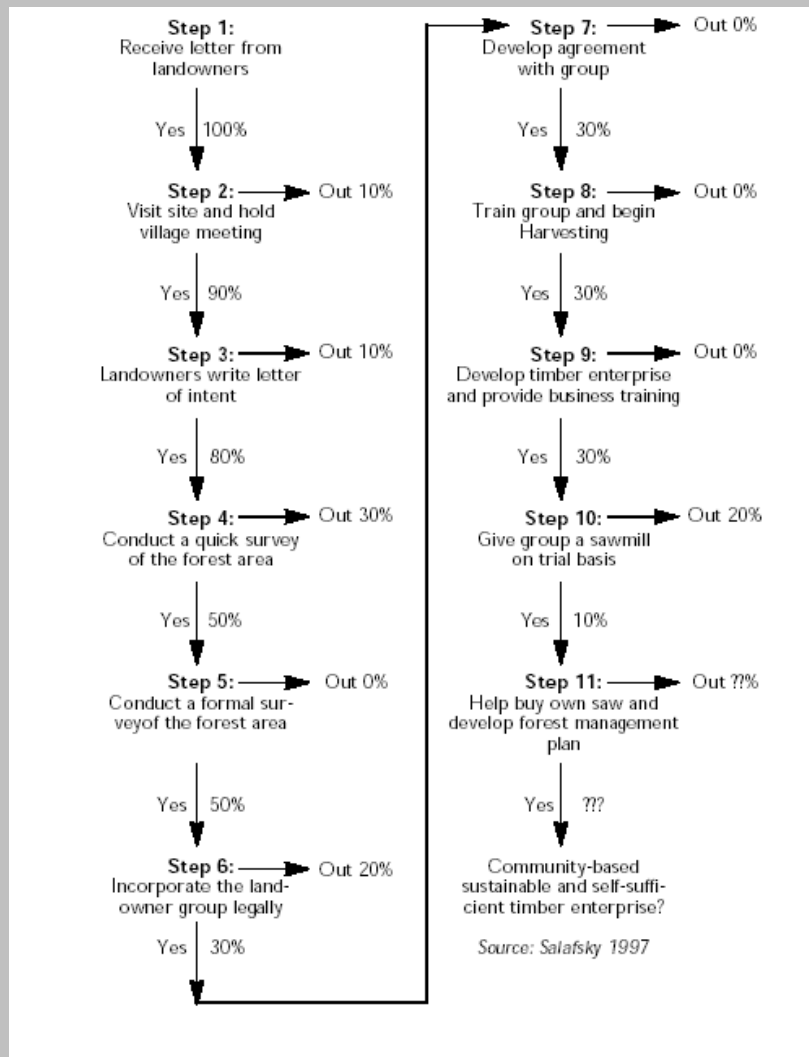
This third component is of crucial importance to the local-level government and local people alike. Notwithstanding the TNC line that it will not "do development", many people in the area are involved in the project because they hope that participating in conservation will bring them some form of development. Either because TNC provides such services itself or because TNC knows how to access the service providers that can.

3.4 Community self-selection in sustainable use projects

A community entry approach such as used by the BRG may not be entirely applicable to projects that aim to support communities in developing certain skills and enterprises. However a project attitude that accepts that the development process has to be driven by the communities themselves and should not be imposed or bought by well-meaning outsiders can be applied. The Village Development Trust is now considering how to merge some of the lessons derived from the BRG experience with its own work experiences in eco-forestry development.

Box 9: The Self-selection process of the EU community-based sawmilling project

The eco-forestry programme of the Island Region Environmental and Community Development Programme developed one of the most rigorous community self-selection mechanisms in the field of small-scale sawmilling:





The way to go about this is to set up a process of self-selection that requires an effort on the part of the community. Only few communities have the motivation, the drive and the ability to meaningfully engage in projects. By expecting a contribution and a certain effort from people the project quickly separates the communities that are prepared to put in the effort from those hoping for a quick gain, those that are marred by conflict, and those that are driven by a single individual rather than the community at large.

The most important aspect in such a self-selection process is to put the initiative squarely with the community. The community has to write the letter, visit the project office, and welcome the project staff when they go out into the field. While working in the field the staff can expect village style food and accommodation for free. Why would they pay? The project is doing people a favour, not the other way round. Another mechanism is to stick to the old kina-for-kina-policy in which communities are to put up part of the funds needed for certain activities or goods. Only those that are motivated and organised will make the effort.

Putting the initiative with the community inevitably means that things to develop at a pace that the community feels comfortable with. Unfortunately most conservation and development projects lack the flexibility to cope with the slow pace of community development. The larger they are, the more rigid they tend to be and the more likely they are to do things for people rather than to get communities to do things for themselves.

4 COMMUNITIES, CONFLICT AND COMMITTEES

Papua New Guinea is often highly fragmented and highly politicised, leading to variety of difficulties and conflicts. In many cases there is very little that the projects can do about these conflicts. Often the project itself gets enrolled in already existing social tensions. In other cases conflicts are related to activities undertaken by the project. Some of these project-induced conflicts can be resolved if the project takes the time to 'process' them with the help of community facilitation techniques, others cannot and may require the project to simply step back.

4.1 Communities and leadership in PNG

Conservation interventions are often based on a rather simplistic view of the "community" with which the project intends to cooperate. Often it is implicitly assumed that because people share the same locality, they therefore share a sense of commonality and purpose. In many instances such a homogenous view of local communities does not conform to reality. Different clan groups may inhabit a village, while landowner-settler relations are notorious for their instability. In fact a community is made up of a large number of different, partially overlapping social groupings consisting of a variety of clan, sub-clan and family groupings, but also youth, women's, sports, business and church groups. One way of making these visible is with the use of a PRA tool known as a Venn diagram. A clearer understanding of the differentiated nature of communities with their conflicts and rivalries may help the project team to prepare its co-operation with local people. Crucial for the project is especially to find out which grouping makes decisions over the use of land and resources and where possible conflicts over resources and land exist.

A similar issue is at play with respect to leadership. Leadership in PNG is usually highly competitive and takes a wide variety of forms relating not only to traditional forms of leadership and formal government sponsored functions but also to youth, women, and business groups. Formal salaried leaders such as councillors and magistrates are not necessarily more influential than their non-formal counterparts, and forgetting to include one or more self-styled leaders in discussions may lead to unexpected opposition. Thus a good knowledge of the community, its essential divisions and main characters and a range of contacts within the community, are essential for any project aiming to establish a 'working relationship' with local people.

Important to realise is that public meetings may not be the best means to get an insight in community divisions and leadership. Public project-people interactions tend to reinforce a homogenous view of local society as in many communities an ethic of solidarity prevails in the face of outsiders. This ethic leads people to momentarily suppress conflicts simmering under the surface. Moreover people that speak out

during public meetings may appear to represent the community, but the assumption that when a big man speaks out, his word is given on behalf of all needs to be treated with care. Many leaders should be treated as individual personalities with private attachments, commitments and priorities, and not as representatives of a homogenous and well-defined community. A tendency to take public statements at face value and as an expression of collective interest, without sight of the possible political, strategic nature of such statements, sets the stage for possible disappointment on the part of the project team.

One way of gaining a better understanding of communities is not to limit the time that community facilitators spend in the village to formal interactions. It is only through getting to know people, by spending time with them while working and living that local issues and divisions become apparent.

4.2 Conflicts within communities

Many communities in Papua New Guinea suffer from conflicts. Often these conflicts are of an historical nature reflecting old patterns of enmity and competition. In many instances projects are enlisted in the conflicts between groups of people. Thus the Ramu River clans, concerned as they were with the encroachment by Jimi settlers, saw the demarcation of a WMA as a means to reassert their landownership. In the Lakekamu Basin the Kurija group has a land conflict with its Biaruru neighbours. The notes on landownership taken by the visiting biologist that initiated the Lakekamu ICAD project are now used as an argument in favour of the Kurija land claims (Kalwij en De Koning 2000). Such patterns of conflict are unlikely to change as a result of a project's intervention and projects do well to take note of these divisions. It would for example, be unwise for a project to suggest cooperative conservation arrangements between long standing enemies.

In some cases it may be possible to solve conflicts through mediation. Many villages have mediators and traditional leaders that are skilled at solving arguments between clans, that try to avoid warfare and broker peace and that set compensation levels where necessary. If communities are exceptionally motivated it might be possible for a project to ask these brokers to try and settle a dispute, but in many instances projects simply have to accept the fact that they do not have the means to change the underlying social relationships within their area of work. In that case, it may actually be best for the project to temporarily withdraw from the area altogether in order to avoid being associated with one of the belligerent groups.

In many cases conflicts are triggered by resource and land issues. Especially in areas where the value of land and resources suddenly explodes as a result of mining and logging interest, land claims may harden, leading to competing ownership claims, an influx of outsiders and protracted legal battles. Conservation projects too may trigger

such conflicts as the locality where the project chooses to work to a very large extent determines the flow of benefits and prestige.

4.3 Common conservation-related conflicts

Some of the most common issues that trigger conflict are those related to surveying work, employment issues and the use to which the project's assets are put.

The assessment of biodiversity: Western conservationists assessing biodiversity through the use of survey techniques often act as if they are working on no man's land. They do not fully take account of the fact that resource ownership is a highly political matter and that many communities are seriously concerned that outsiders are "stealing" their land and resources. This feeling is exacerbated by the heated debate over land registration as well as the international debate over intellectual property rights. Entering into an area to conduct biological research requires careful explanation of the reasons why this is done and the methods that are used. In addition it is of crucial importance to understand on whose land one is working and thus who benefits from the presence of the survey team in terms of jobs, the provision of accommodation and meals.

Box 10: The Jimi Valley biological survey

Large-scale biodiversity surveys have in a number of cases triggered serious conflicts between landowners and between landowners and the project on resource ownership and employment issues. In the case of the Bismarck-Ramu ICAD project for example a biodiversity survey conducted in the Jimi Valley with little advance preparation of the local clan groups, leading a clan leader to complain that the survey team came 'like a thief in the cover of the night' The survey led to serious conflict between people and the project, a US\$ 100,000 compensation claim and the involvement of the Prime Ministers Department and the National Intelligence Organisation. Eventually the project was forced to withdraw from that particular area all together. For the Bismarck-Ramu ICAD project the inevitable lesson that flows from this experience is that biological research initiatives themselves have to be facilitated by a community entry process. (For a detailed account see Van Helden 2001a).

Building a research/conservation base: A second typical issue is the location of a base or resource centre in the conservation area. Clan-groups often compete with each other over where the project should base itself, regarding the location of the 'base' as an indication for the project's political affiliation within the clan-based landscape. Many realise that the benefits of its presence will flow to the landowners on whose territory the project operates. In the BR ICAD Project this led to several Jimi groups offering to build a base, at the same time aggressively questioning the reasons behind its location in a particular village. In the end the project gave up on establishing a base altogether, preferring to patrol the area on foot.

In the Lakekamu basin people's initial responses were quite different and mainly guided by a mistrust of the intentions of the project. The first thing the project had to do was to establish a research base in the Basin. This was harder to realise than expected. CI and FPCD tried three other locations but had to leave these due to land disputes and misunderstandings over the purpose of establishing research camps. The fourth time round the local community accepted their presence and the Ivimka Research Station was built. Projects do well to very carefully assess the location of their infrastructure, discussing it at length with local people, while giving people time to sort out their differences before actually starting work.

Communications: The difficult communications between field staff and headquarters often leads conservation projects to put radios into the area of work. These however, may trigger heated arguments similar to those related to the location of a project base. Putting a radio in with one clan group very often generates jealousy among other groups. Important for the project is to consider whether it cannot make use of other ways to communicate. The Managalas project of PWM for example makes use of the radios installed at health posts for a small fee, while the BRG makes use of Radio Madang to send messages to remote areas.

Box 11: The base, the radio and its watchmen in the BR ICAD Project

The location of the 'base' in the village of Pimum, the fact that it possessed a radio and that two men were being paid to look after it would dominate discussions between the community facilitators and local people. Many communities argued that they too needed a base and a radio in order to partake in the project. At Bubulsunga, for example, Pastor Kulinge said that since there is a radio at Pimum in the Ramu area, there should be one placed at Bubulsunga as it is a centre place in the Jimi area. Since there are a lot of people and groups coming into the Jimi to talk about logging, a radio stationed in Jimi area would help to give information to the DEC in Madang. When the community facilitators persisted in their attempts to focus the discussion towards issues of self-reliance and resource management people got angry and demanded to see the 'boss'. In the end the base in Pimum was burned – apparently by accident – while the project decided to take out the radio and fire the two men that looked after it in an attempt to refocus its discussions with local people (See Ellis 1998; van Helden 2001).

Employment issues: In ICAD terms common sense dictates that one employs people from the area that one is trying to conserve. Creating employment is one way of funneling conservation related-benefits back into the community. There are, however a number of issues that need to be watched. The first is that one is aware of the group to which one's potential employees belong. Part of the conflict over the radio and the men that were paid to look after that radio resulted from the fact that they were highlands immigrants living in the Ramu area and that the local landowners felt that they should be given these jobs. The second thing to watch are the way in which personal linkages

may affect local perceptions of the project and the manner in which the project may be enlisted in the political aspirations of project staff coming from the area. The BRG had very poor experiences with employing local staff and in their recommendations to the Adelbert project Sullivan et al. (2002; 288) also suggest that the TNC community facilitators should “not be members of the immediate community, perhaps not even of the Almami LLG itself for reasons of potential political conflict. This is a general rule for most administration policies in the country”.

All of these issues point to the need to carefully assess one’s options, and to take time to discuss them with the community facilitators before undertaking action. Many conservation projects however, are characterized by short project-cycles with teams having to achieve predefined outputs in an unrealistically limited amount of time. Often this means that projects “get on with their thing” until they run into trouble.

Box 12: The Jimi Community Facilitator and the 1997 elections

The BR ICAD project recruited a Jimi community facilitator because the team perceived him as somebody who should have a natural rapport with people in the area. This guy however, happened to brief the involved communities as to the type of pro-conservation responses that the Bismarck-Ramu project was looking for in its attempt to select those communities with a ‘genuine’ interest in conservation. As a result all Jimi communities visited during the first community development patrol, saw ‘conservation’ as their dominant problem. This was a remarkable switch in comparison to the earlier experiences in the Jimi Valley when a range of issues but few of them having anything to do with conservation had been the topic of discussion.

In addition the community facilitator used the project as the prime vehicle for his 1997 election campaign. His campaign made it difficult for the other community facilitators to move about freely as they were continuously associated with the community facilitator’s political campaign and consequently received threats from other contenders. In addition, it became clear that his period with the project had given the community facilitator a piece of strategic information, namely an idea of the total budget of the Biodiversity Program. He asserted that this money was intended for the Bismarck-Ramu area and that he would make sure that the Jimi people would receive ‘their share’ once he was elected into office. As time went by, he increasingly asserted that in fact he was responsible for the projects arrival. As a community facilitator report notes: ‘the people in the Jimi area have been told, by the community facilitator that the Project has funds of K2.5 million... He told the people that the money is used by the DEC in the Bismarck-Ramu area. He said that he got this money from the World Bank and employed expatriates and locals to work in the project. Radios were also bought using this money, two being used by the patrol teams and one that is stationed at Pimum’.

As time wore on discussions with the Jimi turned increasingly nasty. At Bubulsunga, a community problem analysis stalled when local youngsters told the community facilitators that they wanted what the community facilitators had: education, a job with a regular salary and shoes at their feet. Increasingly, the project team became a symbol for what the Jimi lacked. In the end the community facilitator lost the elections, but the cargo mentality that prevailed constituted one of the reasons that led the project to abandon the Jimi Valley altogether

(Source: Van Helden 2001).

4.4 Establishing committees and community-based organizations

Conservation agencies often actively support communities in setting up more formal decision-making structures in the form of incorporated landowner groups, community-based organizations and a variety of conservation committees. The idea is that with such formal structures in place, the required training and capacity building, communities will be better equipped to make transparent decisions. In a number of cases such as with the establishment of WMAs and Conservation Areas the establishment of committees is a legal requirement. There are however a number of reasons why the establishment of formal committees should be treated with some care.

- 1) Communities in PNG have always made decisions and it could very well be that the existing system is able to cope with the issue at hand. Why change an existing system?
- 2) Newly introduced decision making structures always change the balance of power within a community and therefore always generate resistance and debate. The membership of formal committees often becomes an indication of local status and political influence, thus overshadowing the issue for which the committee was appointed in the first place.
- 3) When committees are appointed these often serve as an excuse for the remainder of the community not to take responsibility. People will argue that the committee should take the lead, but because they have done nothing, nothing has happened.
- 4) An additional issue may have to do with the fact that 'committees' are associated with 'sitting fees' and other perks. This throws up two issues: 1) It becomes very difficult to assess local interest in conservation once one starts paying community members for taking part in the project and 2) discussion within the committee tends to be dominated by those things that the members feel they require in order to do their work; usually radio's, cars, sitting fees etc.
- 5) Working through committees also carries the risk that the members of the committee may try to control the flow of information thus generating suspicion among other community members. In PNG landowner companies dealing with logging companies are the prime example. Committees should always be publicly accessible and if they function well in many ways resemble community-wide meetings.

In recent years there has been an intensive move to develop so-called Community-Based Organizations (CBO), which are registered with the Investment Promotion Authority. This move mirrors earlier drives to establish Incorporated Local Landowner Groups during the 1990's. It also generates many of the problems similar to those with regard to the establishment of committees.

Box 13: The trouble with conservation committees

In some cases the discussion over committees, who is on them and why and what they get paid and should become so burdening that the best thing to do may be to forget about the committee and look for other ways of decision-making.

In the Lak area, the establishment of a local management committee not only led to debates on who is in and who is not, but also triggered protracted debates on 'sitting fees' and the use of vehicles (McCallum and Sekhran 1997).

In the Bismarck–Ramu area, notwithstanding the endless repetitions by the community facilitators that they were not going to 'bring any form of cargo', some of the local people still thought they would be paid for taking part in the conservation committee. In some ways, this assumption is not so strange given the fact that the project employed two radiomen. The distinction between those that were to do things for their own sake, and those that were being paid to do similar things may thus have appeared rather arbitrary. Consequently, committee formation became a source of dispute. Time and again the BRG community facilitators would return to hear that there were arguments about who was on the Wildlife Management Committee, that the chosen representatives had to be changed, that the relations between the community and the committee were unclear, or that the committee had not met. This proved a frustrating experience in which the community facilitators could do little else than emphasise that if people 'really' wanted conservation, they had to 'organise themselves' and 'work together'. In the end the BRG simply decided to do away with the committees all together. Decision and rule making on the WMA was something that had to be done by the clan group as a whole. This took away some of the tensions surrounding the conservation committee and in the end allowed two small groups of Ramu landowners to draw up two WMAs and their rules

(Source: Van Helden 2001).

The idea is that by setting up such formal organizations within communities, and by having formalized decision-making procedures local people will be better equipped to engage in business activities. Another important reason for this trend may be that CBO establishment may allow communities to directly seek funding from donors, without having to do so through existing conservation agencies. A number of communities are unhappy with the "*namel lain*" ("the people in between") who are seen to be eating up the funds that local people feel should be directed towards their community. (PC Robert Bino, Steven Sukot).

Some conservation NGOs use CBOs as a vehicle for local eco-enterprise development, which may make sense if such an enterprise is in a stage of reaching viability. Other organizations such as FPCD in Lakekamu set up CBOs as part of their exit strategy from a certain area, thus establishing a formal body that they can make responsible for the further execution of project activities. However, one does not need a CBO to conduct business and in those areas where economic opportunities are limited, its establishment will not resolve the constraints to business development. Moreover communities have always had the opportunity to solicit donor funds as long as they

put together a proposal and execute it in a reasonable fashion. Those that can do this also have the skills to set up a formal organization of some sorts if this is required.

In short it is difficult to see what the advantage of random CBO establishment is in terms of community development. There is a risk is that this trend is of a largely symbolic nature: Local people probably take it on as part of a “cargo thing”: they hope that going through the right steps and getting formal registration will somehow generate development. There is however little hope that CBOs can generate enterprises that local clansmen cannot. They are after all the same people. To the NGOs working in remote rural areas and starved for some form of success in the light of failing eco-enterprises, CBO establishment is simply a way of being seen to do things. It is likely that once communities and NGOs realize that CBO establishment does not solve their problems and actually require the continued payment of registration fees that the trend will fade away.

5 OPTIONS FOR CONSERVATION-RELATED DEVELOPMENT

The development of small-scale business activities linked to the establishment of a protected area stands at the heart of conservation debate in PNG. This chapter outlines the constraints on enterprise development in remote rural areas, the available options for developing such activities, and the way in which many project gradually slip into supporting activities that are not linked to conservation in an attempt to keep people on board.

5.1 Options for conservation-related business development

The areas in which conservation project operate are typically characterised by being very remote with a great lack of transport and communications infrastructure. Many parts of the country are accessible only on foot or by air. The few airstrips found in conservation areas are often only serviced on demand. Moreover many of the people inhabiting these conservation areas live at a days walk from these airstrips. These constraints imply that only businesses that sell their produce or services locally - such as research and eco-tourism - or endeavours which produce a high-value to weight ratio - such as gold or vanilla - may be feasible. As a result of these constraints and the need for a linkage to the conservation area that is being established business options pursued by conservation projects in remote rural areas tend to be restricted to the following alternatives:

Research tourism: PNGs environment attracts biological researchers who spend time in remote areas to study the fauna and flora. In doing so they make use of a locally constructed research facility, buy local food and make use of local labour through carriers and research assistance. During their work these researchers inevitably discuss conservation issues with the people they work with, thus gradually inculcating conservation values. The organisation that has most systematically developed this option is the Wildlife Conservation Society that runs research facilities in Carter Mountain south of Goroka and in Mekil in Western Province. Another research program worth mentioning is the community-based turtle monitoring work done by VDT along the coast near Lae. A number of organisations have tried to follow the WCS example, often with mixed results. This not necessarily a bad thing as the number of researchers wanting to work in PNG is limited and as conservation projects may end up competing against each other for the few people that come round.

Eco-tourism: A number of projects have started eco-tourist facilities by developing basic guest houses, training people in running them and laying out trekking routes or day trips to local attractions. Among the projects that have pursued this option one finds the RCF in Crater Mountain, FPCD in the Lakekamu Basin and VDT in a number of

communities around Lae. As with researchers however, the number of tourists visiting PNG is limited. The country is comparatively expensive and its reputation for insecurity does not do it much good. Here too conservation projects end up competing with each other for the few eco-minded visitors that make the trip.

Dive tourism: This particular brand of eco-tourism has gained increasing interest as a result of the shift in attention from terrestrial to marine conservation. The CI project in Milne Bay, for example aims to develop a system of dive fees to induce local people to develop community-based marine protected areas. This provides local communities with an income from these areas and thus with an incentive to maintain the integrity of their reefs. The dive industry in Milne Bay, however, consists of only three independent dive boat operators who jointly serve about 1,000 visitors each year. This suggests that even if the operators are prepared to levy a dive fee per guest each time they dive in a community-based marine protected area the total level of benefits that can be expected is rather limited. In addition the number of communities that can benefit from this form of income generation is limited to those within a reasonable sailing distance from the provincial capital Alotau.

Butterfly farming: PNG's astonishing array of insects and butterflies provides a source of income for people in remote rural areas. The Wau Ecology Institute instructs people on which plants to plant in order to attract these insects to lay eggs. After hatching the insects are preserved and subsequently sent to the Insect ranch at the Wau Ecology Institute that sorts the specimens and sends back the money. The Insect Farming and Trading Association manages the export permits required for sending these insects to collectors overseas. In theory this is an almost perfect ICAD activity that is also suited to remote rural areas. It requires an intact forest and some labour and skill, but little by way of financial investment. The final product is of little weight and therefore easy to transport. Due to the proximity of the Wau Ecology Institute local people in the Lakekamu Basin would send their insects on the weekly flight. However as airlines no longer service the Kakoro airstrip, interest has waned.

Eaglewood: Eaglewood or *Gaharu* wood is a product that has gained considerable interest over the last couple of years. Three eaglewood producing species have been identified in PNG since 1997. Eaglewood is essentially a resin rich wood that is highly valued on Asian markets. The resin production is the result of a bacterial infection of the tree following local trauma. Making cuts in the bark can stimulate the production of resin. The WWF South Pacific Programme is now looking into the management of eaglewood by local communities and into its potential to generate local conservation-related incomes. The PNG Forest Authority has selected four so-called Eaglewood Management Areas, stretches of intact forest that will be used for community-based management of Eaglewood and other non-timber forest products. The WWF is subcontractor for the work done in Cape Rodney and the Hunstein Range and has developed a 14-step methodology to train people in the management aspects.

Eco-forestry: Sustainable forestry programmes have gained considerable attention since halfway the 1990s. The idea behind these programmes is that conservation agencies can assist local people to gain an income by producing timber without destroying their resource base. These projects fall apart in two types; the large-scale ventures whereby conservation agencies take it upon themselves to bid for the forest concessions tendered by the PNG Forest Authority and those projects which provide technical assistance in sawmilling and forest management to resource-owning communities. Models for the former type have been investigated by the LAK ICAD project in 1997 and by the TNC in the Josephstaal concession at the end of the 1990's. In the Lak case landowners preferred to work with a logging company that had already been active in the area for quite some time, in the case of Josephstaal the TNC lost the bid for the concession.

Box 14: Eco-forestry development in PNG

Many regard eco forestry as the best option to using the countries forest resources in a sustainable way while bringing much needed income to remote rural areas. While a number of initiatives have been developed over the last 10 years this option is still in an early stage of the development. Over the years a number of publications and manuals have been published which outline the principles of eco-forestry providing practical operational guidelines for operating sawmills and working with local resource owners. The most important of these are:

- *Portable Sawmill Training and Reference Manual*" (1995) by the Village Development Trust
- *Eleven Steps for Setting up Community-Based Timber Harvesting Enterprises*, 1997 by Nick Salafsky
- *Cutting Trees to Keep the Forest*: (2000) by Flip van Helden and Jochem Schneemann
- *Forest Management Guide* (2001) PNG Eco-Forestry Forum
- *Small-Scale Sawmilling Operational Guidelines* (2002) PNG Eco-Forestry Forum
- *Small-scale Sawmilling Information Pack* (2002) PNG Eco-Forestry Forum

In terms of large-scale sustainable forest operations the only publicly available manual for PNG is that written as part of the Lak ICAD project entitled

- *A Model Business Plan for a Sustainable Forestry Enterprise in Papua New Guinea* (1996) by Sekhran et Al.

Small-scale community-based ventures are currently being promoted by the Village Development Trust in Lae and by the FPCD in Madang. The equipment used is known as a *walkabout sawmill* because a team of six can take it apart and carry to through the bush to the three that will be cut. These projects are quite capital, knowledge and labour intensive in comparison to the other mentioned conservation-related activities and require intensive coaching and technical support on the part of the project. It is

potentially also one of the more rewarding ventures, especially if part of the timber can be sold on overseas markets. The transport of the timber, however, is a major obstacle and communities without road access basically do not qualify for this type of project. A second obstacle is the investment required to get a community to acquire its own sawmill while the third issue of importance is the need to monitor the sustainability of its operations.

Of importance for this activity was the establishment of the Eco-Forestry Forum in 2000. The Eco-Forestry Forum is made up of a number of NGOs active in the field of forestry and aims to promote the idea of eco-forestry. The Forum not only provides for information exchange, and awareness raising but also actively engages the government on forest policy issues. It produces a quarterly newsletter called *Iko-Forestry Nius*. The Eco-Forestry Forum has also stood at the basis of the establishment of FORCERT a organisations that supports small-scale sawmilling ventures to obtain FSC certification (see Box 25).

5.2 Other business and community development options

Conservation agencies often also undertake community development and business development activities that are not directly related to the maintenance of a conservation area, but that may help to give people a favourable impression of the conservation project.

Artefacts and tapa cloth: RCF developed a marketing channel for artefacts from Crater Mountain generating quite a sizeable income during the second half of the 1990's. The trade seems now to have slowed down. Tapa bark cloth painted with the striking designs of the Maisin people has become a major supporting factor in the Collingwood Bay project. The trade did very well at the end of the 1990s when Greenpeace supported the marketing of tapa cloth in the US and Australia. Since then sales have dropped and the trade has been sluggish (PC Lester Seri).

Vanilla: In recent years the high value of vanilla and its low weight and volume have led a number of conservation projects to introduce this crop to their area of work. TNC for example has asked the CDS to provide training in vanilla farming, harvesting and processing to the people of the Almami local-level government. The price however, has recently fallen from 400 to 50 kina per kilo.

Betelnut and okari nuts; Many remote areas grow betelnut and a variety of nuts. In the absence of road transport these nuts cannot be marketed. Some agencies have tried to 'solve' the issue of marketing produce from remote rural areas by subsidising the freight costs. This FPCD with the help of a US researcher hired charter flights to bring betelnut down to the Moresby market from the Lakekamu Basin. The Lakekamu betelnut proved to be of a rather low quality while the costs of airlifting it out were prohibitive (FPCD 2003). Partners with Melanesians airlifts okari nuts from the

Managalas plateau to Port Moresby making a significant loss on every charter (PC Steven Sukot).

Workshops and trainings: PNG has a wide range of NGOs which deal with topics such as conflict management, literacy, land registration, conservation awareness, business development and gender issues, Due to the limited number of feasible business options, many conservation projects seek out other NGOs to provide training to the communities that they work with.

5.3 The business of growing resentment

The lives of people living in the remote rural areas are largely subsistence based although they do need cash for clothes, small household items, school fees and medical care. People often do not fully understand how money works, leave alone what it takes to set up a business. Some NGOs provide general courses to increase the understanding of business principles by local communities. The problem with these courses is that they often implicitly suggest that business can flourish anywhere, which is pertinently untrue. As a result, these courses inevitably raise expectations. Only once the trainers are gone does it appear that there are no buyers for a certain product, no transport and marketing facilities for locally grown produce and no tourists to host. Worse even are those trainings aimed at the development of specific small-scale eco-enterprises without first considering whether such a venture has any chance of sustaining itself in the area where it is introduced. The project facilitates the necessary trainings and expects people to commit their time and labour, while it could know in advance that such a line of business is not feasible in the area in question.

Not surprisingly people are disappointed when they find that the project's ability to generate business is limited and the various trainings lead to little real improvement of their lives. Project staff often justify these trainings and activities by saying that that they had no choice because "they had to do something for the people". The side effect of these training sessions however, is that they give people a taste of the options that they would have had if they lived elsewhere or if there were a road in their remote land. This may actually increase the demand for logging for oil palm. Unlike conservationists, logging and oil palm companies are known to build roads.

As conservation projects start off by following the ICAD philosophy and invest in some of the activities mentioned. Over time they find that these ventures are not viable, and even if they are, that they provide very little benefit to the majority of people. In some cases the distribution of benefits in relation to the size of the conservation area may play a role as a large area is put under conservation while the largest part of project benefits flow to one village, generating resentment among other groups. In other cases a single Big Man may dominate project activities. The result is that many people living in conservation areas actually see very little benefits from conservation.

Box 15: Setting people up for disappointment:

Well-intended trainings for general business development or conservation-related enterprises risk reinforcing local resentment when such enterprises prove not to be viable.

In November 1999, FPCD organised a Start Your Business (SYB) Course in Kakoro in the Lakekamu Basin. SYB is training in simple home and business economics that was originally initiated by the UN. SYB courses have been given in over 100 countries. The course had some 17 participants two of them were women. It took a while before people relaxed and participated enthusiastically. The class tackled problems such as price determination, the problems that will rise when starting the business and the writing of a business plan. One of the attendants calculated that that his poultry farm would make a profit of 2000 Kina by selling chicken in the first month. The teachers were delighted that the man was able to calculate this. The fact that day chicks and stock feed would have to be flown in from Wau and that there are very few people in Kakoro to sell chickens to was not taken into account. (Kalwjj en de Koning 2000:76)

FPCD in Madang provides the members of the Madang Forest Resource Owners Association with training in the use of *walkabout* sawmills and the sustainable management of their forests. It will lend its mill to communities in order to help them get used to the work and to upgrade their school or aid post. The problem is that once people have gone through all the trainings they find that there is no mechanism by which the community can acquire a mill of its own. FPCD is looking at options to remedy this problem (PC Yati Bun and Baput Bazakie)

Well known in PNG is also the story of the Kakoro guesthouse in the Lakekamu Basin by John Sengo: "In the first year we had a training session about ecotourism. One of the guys got all inspired and wanted to build a guesthouse. This was really hard. I was glad that he was showing interest but I was worried about not having gusts come. They built the house and then they started asking when the tourists would come. I didn't know what to tell them. ... Only a few people have come and already the guesthouse is starting to fall apart.... Even now when I go back to the Basin they ask me: 'when will they come? Is there any news of tourists coming?'" (BCN 1999: 167).

The level of resentment on the part of local people is likely to be influenced by the way in which the project presents itself and its aims from the start. The initial behaviour of project staff, the mode of transport, whether they live in the villages or create their own separate camps, all help to raise expectations on the part of the resource owning communities. Also the way in which the project presents conservation: i.e. as something that will pay is crucial in determining the level of expectations. In the eyes of local people the contrast between the way in which conservationists tend to present their case and conduct themselves in the field on the one hand, and the actual ability to deliver on the other is unacceptably large.

5.4 The project as surrogate government

As time goes by and as investment in the conservation side of the project increases, resentment among landowners also grows. Especially the field staff find themselves in the line of fire. The project usually responds by providing ever more intensive

development training in the form of eco-enterprise development, marketing schemes and eco-tourism ventures. As the number of conservation-related choices is limited, the project eventually lets go of the requirement that only 'linked' activities apply. Instead it starts looking towards the support it can get from other NGOs in the form of conflict management training, literacy courses, gender training and the like. Or it starts airlifting local produce to Port Moresby in an attempt to reduce tensions. As a result the project's attention gradually shifts from the creation of economic incentives to support conservation, towards a policy of "keeping people happy" by throwing things at them.

Box 16: The desperate project

Many projects in their desperation to keep landowners happy lose sight of the ICAD principle of developing economic activities that are "linked" to the maintenance of a particular conservation area. The fact that the number of possible income generating activities of that type is rather limited leads the project to pick up any activity that may make a difference in people's perception of its intervention.

The Lak ICAD project for example, in an attempt to stave off a logging operation started a so-called early rewards scheme in which boats, outboard motors and the like were given to communities in the hope of enticing them to follow the conservation rather than the logging option. In the end local people combined the better of two worlds by cashing in on the Early Rewards Scheme and then signing on to logging anyway (McCallum and Sekhran 1997).

The final report by FPCD on its interventions in the Lakekamu Basin over the last 10 years reads like a catalogue in community development assistance. Many activities have little connection to the issue of conservation and are an attempt to keep people happy. In Lakekamu local communities were provided with training in research and eco-tourism development, butterfly farming, sustainable forestry management, sawmilling and house building. They were also given sewing lessons, start your business training, conflict management training and literacy education. The project also subsidized freighting betelnut to Port Moresby. Although some money was earned with the research facility, butterfly farming and the betelnut scheme none of these initiatives really took off. One can not help to think that over time these successive business failures must have reinforced the view that conservation is not much use to local people and that development in the form of mining, logging or oil palm may be more preferable (FPCD 2003).

The Crater Mountain project shows the same pattern. While its initial development activities focused on research tourism, ecotourism and the artifacts business, by the end of the 1990s a lack of funds and continuous demands by landowners meant that the project started providing a variety of community courses on issues such as gender and literacy. To landowners this however reinforced the view that conservation did not deal with the issues that really mattered to them. The organization is now considering supplying water supplies through an EU funded scheme (PC Helen Perks and Robert Bino).

Obviously people are not happy. According to their view promises were made and these are not being met. People still lack the basic amenities required for a decent life and in view of an absent government project their needs on the conservation agency.

They are also in a stronger situation vis-à-vis the conservation agency, as the project wants something from them, while the Government system couldn't care less. The hand of local people strengthens considerably once other resource developers shown an interest in the area. Once the competition with the logging companies kicks in, the project is at risk of becoming a "surrogate government" in the sense that it feels it is now forced into providing roads, water supplies and health and education services. Nothing however, keeps resource owners from making use of the opportunities offered by conservation until such moment that more immediately rewarding options in the form of logging and mining eventuate.

6 PROTECTED AREA LEGISLATION IN PAPUA NEW GUINEA

Papua New Guinea has a range of area-based conservation mechanisms. This chapter outlines the various available options, focusing on the establishment of WMAs and the potential of the Conservation Areas Act, but also outlining the options available under the current *Fisheries Management Act* of 1998 and those that will become available once the *Fisheries Management Bill* of 2004 is enacted.

6.1 Area-based conservation mechanisms

The first step in making sense of the various protection mechanisms available under PNG law is to distinguish them by the underlying tenure arrangement. Reserves, parks and gardens instituted under the *National Parks Act* (1982) and can only be established on State-owned land. Protected areas, sanctuaries, wildlife management areas (WMAs) and conservation areas are established under the *Fauna (Protection & Control) Act* (1978) and the *Conservation Areas Act* and are established on customary-held lands. These instruments only apply if local resource owners agree to turn communally held lands into a conservation set-aside.

BOX 17: THE IUCN CLASSIFICATION OF PROTECTED AREAS

Cat.	Type	Objectives
I	Strict Nature Reserve/ Wilderness Area	Protected area managed mainly for science or wilderness protection
II	National Park	Protected area managed mainly for ecosystems protection and recreation
III	Natural Monument	Protected area managed mainly for conservation of specific natural features
IV	Habitat/Species Management Area	Protected area managed for conservation through management intervention
V	Protected landscape/Seascape	Protected area managed mainly for landscape/seascape conservation and recreation
VI	Managed Resource Protected Area	Protected area managed mainly for the sustainable use of natural ecosystems

(Source: IUCN 1999)

Of the mechanisms on customary land, sanctuaries and protected areas are controlled by the DEC as the landowners delegate responsibility for area management to the State. Landowners generally control WMAs while a management committee under Ministerial oversight looks after conservation areas.

In general community-based reserves established in PNG fall in the IUCN categories IV, V and VI with a lower level of protection. This is because the more strict forms of protection predicated on the exclusion of human activity are less likely to be attractive to resource owners. Within such set-asides, however, a zoning arrangement may differentiate between more and less strictly protected areas.

In sanctuaries the killing of fauna is totally prohibited. In PNG this section has been used twice to establish the Balek and Crown Island Sanctuaries in 1977. In protected areas the ban on killing is limited to specified fauna. Protected areas have been established on Baniara Island in 1975 to protect the Agile Wallaby and on Lihir to protect the Common Scrubfowl in 1991. Neither of these two species is listed as protected fauna in the remainder of the country.

6.2 Wildlife Management Areas

Wildlife management areas provide a mechanism for local control of fauna on land and in waters held under customary tenure. WMA establishment has been the most used form of area-based conservation tool in PNG, accounting for about 94% of the total protected land area in PNG. While many NGOs continue to take landowners through the process of establishing WMAs, the WMA declaration and gazettal process itself has more or less come to a halt, leading to a growing backlog of WMA applications with the DEC.

WMAs are established at the behest of local landowners on customary lands and waters are subject to consultations with local landowners and the local-level government. In order to establish a WMA, a number of steps need to be undertaken. These steps include the demarcation of social and spatial boundaries, the establishment of a Wildlife Management Committee and the drawing up of rules and penalties. Consultation with local landowners and the Local Level Government on these rules is deemed advisory. WMAs without gazetted rules are legally “hollow shells” as the *Interpretation Act* provides that such rules only come into operation on the date of their publication in the National Gazette (Whimp 1995).

The act also gives the Minister the right to “make rules for the protection, propagation, encouragement, management, control, harvesting and destruction of fauna within the WMA” [Section 17 (1)]. This implies that landowners cede part of control over wildlife resources to the DEC on establishment of a WMA. In practice, however, the DEC lacks the field capability to monitor and enforce rules and regulations within WMAs.

Wildlife Management Areas have a number of advantageous qualities. The main ones are that WMAs are generally the most acceptable form of conservation set-aside to PNG resource owners, as this instrument constituted a flexible protective instrument with a high level of control by local resource owners. A second advantage is that the interpretation of “land” under *the Fauna Act* includes “land covered by water and waters”, thereby allowing the use of sanctuaries, protected areas and WMAs as a mechanism to protect coastal and marine resources. The third advantage is that WMA rules are not necessarily restricted to fauna conservation only but that landowner can decide to set other rules if they wish to do so.

The main disadvantage is that while WMAs may have rules against the cutting of trees, these rules are not actually covered by the provisions of the *Fauna Act* and therefore not likely to be upheld in court. For similar reasons WMAs are less suitable to regulate some of the other conservation objectives which local groups may wish to pursue. Although in many instances so-called ICAD projects try to further eco-tourism to remote rural areas, WMA establishment does not provide resource owners with a suitable legal mechanism to manage tourist activities.

The greatest drawback of all, however lies not with the act itself but with the difficulties that the DEC is experiencing in drawing up boundaries, in gazetting the WMAs and their rules and in enforcing the breaches of such rules. As a result the quality of any formal or informal protective regime in PNG is largely dependent on the extent to which an organised and motivated community supports the conservation effort. The final gazettal of a WMA and its rules, however, is still of importance due to the fact that it entails an implicit recognition of landowners rights over a particular area and that it might provide an argument to halt destructive forms of resource management. This argument has as of yet not been tested in court.

6.3 The Conservation Areas Act

The *Conservation Areas Act* (1978) provides a mechanism not unlike that of WMAs to establish protected areas on lands under customary tenure, with two important advantages. Firstly, conservation areas are not restricted to protecting fauna but may include the management and conservation of all fauna, flora, biodiversity, habitat and scenery. The second major advantage of conservation areas over WMAs is that the former explicitly provides for the restriction of development activities in the conservation area.

Upon establishment of a conservation area a so-called Conservation Area Management Committee is set up. The committee is to consist of no less than three persons who meet at least once every three months. The Committee represents the interests of local resource owners, the Local-level Government and the provincial government. The management committee has the task to develop a management plan and make recommendations to the Minister with regard to the rules that apply within the

conservation area. Breaches of rules are punishable with a fine of up to Kina 500. Significant alterations to the area are punishable with a fine up to Kina 40,000 while the violation of a management plan is also a criminal offence under the *Environment Act* (2000).

The committees functions are in the first place advisory as ultimately the Minister of Environment and Conservation decides. If landowners, a developer or the state wish to pursue other developments within the conservation area, they submit their plans to the minister of Environment and Conservation to change the use of the area. If the minister wishes he may seek advice before refusing or granting permission.

These characteristics make conservation areas a much stronger conservation tool than WMAs. The *Conservation Areas Act* came into force in 1978 but has unfortunately never been applied. The reason why the act has never been used lies partly with the long delays in establishing a National Conservation Council. The Council was gazetted in February 2003 and a five-member body to advise the Minister on the establishment of conservation areas and their rules was established. The Council, however still has to meet and it is still unclear whether the DEC is prepared to implement the act.

6.4 Options for local marine conservation

The Fisheries Management Act of 1998 is likely to be replaced when the *2004 Fisheries Bill* is introduced to parliament this year.

The 1998 act regulates the operations of the NFA. Section 25, listing the objectives of the NFA, shows that the authority not only aims to promote the optimal utilisation of PNGs marine resources for the long term sustainable development of the country, but also explicitly mentions its aim “to protect the ecosystem as a whole” and “to preserve biodiversity”. The 2004 Bill states among its objectives the application of the precautionary approach, the protection of the ecosystem as a whole, as well as the protection of marine biodiversity.

Section 30 (3) of the *1998 Fisheries Management Act* offers an option for the conservation of marine resources under customary tenure. The Nature Conservancy in PNG has used this section to close reefs in Kimbe Bay. Unlike the provincial management plans that cover the entire province, this section allows for highly localised conservation measures that in many ways resemble WMAs. WMAs are in some way more secure due to the fact that they are dependent on a clear assessment of resource ownership and land boundaries, while areas stipulated under section 30 of the *1998 Fisheries Management Act* do not have such a requirement. This mechanism will cease to exist once the *2004 Fisheries Management Bill* is enacted.

The *2004 Fisheries Management Bill* shows some interesting amendments. A key difference with the 1998 act is that customary resource ownership is addressed to a

much greater extent than in existing legislation. The interpretation defines "customary fishing" as fishing by indigenous inhabitants of Papua New Guinea in waters where they are entitled by custom to fish, as long as the way the fish are taken in accordance with customary traditions and for household consumption, barter or customary purposes. New is that Section 31 [4] of the Bill defines those rights as being limited to three nautical miles from the low water line. Section 31 [1 and 2] states that the rights of customary owners are to be fully recognised and respected, and that fishing vessels must not be operated so as to interfere with customary fishing activities. To balance this off Section 31 [3] states that customary fishing activities shall be consistent with and not adversely affect any management measures in a Fishery Management Plan, thus making it possible to limit customary fishing right if such is deemed necessary for management purposes.

Section 32 of the *2004 Fisheries Management Bill* allows for the designation of areas of coastal waters within the zone of three nautical miles as community based fisheries management areas. The primary responsibility for management of these area lies with the local community of customary fishing right holders. The idea of this section is to allow local communities to apply for the designation of a community based fisheries management area. The agreement between the community and the National Fisheries Authority (or the province or local-level government if the Authority delegates its powers in this respect) provides for i) the definition of the area and the resources to be covered; ii) a recognition of the rights of the customary owners; and iii) the adoption of a community fisheries management plan. The agreement and the management plan shall be notified in the *National Gazette*, with contraventions of its provisions sanctioned in the in the local village court, where customary fishing is concerned, or in the District Courts where commercial fishing is involved. A fisheries management area can be cancelled at the behest of the community, the minister for Fisheries, the Provincial Government or the local level government.

Under section 43 of the *2004 Fisheries Management Bill* the Minister may by Notice in the *National Gazette* declare any area of the fisheries waters to be a marine protected area. The minister is however required to first consult with and fully recognise the rights of customary owners of fishery resources and fishing rights if part of the proposed marine protected area falls within an area that is subject to customary fishing rights. The conservation and management measures or prohibitions inside a marine protected area shall be contained in a Fishery Management Plan or prescribed by regulation in accordance with the Act. Given the limitation of customary rights contained in section 31 [4] these provisions appear to indicate that the minister is free to declare Marine Protected Area's outside the zone of three nautical miles and that monitoring and enforcement lies with the National Fisheries Authority.

7 LOCAL-LEVEL LEGISLATIVE INSTRUMENTS FOR CONSERVATION

In response to the difficulties encountered with regard to formalising protected areas a number of organisations have started to look at the development of alternative legislative instruments that do not depend on central government for their implementation. As of yet two instruments have been developed: a Conservation Deed which operates under PNG private law and local conservation agreements which come under a local-level government act drawn up on the basis of the 1997 new Organic Law.

7.1 The Conservation Deed

The Conservation Deed as it was first proposed by Brunton (1998) and later further developed by the Bismarck-Ramu Group is an agreement among resource owners themselves as to how to manage their natural resources. The facilitating NGO itself is not party to the agreement. Unlike other forms of conservation that are defined on the basis of Government legislation, a Conservation Deed is grounded in private law. The Deed falls under the PNG *Law of Contract*, which protects and enforces agreements between the parties that enter these agreements but also protects such agreements from third party interference. The Deed usually has a lifespan of 5 to 7 years.

The Conservation Deed was first used in the Wanang area in Madang Province where eleven land-owning clans agreed amongst themselves not make a 18,500-hectare forestland available for logging. The Bismarck-Ramu Group facilitated the community process leading up to the signing of the Wanang Conservation deed. The Bismarck-Ramu Group later also facilitated the signing of a Deed in the Tokain area of Madang. This deed differed from the one in Wanang deed as it not only agreed to avoid logging but also instigated a local conservation area centring on a sacred site. The Deed mechanism was also used by Conservation Melanesia in Afore District to secure consensus among 53 clan groups. The part taking clans have agreed that for a period of 5 years they will not to allow logging, mining or oil palm onto their land, not to use fire arms in protected areas and not to harvest protected species such as the Queen Alexandra Birdwing Butterfly (Post Courier 22 December 2004)

As the Constitution of PNG recognises the ownership rights of resource owners and their right to make decisions on the use of their resources, and as these land-owning clans have signed a contractual agreement among themselves, the Deed can not easily be undone by a third party. Any unilateral violation of the Deed is punishable in court as a breach of contract triggering either the enforcement of the contract, or forcing the defaulting party to pay damages.

Part of the attractiveness of the Conservation Deed lies in its flexibility. As long as the involved parties agree among themselves as to how their resources should be managed, the Deed allows for the development of management plans of a wide variety. A second attraction is that for its incorporation in law one is not dependent on the PNG government bureaucracy. A third advantage is that as this entails an agreement between landowners themselves it can be drawn up in *Tok Pisin* without having to refer to the English legalese which often puts such agreements out of reach of most rural people.

Its weakness lies with the fact that the Deed needs to be renegotiated every 5 to 7 years and that that communities themselves have to enforce the rules laid down in the Deed. This latter aspect however, applies to all conservation areas in the country, whether they are formally established or not. Accepting the centrality of resource owners in conservation implies that the process leading up to the signing of the Conservation Deed may be of greater importance than the legal instrument itself. Even if a community were to find it difficult to enforce day-to-day laws relating to the management of a protected area established under the Conservation Deed this should not be a matter of grave concern. Keeping a logging company out has major social and environmental dividends.

7.2 Local-level government after the New Organic Law

Until 1995, PNG had three tiers of elected government with parallel administrative organisations at the district, provincial and national government level. In 1995 Parliament amended the constitution and passed the new *Organic Law on Provincial Governments and Local-level Governments*. The aim of the New Organic Law is to improve the delivery of services to the rural areas through a process of decentralisation, putting more responsibilities and funds in the hands of the newly formed Local Level Governments which are more likely to be responsive to local peoples needs and wants. Part of this process is the drive to cut back on staff number within the central government departments relocating civil servants from the urban to the rural areas.

The law came into effect in October 1997 when elections for the councillors of the new local-level governments were held. The districts play a crucial role, as they constitute the forum where bottom-up planning processes within the local-level governments link up with the provincial administration. The District Administration supports the local-level governments within the district, prepares a five year District Development Plan and through its Joint District Planning & Budgeting Priorities Committee distributes the available funds over the various local-level governments. The District also provides health services and provides extension and support services in the field of agriculture, fisheries, commerce and industry, environmental management and women and youth services. It is not the intention of the New Organic Law that districts and local-level governments deliver all services themselves. They are stimulated to

contract specialised bodies to deliver services, with the government bodies at various levels play a contracting and monitoring function.

Each districts consists of three to four local-level governments. The president of the local-level governments are not elected directly, but chosen from among the ward councillors. The presidents of the local-level governments become members to the provincial assembly. Each local-level government in turn is divided in number of wards with an average of some 20 wards per local-level government. The wards often reflect communities, or clan groups on a one to one basis, thus making them more or less representative of community interests. In many areas of the country, wards have their own Ward Development Committees to help define and solve problems. Unlike the local-level governments the Ward Development Committees do not have law-making powers.

The New Organic Law has not only transferred service delivery mechanisms to the provinces and the local-level governments, but has also given them certain law-making powers. Section 44 of the New Organic Law vests law-making powers with local-level governments over 31 subject matters. In the context of conservation local-level governments are empowered to make laws on the local environment, protection of sacred sites, local tourist facilities, imposition of fines for breach of its laws, social services and domestic animals, flora and fauna. Law making powers with regard to those themes not specified in the New Organic Law are retained by the National Government. Provincial and local Level Government laws have to be consistent with higher provincial and national laws. In case of inconsistency the “higher” laws overrule the “lower” ones.

7.3 The Almami Environment and Conservation Law

TNC is the only organisation so far that has tried to make use of the opportunities provided by the New Organic Law. Working in the Adelbert Range since 1996, the organisation has tried different approaches to conservation. In 1997 it developed a proposal for large Man and Biosphere reserve in conjunction with a second phase of the Bismarck-Ramu ICAD project (See Van Helden 2001). When this second phase failed to eventuate it competed head on for the Josephstaal Concession that at the time was being tendered. The goal was to develop a financially viable and sustainable timber operation to fund the establishment of an adjacent conservation area.

After it lost its bid on the Josephstaal concession in 1999 TNC shifted its attention to supporting landowners in the adjacent Almami local-level government in Bogia district. It supported the successful legal battle of a group of Almami landowners to have their land excised from the Josephstaal concession in 2003 and has since focused on establishing conservation areas through the community facilitation process described in chapter 3. It has now established three conservation areas of respectively

3024, 225 and 45 hectares and hopes to establish a number of additional areas in the near future.

In order to formalise the management of these conservation areas TNC assisted the Almami local-level government in drawing up an act that enables the Almami local-level government to formally recognise and manage local conservation areas. The act is supplemented by a schedule containing a Conservation Agreement between landowners and the local-level government, in which the clans set aside land for conservation purposes.

The act, drawn up on the basis of section 44 of the New Organic Law, foresees in the establishment of an Environment and Conservation Advisory Committee and the development of a management plan. Under Section 25 of the *Local-level Governments Administration Act* 1997 local-level government committees are restricted from making laws and entering into contractual obligations. The Advisory Committee therefore has to leave it up to the local-level government to formally declare areas, adopt management plans and enforce rules. Apart from those area-specific rules contained in the management plan of each area, the act also contains a number of generic rules. These prohibit the taking of flora and fauna by outsiders, the cutting of trees, the use of firearms, the lighting of fires, camping and littering. Fines stand at K1000 for a person and K10000 for a company breaching the rules contained in the Act.

Box 18: The proposed Talasea Marine Environment Management Law

The proposed Talasea Marine Environment Management Law is set up along the same lines as the Almami Act. The crux of the proposed law is that it enables local resource owners to set aside portions of their customary coastal area or reefs for supervision and protection by the local-level government. Once a community decides to establish a LMMA an Advisory Committee facilitates the preparation of a management plan in close consultation and collaboration with the resource owners. Once the management plan as been drawn up, a Marine Environment Management Agreement set out in the Schedule attached to the proposed law is signed between the resource owning community local people and the Local-level Government. Upon the signing of the agreement, the LMMA and its rules become operational once the Local-level Government decides so. Given the tendency of local-level governments to sit on things, the Talasea law contains a clause that an area will be deemed a LMMA if the recommendation from the advisory committee has not been endorsed within six months after it has been submitted to the local-level government.

The proposed Act prohibits: 1) The taking of manufactured weapons and fishing nets into the area; 2) the breaking of reefs as well as the disposal of refuse, litter or garbage and 3) The use of dynamite, poisonous and noxious substances including derris roots. Swimming and diving may be subject to controls under the provisions of the management plan. The proposed law exempts customary methods of taking fish by customary landowners in the locally managed marine areas. Also exempted by the legislation is the collection of species for the purpose of monitoring and evaluating the biodiversity of the area.

Due to the fact that local-level governments are prohibited from imposing imprisonment as a penalty, all the breaches of the proposed law will attract a fine. For corporations, the fine is K5000.00

for persons K200.00. The proposed law provides for the distribution of fines under the legislation. Any fines below K200 will be paid to the clan or clans whose reefs have been violated. This payment mechanism encourages the community to enforce the law. Fines above K200 will be shared equitably between the advisory committee, customary owners and the local-level government.

Where in the opinion of the Advisory Committee an area is no longer needed for protection and conservation, the committee may recommend to the local-level government to revoke the declaration to free up the coastal area or reefs for other uses in order to prevent the indefinite “locking up of reefs”.

7.4 Landowner motivation and local-level government conservation laws

The Local-Level Government conservation acts developed by TNC mirror the mainstream view of conservation as consisting of a set-aside which is managed by a government body. In the case of the local-level government act clan’s agree to share control over the management of their resources in a certain area with the Local-Level Government. Section 7 states that the the Local-Level Government and the landowners will collaborate with the landowners and the advisory committee to set aside the area as a conservation area, and then section 11 requires the Advisory Committee to *facilitate* the preparation of the management plan which is to be approved by the Local-Level Government under Section 11A. The Act is vague on exactly how the management plan will be developed and enforced. In reality the clans will be developing the plan with the assistance of TNC and involvement of the advisory committee where possible. The management plans will set out the roles and responsibilities for enforcement and implementation of the agreed rules and actions, and it is likely that much of this will be a clan level.

The set up proposed for Almami and Talasea entails quite an elaborate division of tasks

- *The clan groups* have to agree to set aside a portion of their land for conservation purposes. They sign the Conservation Agreement with the local-level government and will be involved in the development of the management plan of their conservation area through the Advisory Committee.
- *The Almami local-level government* implements the Act, signs the agreement with landowning clan groups and declares and gazettes the conservation areas. The Local-Level Government and the clan groups become jointly responsible for the monitoring of the conservation areas as well as the enforcement of the rules contained in the act and the management plan.
- *The Advisory Committee* advises the local-level government on the declaration, management, rule setting and monitoring of the conservation areas and facilitates the development of a management plan. In addition, the Advisory

Committee is to ensure that development activities in the area take account of environmental concerns.

- *The Nature Conservancy* has signed an MOU with the Almami local-level government in which it agrees to support the local-level government with the implementation of the Environment and Conservation Act. It agrees to fund the position of an Environment and Conservation Coordinator within the local-level government for two years, to support capacity building within the Advisory Committee and the local-level government and to provide a wide range of technical support in the field of conservation area management.
- *The Service Provider* is to support the economic development of the area through the provision of health, education, and social services. As of yet the TNC supports the local-level government to draw up the various Ward Development plans into a five-year local-level government plan that will be submitted to Bogia District and the Madang Provincial Government for funding.

The key questions that come to mind in respect of this set-up are: 1) what are the reasons for communities to establish these conservation areas and how does this affect the aim of achieving conservation, 2) do the advisory committee and the local-level government have the capacity to monitor the state of the conservation areas and 3) will the local-level government be prepared to penalize those that break the rules?

If the answer to the first question is that people sincerely wish to establish conservation areas because they are concerned with the state of the environment than these communities will look after their land and resources through social controls. If need be, they can refer suspects to the village court. Entering into a formal Conservation Agreement has the advantage that it clearly sets out the rules and penalties and gives a community the additional option of enlisting the local-level government in prosecuting transgressors.

If people enter into the agreement because they hope that they will receive some development benefits from their interactions with the TNC, than the motivation to monitor and implement the rules of the conservation area will be limited. Implementing rules within a community is often difficult as it may lead to discussion and conflict. People often fear retaliation through sorcery or by other means. The fact that the proceeds from fines are shared between the local-level government and the clan on whose area the offence was committed may provide an incentive for clan's to prosecute.

In the case in where a community lacks the motivation to monitor and implement the rules itself, conservation becomes dependent on extent to which the Local level Government and the advisory committee are able to do so. The recruitment of an Environment and Conservation Coordinator may help if this person is indeed prepared to go out into the remote areas where the set-asides are located and is

prepared to seek out possible transgressors. However if the community is not motivated by conservation itself it is unlikely that many complaints will be forthcoming given the already mentioned fear of conflict and retaliation.

The final question points to the role of the local-level government. Mainstream conservation assumes that government is more or less neutral and that it will therefore enforce conservation rules no matter who breaks them. The people that it is to check on under its conservation law, however, directly choose the local-level government. There is very little social distance between the people that break the rules of the conservation area and those that take them to court. Many politicians are in the business of appeasing their voters rather than haranguing them about conservation and it will be interesting to see if the members of the advisory committee and the local-level government will actually undertake action. Here again much depends on the question to what extent these people are convinced of the need for conservation. Court action will most likely be an option of final resort that is more likely to be applied to outsiders that break the rules than to local clan members.

Notwithstanding the elaborate mechanism put in place by TNC, it appears that everything boils down to the extent to which people are motivated to establish a conservation area for its own sake and the extent to which local communities and their leaders are prepared to take responsibility for looking after these areas.

Box 19: Enforcing Management Rules in Carter Mountain

In the early 1990's local communities in the Crater Mountain WMA developed a suite of management rules for the WMA. In addition to rules prohibiting the use of shotguns and the killing and capture of Birds of Paradise, most clans set aside key forest habitats for protection. Within these areas all hunting and forest clearing activities were prohibited. The enforcement of these rules however, was not easy. In the southern half of the WMA one local ranger conducted his own investigation into a violation of a protected habitat after noticing a felled tree and rodent bones scattered around an abandoned fire pit. The ranger identified the perpetrator by his footprints in the mud and through interviews with residents in Haia Village. When he sought compensation for the violations (approximately 2 kina), the threat of a monetary fine and public humiliation provoked hostility in the offender and a threat of violence. The ranger then approached the local committee responsible for enforcing WMA rules for support, but encountered complacent and disorganised representatives. Nobody offered to support the prosecution of the offender and so the local ranger whose motivation should have been rewarded, instead dropped the charges for fear of retribution. The Herowana Committee eventually decided to assign high fines for violations of protected habitats and to award a percentage of each fine to rangers who report violations. They also agreed that a percentage of each fine should be disbursed to the Committee, whose support for the plaintiff is necessary to ensure conviction. Hence the rangers and committee in Herowana created a monetary incentive to enforce the rules of the WMA.

(Source: James 1996: 39)

8 MATTERS OF SCALE AND MEASURES OF SUCCESS

Conservation science suggests that ecosystems and species require sizeable areas to sustain themselves. The 1992 Conservation Needs Assessment for example, argues that in PNG the size of a protected area needed for meaningful biodiversity conservation should consist of between 80,000 and 100,000 hectares (Alcorn and Beehler 1993: 10). An area of such size, however, is likely to be inhabited by a large number of resource-owning groups who often show complex patterns of alliance, enmity and exchange. Getting these various resource owning groups to work together is very difficult in the fragmented social environment that characterises PNG. The “bigger is better model” favoured by many conservationists thus clashes with the social reality of clan-based landownership in PNG. This chapter argues that the experience to date suggests that a model of smaller scattered conservation areas within the boundaries of clan-based landholdings appears a more likely model for conservation area establishment in PNG.

BOX 20: PROTECTED AREAS LARGER THAN 10,000 HECTARES

Name and type	Area (hectares)	Year of establishment
Tonda WMA	590.000	1975
Crater Mountain WMA	270.000	1993
Hunstein WMA	220.000	1997
Maza WMA	184.230	1991
Kamiali WMA	65.541	1996
Crown Island Wildlife Sanctuary	58,969	1977
Ranba WMA and Sanctuary	57.646	1977
Pirung WMA	43.200	1981
Lake Kutubu WMA	24.100	1992
Oi Mada Wara WMA	22.840	1981
Lihir Island Protected Area	20.208	1991
Bagiai WMA	13.760	1977
Siwi Utame WMA	12.540	1977
Total	1.583.034	

Source: WWF RAPPAM

8.1 The reality of protected areas in PNG

Only four protected areas in PNG meet the size requirement 80,000 and 100,000 hectares formulated by the Conservation Needs Assessment. All other areas are much smaller. The whole of PNG counts 13 protected areas of over 10,000 hectares, which together account for 94% of the area under protection. The smallest 20 protected areas count for 0.2 %. The problem with these figures is that the number of hectares that fall under some form of legal protection says very little about the size of the area that is actually being conserved or about the quality of its management.

The intention of the *Fauna (protection and Control) Act* and the *Conservation Areas Act* is to provide a mechanism that allows local landowners to put *part* of their customary landholdings into a protected area. In this area, hunting, gardening and the cutting is regulated, while these activities may continue on the remainder of clan territory. The WMA and its rules are thus intended to cover only part of a clan's territory. In practice, however, both conservationists and communities have an incentive to put *all* clan lands under the WMA, which on paper suggests the existence of a large and continuous protected area.

Conservationists need to impress their donors who - driven by the image that bigger parks are better parks - prefer to get bang for their buck. In some instances in PNG, the entire landholdings of several clan groups are put into a WMA, even though in practice the project will work only with a number of villages, limiting the application of conservation rules to certain areas near these villages. Landowners may also want to have all of their land put under protection in an attempt to secure recognition of their territory.

Box 21: Using WMAs to assert land rights

During the establishment of the WMAs on the Ramu River the BRG found that the Ramu clan wanted to enter all of their land into the WMA as a means to reassert their land rights vis-à-vis encroaching Jimi settlers. Soon after the WMAs had been marked and WMA rules and penalties had been established however, people pointed out that they wanted these rules only to apply to a number of designated areas within the WMA. In order to do so they introduced a distinction between the WMA, covering all of their clan territory and conservation areas within the WMA. As one resource owner ventured: "We, the landowners, want these rules to apply to the conserved areas only, while the outside [the WMA] will be taken care of by us... The company can come inside the WMA, outside the conserved areas and operate under our care' (Van Helden 2001: 322).

In addition a number of WMAs do not have gazetted rules, leading to the question whether they qualify as being 'protected' in the absence of formalized rules and penalties. An analysis of the actual size of area under some form of protection would thus have to look at the land use plans that apply to these WMAs and whether rules are being applied. It would no doubt show that in a number of cases what on paper

appears to be a continuous and large conservation area in fact consists of a number of much smaller, not necessarily connected, clan-based set-asides.

While this suggests that the actual area under protection in PMG is much smaller than suggested by the statistics, the overview of formally protected areas does not include those areas that are currently being protected as a result of the efforts of communities. One example is the Kau Wildlife Area near Madang, which has been protected without official gazettal by a local big man since 1963, well before conservationists had PNG in their sights. Others are long standing efforts in Collingwood bay or the Ramu River WMA's that have not yet been gazetted. In addition, very large areas of the country are inhabited by small groups of people and remain in a condition of high biodiversity. The only conclusion that one can draw is that the state of the protected area system in PNG says little about the state of its environment.

8.2 How clan land-holdings determine protected area size

While conservation agencies may want to establish large protected areas to cater for future threats, the social and cultural realities of landownership in PNG make this difficult to achieve in practice. The main reason for this is that clan groups find it generally very difficult to cooperate and that individual clan groups participating in conservation projects only have a certain amount of land at their disposal. On this land they need room for their settlements, gardens and cash crops, their hunting and foraging activities as well as for conservation. The size of a conservation area is thus generally limited by the total land area of clan minus those areas needed for settlement, gardening, hunting and other uses.

This implication of the fact that clan-holdings to a large extent determine the size of possible set-asides is that the best possible chance for establishing large conservation areas can be found in situations characterised by small groups of people that own vast areas of land and resources. This also implies that the size of protected areas in PNG is a function of population density: the larger the population density, the smaller the amount of 'spare land'; the smaller the population in relation to its resources, the larger the potential conservation area. The irony of the matter is that under circumstances of low population density it may not really be necessary to establish protected areas as long as destructive forms of logging and mining kept out.

In more densely populated areas conservation agencies may try to pursue a strategy of linking a number of smaller conservation areas of local clan groups in order to increase the size and continuity of the area under protection. However where this is not possible, smaller conservation areas may come to dot the landscape in a pattern much akin to that of marine protected areas spread out across a swathe of sea.

8.3 Scaling-down during design and implementation

It is taking many conservation agencies time to accept that the establishment of large-scale protected areas covering the land of a number of groups is difficult and project proposals continue to be drafted on the assumption that very large areas will be brought under conservation. However the trend in project development and implementation over the last 10 years is unmistakably one of scaling down rather than scaling up. A look at the report of 1995 ICAD workshop (James 1996) shows how five of the seven projects profiled in that report aimed to develop conservation area's of over 80,000 hectares. Ten years later the results of these five projects and four others in terms of hectares formally brought under conservation can be summarised as follows:

- The Lak Conservation Area was abandoned in 1995 and its goal of establishing an 80,000 hectare conservation area was not achieved;
- In 1995 the WWF-US funded Kikori River Basin Initiative aimed to put no less than 2.2 million hectares under conservation. Ten years later the project is in the process of supplementing the two established WMAs at Lake Kutubu in Southern Highlands Province and Neiru in Gulf Province with a number of other WMAs. Rather than striving towards the protection of the whole Basin the project is now trying to establish no less than 14 WMA's in and around Mount Bosavi. The process is largely landowner driven and the size of the proposed WMAs varies from several thousand hectares to several tens of thousands of hectares depending on the landowners aspirations (Mamu 2003).
- In 1995 Crater Mountain WMA already covered an area of 270,000 hectares. It is not clear how much of this area was actually put under a conservation regime. Given the development needs of local communities there is a risk that part of the WMA may be affected by the encroachment of logging and the impact of mining and oil drilling activities.
- In 1995 the CI-FPCD project in the Lakekamu Basin was planned to lead to the establishment of a WMA of 250,000 hectares. As of yet no land has been put under conservation. There is a strong interest in developing oil palm in the Basin. In 2004 FPCD exited from the area.
- The Kamiali conservation project had already gone through a process of scaling down well before the 1995 ICAD workshop. Initially the project focused on working with four communities in order to protect an area of 220,000 hectares. After a revision of the proposal in 1993 the project decided to work with only one community and to aim for the establishment of a WMA of between 80,000 and 100,000 hectares (James 1996). In 1996 VDT and WWF established the Kamiali WMA of 65,000 hectares. The area can be classified as totally conserved as it is not used by the local population and cannot be accessed for logging.

- WWF gave no figure for the intended size of its Hunstein WMA in 1995. In 1997, however, a WMA encompassing 220,000 hectares was established. It is unclear whether this is the actual protected area or whether this encompasses all the land belonging to cooperating clan groups who then designate particular areas within the WMA for the purpose of conservation.
- In 1995 the Bismarck-Ramu ICAD project had just started with the aim of establishing a protected area of some 50,000 to 80,000 hectares. In 1999 two clans established WMAs on the Ramu River with a combined size of 70,000 hectares. This area however encompasses all land of the two involved clan groupings. The actual size of the conserved area within these WMAs is unknown. The WMAs, their boundaries and rules are still awaiting gazettal by DEC.
- In 2004 CI started with the implementation of its Community-based Coastal and Marine Conservation program. Initially the project proposed to establish three conservation zones with a joint sea area of some 46,800 square kilometres (4.680.000 hectares). Over time the project team gradually became aware that such a course of action would affect the livelihoods of no less than 65,000 people. More importantly the project lacks the legal means to enforce such a protective regime, while it is difficult to see which economic incentives could underpin a protected area of such size (Van Helden 2003). At the moment the CI is aiming to develop six community-based marine protected areas and two terrestrial set-asides (PC Gai Kula).
- In 1997 the TNC tried to establish a joint project with a second phase of the GEF funded Bismarck-Ramu ICAD project. Aim was to establish a Man and Biosphere reserve consisting of the Bismarck-Ramu area, the Middle Ramu area and the Josephstaal timber concession. These three areas in turn were to be surrounded by an Outer Transition Zone covering the full Ramu River Watershed. The total land use plan covered some 2500 square kilometres (Van Helden 2001). Its current approach in the Almami local-level government is markedly different both in approach and scale, with TNC aiming to establish a series of clan-held conservation areas through a process of participatory conservation area establishment and land use planning. Up to this moment this has resulted in the establishment of three conservation areas with a combined total of some 3300 hectares. More are expected to follow.

8.4 Measures of success in PNG conservation

Conservation funds are scarce and conservation agencies want to know if and how their moneys are effectively spent. In many countries the total area brought under formal protection, the diversity of areas in respect of eco-regions or areas of special

significance, the extent to which particular threats are dealt with and the cost of it all provide reasonable indicators to measure efficiency. Protecting large areas of special interest against real threats at a reasonable cost constitutes success.

In PNG one could try to use similar measures, were it not that there are no clear figures on the area under actual protection, while the only study on the amount of funding available for biodiversity conservation in PNG is 10 years old (Van Helden and Bualia 1994). Moreover, these quantitative measures would have to be supplemented by an assessment of landowner involvement in conservation area management and local satisfaction with the project. Whatever the legal state of a protected area, its crucial role in protecting highly valued biodiversity or the level of funds poured in, conservationists in PNG always depend on the extent to which local landowners support their work.

Box 22: Indicators for success

A simple list of indicators to score the success of PNG conservation projects could read as follows:

Size: The size of the area brought under actual protection, which is not necessarily the same as the area as notified in the national gazette. (Data Source: local land use management plan)

Biological representation: The importance of the eco-region where the area is located or the significance of the area according to the 1992 Conservation Needs Assessment. (Data source of the data: location of the protected area in relation to countrywide mapping and prioritization exercises)

Threats: The extent to which the project deals with a real threat against biodiversity. (Data source: threats analysis and use management plan).

Cost: The cost of project operations per hectare per year. (Data source: project budget and land use plan).

Penalties: Whether people actually take one another to task over breaches of conservation rules; (Data source: Case studies and numbers).

Conflict: The level of conflict between project and people, and among people as a result of the projects intervention (Data source: assessment by community facilitators and project staff).

Numbers: The number of people turning up for conservation meetings (Data source: reports by community facilitators and project staff).

Project-Landowner relations: Landowner satisfaction with project performance. (Data source: assessment by the community facilitators and project staff).

While economists might argue that one would have to rely on objective indicators such as the level of benefits in kina per head of the population to monitor satisfaction, experience shows that the level of resentment is highly variable and not necessarily

associated with the objectively measurable benefits that come from the project. The Bismarck Ramu Group delivered absolutely nothing to local people during the establishment of WMAs on the Ramu River, yet people were happy with its performance. In other projects many tens of thousands of dollars in goods, salaries and benefits were provided to local people, yet people are profoundly dissatisfied with conservation.

Instead of measuring objective conservation related benefits one could think of monitoring variables such as i) the extent to which local people and village courts prosecute and fine offenders, ii) the level of conflicts between the project and people or among local people as a result of the projects efforts or iii) how many people turn up for – unpaid (!) – conservation meetings. The easiest way to find out however is to ask the community facilitators or field staff to give an assessment of landowner satisfaction. The community facilitators know the area and its people, have witnessed the discussions, dealt with the complaints and heard the gossip. They will be able to give a qualitative but no doubt highly informed assessment of the community, its aspirations and its views of the project. The BRG for example, debriefs its community facilitators immediately after they return from the field. These sessions allow it to assess the situation and to come up with an answer during the next patrol. It is hardly scientific, but it certainly works.

9 LAND USE PLANNING AND SUSTAINABLE USE

Conservation agencies have a tendency to focus on their aim of establishing protected areas. They thus engage communities to develop set-asides without necessarily looking at the total picture of resource use by the land owning clan groups. Some projects bring all of a clan's resources under a WMA aiming to develop more strict set-asides and resource management rules later on. It may however, be useful to take a slightly broader approach by taking into account the various possible uses to which land and resources may be put before setting aside a specific area for conservation.

Next to the need to set aside land for conservation, projects may also have to look at the long-term sustainability of local peoples resource use in the form of subsistence gardening, cash cropping and hunting. They may also have to consider the possible consequences of the business ventures that they themselves introduce in order to underpin the establishment of protected areas. Following a short overview of land use planning and conservation are establishment this chapter outlines the types of controls that are typically used in PNG in order to further the sustainable use of resources in and around protected areas.

9.1 Land use planning for conservation

As was already mentioned in the previous chapter communities use their land and resource for a variety of activities ranging from house building, gardening, cash cropping to hunting and gathering. Many communities also hope to enjoy better or new infrastructure in the form of roads, churches, schools and health posts in the future. Conservation projects aiming to develop set-asides in some parts of a clan's land, do well to take note of the full scale of resource uses by a local communities, possible future developments as well as the potential uses of land and resources.

Rather than jumping towards the establishment of conservation set-asides it may be more useful to take the community through a resource mapping process in which local people discuss 1) how their resource use has changed over time; 2) how their environment is changing as a result; 3) what areas are needed to sustain the community in the future, 4) what possible future developments would affect their lands and 5) where the best options for conservation area establishment could lie. This helps both the community and the conservation agency to get the full picture of local conservation and development options. Especially those projects that aim to integrate development and conservation activities need to assess the locally available development options and how these may impinge on a potential conservation area. Important here is to also look at the wider surroundings. In some cases roads may be planned to access areas beyond the project's focus area, in other instances it may be possible to link up to a conservation set-aside established by a neighboring clan group.

Based on the above information the project and local people could work towards a zoning arrangement with different sets of rules for each zone. Conservation agencies may have to accept the resource use in some of these zones intensifies as a result of its intervention: i.e. in order to achieve the establishment of a conservation set aside on a portion of a clan's land it may have to assist with the introduction of cash crops or small-scale sawmilling activities elsewhere.

9.2 Protected area establishment in practice

While the establishment development of a conservation area should preferably be embedded in a total land use plan for a clans resources and land use, the declaration of a protected areas itself entails a step-by-step process that requires intensive community facilitation. Most important in this process is not the technical aspect of setting boundaries and rules but especially the extent to which conflicts are solved, unrealistic expectations defused and people are organised, informed and motivated for protected area management. In recent years a number of organisations have developed their own stepwise approaches to WMA and conservation area establishment, it is possible to sum these up a generic process of steps leading to the formal declaration of a variety of protected areas:

Step 1: Discuss the various conservation mechanisms and allow the community to select the mechanism of their choice: In order to start the process of protected area formation, a community needs to agree i) that they want a protected area of a specific type; ii) where it will be established; and iii) how they are going to look after the protected area. This is a process, which may take a considerable amount of time and repeated visits and discussion. There is a serious risk that this process is rushed along by well meaning but target and legislation fixated- outsiders, leading to conflict or misunderstandings and a loss of motivation at a later stage.

Step 2: Collate basic information on the community and its resources: If one has an interested and willing community, then the next step is to collate the available information on the area and its owners. In many cases this information has already been collected as part of the process of biological surveying, social feasibility investigations and community consultations. This information could cover

- A biological inventory;
- A description of natural features of special significance;
- An inventory of the local population and land ownership;
- Information on local resource use, possible conflicts and the possible threats;

Step 3. Survey the boundaries of the future protected area: This step consists of the identification of land boundaries. Boundaries may first be established with the help of PRA techniques in maps drawn on the ground, then transferred to paper after which

they are 'walked' and finalised with the help of GPS. During this step possible conflicts within the groups and between the group and their neighbours over boundaries and resource rights will have to be solved.

Step 4. Facilitate the community in developing rules and penalties: The landowners together draw up rules that apply to their protected area. The involvement of the community as a whole increases the legitimacy of the WMA, enhances a feeling of collective ownership and reduces the risk of serious conflict later on. These rules may cover:

- Areas and times where hunting is allowed or prohibited;
- Species or certain categories of species which may or may not be hunted;
- Hunting devices which may or may not be used;
- A prohibition of other forms of land-use such as gardening;

Social control mechanisms and informal village courts may enforce all rules, but only gazetted rules relating to the management of fauna in WMAs or the provision of the Conservation Act can be enforced through district and higher courts.

Step 5: Establish a committee and develop a management plan: The Landowners have to nominate a Wildlife Management Committee in the case of WMAs or a Conservation Area Management Committee in the case of a Conservation Area. The DEC has to approve the committee and its rules on how new members are chosen. The committee and the community develop a management plan.

Step 6: Submission to DEC for approval: The application with DEC to declare a conservation area or WMA has to include 1) a description of the protected area and its boundaries, 2) an inventory of the population and land ownership, 3) the biological inventory results and 4) the management objectives of the protected area.

In the case of WMAs DEC may declare the WMA and its rules in the National Gazette. At this moment however, there is an enormous backlog in dealing with such requests, while any of the gazetted WMAs have failed to submit rules as a separate statutory instrument, which are therefore not legally binding. In the case of a Conservation Area Public notice is given of the intention to establish the conservation area allowing for a 90-day objection period, during which representations may be made to Minister. Copies of the notice should be available at the DEC, the Provincial Government and Local Government offices. On the basis of the received comments and objectives the DEC decides whether to proceed with declaration of the conservation area. When proceeding the DEC submits its recommendation for the declaration of the conservation area to the National Executive Committee, which recommends the official declaration to the Head of State in the National Gazette. As of yet, however, the Conservation Areas Act has never been used.

Setting Up a Wildlife Management Area

10 Steps For Landowners



















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Step 1: The whole community chooses the best type of conservation area for them

Ask a conservation group or the Department of Environment and Conservation (DEC) to explain the different types of setting up a protected area to the whole community. Invite everyone. The community must discuss seriously to decide Management Area, Conservation Area, National Park, Conservation Estate or Local Level Government (LLG) Reserve.




Step 2: Make an Agreement among yourselves

A WMA can only be set up if landowners on their own make their own, voluntary, clear and understood, simple agreement with each other.

- Doing ahead with a WMA, or (if you don't try WMA, will you do?)
- If you do, what for?

Make your agreement clear on paper and have the community leader sign. Have a copy of your letter to DEC or the conservation group help you.



Step 3: Draw your proposed WMA boundaries

Discuss what land you want to include in the WMA. Decide what area it is and choose the best way to draw it on a map. Use a pen and ink or a colored marker. Be sure to check that your map shows all the things you want to include.

Give the whole map to the Department of Environment and Conservation (DEC), a conservation group or a neighbour to help you at a formal step.



Step 4: Make a list of all the landowners

Write down the names of all the community and other people in those areas you can be sure that all the right people agree on the Wildlife Management Area.



Step 5: Agree on the WMA rules

Landowners agree on the best way to protect, manage and use their land. For example, if you have a garden or a pond, you can have a WMA. The Community must also make the rules about the things you can do in the WMA.

Write the rules on a piece of paper. If you don't have a pen or a pencil, make some simple signs. If people do not agree to the rules, make a sign and a sign about the problem to be fixed.



Step 6: Decide on the penalties for the rules

Decide the rules and agree. Decide what penalties should be set for people who break the rules. People who break the rules should be a fine or pay money, give a pig or something else as a penalty for their land and from the money for a fine or pay money.




Step 7: Agree on a Wildlife Management Committee

Landowners must choose people to set up a Wildlife Management Committee. The Committee can enforce the rules and manage the WMA. When choosing committee members, look for people who are willing to help you and who are responsible and honest, and who are interested in the environment and wildlife.



Step 8: Make sure the whole community agrees

A WMA will change the way the whole community lives. Before you start, it is important that the whole community agrees on the boundaries, the rules and the penalties. Read them and agree to a meeting of the whole village and check that everyone is happy.



Step 9: Ask the government to declare your WMA.

The next step is to send a letter to your community, village and the names of your committee to the DEC or the Department of Environment and Conservation. Request to have your area declared as a Wildlife Management Area. DEC can supply the Request for Declaration of a Wildlife Management Area form.




Step 10: The Wildlife Management Area is recognised under Papua New Guinea law.

DEC will check with the WMA Committee and the Local Government. If you are happy, you can go to the Legislative Council and the Minister for approval. This may take some time.

Once it has been set up, the Government can help you. WMA is all over. Go on with it.



Important in such a step-by-step process is the need to keep the initiative with the community. As one remains dependent on the extent to which a community is motivated by the conservation issue, there is little point in doing things for people (see chapter 3). The WWF in its Kikori project has developed a 20-step process of WMA establishment that requires the involved clan groups to time and again reconfirm their commitment to establishing a WMA by writing letters requesting the project to take them through the next step (T. Mamu 2003).

9.3 Measures for sustainable use

Measures against the over exploitation of a particular resource may consist of a number of elements:

- *Time limits:* restrictions placed on the season during which certain activities may be undertaken; Many communities have periods or events during which certain resource use are prohibited or certain areas are foreclosed from harvesting activities.
- *Sex and size restrictions:* These limit on the sex or size of certain animals that can be taken; Thus in many cases immature species or female species may not be caught in order to ensure the regeneration capability of the population
- *Prescribed methods:* Restrictions on the type of methods or technology that may be used to harvest animals. Many PNG conservation laws allow for catching by customary methods while outlawing the use of shotguns, dynamite and poison.
- *Quantitative restrictions:* These restrictions limit the amount of a certain species that can be taken, i.e. the number of trees that can be cut from a certain area, or the number of clams to be taken from a reef.
- *Purpose:* In some cases the harvesting of animals can be limited to specific ceremonial purposes.
- *Mitigating action:* Sometimes simple measures can avoid unnecessary damage. WCS for example recommends villagers to restore megapode mounds once the eggs have been harvested. Often not all eggs have been collected and by doing so the mound retains its warmth allowing the unfound eggs to hatch.

Broadly speaking there are two broad categories of controls to implement and enforce the various resource management options outlined above: 1) the introduction of sustainable use plans/rules at the level of the community and 2) the impositions of trade controls through managed marketing and export channels.

9.4 Local measures and trade controls

In the case of locally implemented sustainable use plans the community needs to be made aware of the advantages of more sustainable forms of resource use. Outsiders may assist communities in becoming aware of the fact that a resource is actually under threat of disappearing as a result of over harvesting and possible means to avoid this. Here again one is largely dependent on the extent to which a community is 1) willing to forgo returns in the present in order to safeguard the future use of a resource and 2) able to enforce rules with respect to resource use among its members.

This is no simple thing. Many societies do not necessarily regard nature as vulnerable and in many instances there are very little social controls on the hunting and gathering behavior of individuals. While certain assets such as display trees for Bird of Paradise or semi-domesticated tree crops such as sago may be individually owned, in general resources are accessible to all members of the clan group, creating the usual problem of overexploitation associated with (semi) open-access resources.

The stronger, however, the immediate impacts of a certain measures on the population of a species, the more likely people are to accept the need for conservation measures. For example fishermen all over the tropics are aware that mangroves play a crucial role in maintaining fish stocks. Maintaining mangroves allows for the spawning of stock biomass, larval dispersal and the export of adults to adjacent areas. This is not only good from a biodiversity conservation point of view, but may also assist local communities to maintain the resource base on which they depend.

Box 24: Rules to manage hunting and gathering

The most immediate threat to biodiversity in PNG may not stem from the conversion of habitat, but from human pressures on a number of indigenous wildlife species unique to the island of New Guinea. The Wildlife Conservation Society conducts research into the manner in which these wildlife species sustain themselves, the interactions between wildlife species and other elements of the ecosystem, and the minimum areas of habitat required for long-term survival of wildlife species. Based on this understanding WCS aims to develop community-based management measures.

One example of such an approach is the work done by Ross Sinclair on megapodes. These birds lay their eggs in large mounds of litter, which generate the warmth that allow the chicks to hatch. Megapode eggs are also a prized food for many local communities and the indiscriminate collection of eggs constitutes a threat to the survival of the species. Based on research WCS may suggest communities a number of management measures to reduce the pressure on megapode populations. The most important of these relate to the use of a closed season, or the closure of certain areas where eggs are not collected and the covering of mounds after collection so that unfound eggs still have the chance of hatching. In the Solomon Islands the use of hatcheries to increase the number of chicks was investigated.

PC Ross Sinclair

As was argued in chapter 4 the number of conservation-related income generating activities available in remote rural areas is very limited. A number of these activities such as the sustainable harvesting of timber require careful management at the level of the community. Uncontrolled walkabout sawmilling often leads to an over harvesting of forests the nearest to roads or villages. Over time such operations may change the structure and species composition of forests, as operators will focus on cutting a few marketable high-value species. Projects working on the introduction of walkabout sawmills therefore devote a large amount of their training to ensuring the long-term ecological sustainability of these operations.

Box 25: Forest management for walkabout sawmills

All forest management depends on an initial mapping of the area and prohibits the harvesting of trees near rivers, on steep slopes or in otherwise fragile conditions. Based on that basic information there are two approaches to forest management for small-scale sawmills.

The first is a rather intensive system such as used by FPCD in which harvesting blocks are mapped in some detail with harvestable trees and their species indicated on the map. The community is allowed to harvest a limited number of trees per block in order to reduce the impact of its operation on forest cover and composition. While this is a rather cumbersome process, the advantage of this level of detail is that communities only have to look at the map to know which trees to cut if they receive an order for a certain species of timber (PC Baput Bazakie).

The second system developed by the IRECDP also makes use of forest management plans that broadly register the composition of the forest. It does however, not draw individual specimens into maps. During the felling of timber sawmill operators use a few rules of thumb: 1) they can only cut the largest trees (> 60 cm DBH); 2) They can only cut a tree if they can see a mature tree of the same species from the tree that they intend to harvest and 3) they can never harvest more than three trees in the same gap in order to minimize canopy disturbance. This simple system proved sufficiently strict to warrant FSC certification.

(Source: Van Helden and Schneemann 2000; Eco-Forestry Forum 2002.)

WWF working on the establishment of Eaglewood Management Areas is concerned by the fact that people cut down eaglewood trees indiscriminately (Zich and Compton 2000). By providing training to participating communities the WWF hopes to convince resource owners that it makes sense to harvest eaglewood in a sustainable fashion in order to secure it as a long term source of income. By developing so-called Eaglewood Management Areas the income generated by eaglewood may also be used to maintain forested areas in their natural condition.

Trade measures differ from the local management systems described above in the sense that the limited number of potential selling points for local produce allow for some control on the amount of the produce sold, its characteristics and in some cases

through certification procedures its manner of production. Such controls are vulnerable to smuggling and political influence. Examples of trade controls are:

Provincial trade controls on sedentary fish species: Because fishing activities themselves are hard to control, provincial fishing plans limit the number of legal buyers and exporters, thus regulating the marketing of the end product as a proxy for controlling the actual fishing activities. The plan imposes species restrictions and size limits and establishes a total allowable catch for each class of species to ensure that the maximum sustainable yield is not exceeded. Fishing is to cease when the total allowable catch has been reached. The plan also stipulates a compulsory closure of the fishing season, terminating all harvesting, selling, and storage. It also imposes size limits by establishing both a live and a dried minimum size limit on species eligible for capture. In practice, the effect of these measures is limited. Notwithstanding these management plans, Western Province and Manus have seen their bêche-de-mer resource largely fished out and it appears that Milne Bay is embarking on a similar course. In Milne Bay province the total allowable catch for bêche-de-mer has been exceeded time and again without leading to the closure of the fishing season as stipulated by the management plans (van Helden 2003).

Export controls: The Convention on the International Trade in Endangered Species constitutes an international trade control mechanism that regulates the export of vulnerable species. In PNG the provisions of the convention are implemented through the International Trade (Flora and Fauna) Act of 1979. Examples of species and products derived from species falling under CITES and relevant to PNG are eaglewood, trochus and clamshells and a number of animal species. The Insect Farming and Trading Association manages the export permits required for sending the butterflies and insects to collectors overseas

Certification: certification for forest management is becoming an increasingly important tool that allows buyers to assure themselves of the quality and sustainability of the forest production process. With the slowly growing demand for timber from guaranteed sustainable origin international markets for PNG timber may develop.

Box 26: FORCERT in Papua New Guinea

In Papua New Guinea and Solomon Islands functioning models to assist small-scale producers to achieve certification have been trialed. Here producers came together under what is known as a Group Certificate which offers the possibility for the external costs of certification to be shared and allows an outside organisation to take care of much of the administrative burden. These trials were relatively successful and created considerable interest with the various stakeholders, both in PNG and in the region. The recent establishment of the Forest Management & Product Certification Service (FORCERT) uses Forest Stewardship Council (FSC) group certification as a forest management and marketing tool.

FORCERT consists of two separate sections. One is the FSC Group Certification service. This will be a self-financing section, generating income through a system of annual membership fees, plus a small levy per m3 of certified timber sold. The other section is a certification awareness, training and

(PC Peter Dam)

10 COLLECTING AND SHARING INFORMATION

Papua New Guinea has a range of organisations that execute community-based conservation projects. It also has quite a good record of documenting the experiences with such projects. In fact many of the lessons that come forward from this study are not new. In other words, much of the information is there, and the key question is how to make use of it. This chapter will make a few suggestions for the exchange of information between projects and conservation agencies.

10.1 Reflexivity in project development

The most crucial issue standing in the way of a more effective sharing of conservation experiences in PNG is probably the time constraint under which many projects operate. Conservation projects usually have unrealistic targets in the form of thousands of hectares of protected area that need to be established in a time frame of typically 5 years.

Moreover especially the large foreign-funded projects suffer from long start-up times. By the time new staff has been recruited, people have settled in and offices are equipped, the first year has gone by and things need to get moving. The larger programs also tend to suffer under burdensome administrative and accountability requirements leading management staff to spend by far the greatest proportion of their time drawing up log frames, revising plans and budgets, organizing reviews and preparing applications for follow-up funding. As a result, individual program managers within these organizations tend to “do their own thing” with little time to look at the total picture or the specifics of the situation in the field. An often-underestimated issue is that some projects simply have too much money to spend. These projects are under continuous pressure to “do things” in order to spend the allocated funding. Usually these “things” take the shape of additional studies, computerized mapping exercises, the construction of infrastructure and the holding of expert workshops. Not surprisingly, few projects have time to carefully process their day-to-day interactions with local communities, leave alone to consider conservation experiences elsewhere. Doing so takes a lot of time and does not cost much money.

However, if one accepts that conservation in PNG is dependent on the relations with local communities, and if one chooses a more reflexive people-oriented type of approach to dealing with local communities, then inevitably one needs to make time to consider one’s work with the community. The BRG for example, conducts some seven to eight patrols of four teams at the time each year. Each patrol takes two weeks in the field, is prepared during a weeklong briefing and training session and followed by a weeklong debriefing session. The senior staff takes part in these briefing and debriefing

sessions as the flow of information from and to the field is crucial not only for the community process but also for the management decisions taken. Thus about two-thirds of the year is invested in the training of the community facilitators and in assessing project-people relations. The annual cost of running such an intensive community facilitation program is comparatively small and largely related to the logistics of getting the community facilitators from one place to the next.

While there is no reason for other projects to copy the BRG approach, the essential lessons to be learnt here are threefold:

- 1) Project teams need to *see the need* and *be willing* to consider their approach in the light of conservation experiences elsewhere.
- 2) Project teams need to *systematically plan time* to think and talk their way through the community issues that they will inevitably be confronted with; and
- 3) Project management staff and community facilitators need to *plan together* in order to ensure that project activities and the community engagement process are in line with one another.

10.2 Collecting information and making it publicly available

While most project offices have quite a substantial amount of literature and reports on the conservation experience in PNG, there is no systematic attempt to collate this information and make it publicly available. University libraries may contain some formally published materials, but seldom have the funding available to systematically collect conservation related reports, books and studies in PNG. As projects come and go, organizations jump up and fold, valuable information, informal reports, archives and book collections are lost.

Box 27: The Strengthening Conservation Capacity Project

The Strengthening Conservation Capacity in PNG project is executed by the University of PNG with financial assistance from the MacArthur Foundation. The project aims to strengthen in-country conservation capacity by providing a network for the exchange of information and experiences among conservation practitioners and by developing a series of training modules. These trainings not only cover the natural science aspect of biodiversity conservation and management, but also look at the socio-economic and institutional aspects of community-based conservation initiatives.

(Source: PC Tom Pringle)

While some effort is made through the Strengthening Conservation Capacity Project (SCCP) at UPNG and the Conservation Education Program of the RCF in Goroka to build up a body of knowledge on conservation in PNG there is as of yet no systematic effort to gather together the available materials on conservation in PNG. It appears essential that a more systematic attempt be made to collate conservation-related material in one or two publicly accessible libraries

10.3 Information exchange between practitioners

There are a variety of forms of information exchange. These range from newsletters produced by and for conservation practitioners, discussions between project implementing agencies and face-to-face interactions in workshops, conferences and expert meetings. The two newsletters most widely read are *The New Guinea Tropical Ecology and Biodiversity Digest* produced by WCS in Goroka and the *Iko-Forestry Nius* of the Eco-Forestry Forum. The first is specifically oriented towards wildlife conservation and research, the second towards the promotion of eco-forestry and the forestry debate within PNG. Neither of the two specifically deals with community-based conservation strategies.

Other forms of information exchange depend on the interactions between projects aiming for similar sort of outcomes. It is unclear to what extent conservation practitioners that develop new conservation initiatives actually make use of one another knowledge. Given the time pressure described above there is probably too little time taken to discuss matters, leading projects to reinvent the wheel time and again.

The recent effort by WWF and the TNC to set-up the Kamiali group is commendable as it allows for a more formal exchange of ideas between conservation practitioners. It provides a forum where practitioners can meet and discuss their conservation efforts, exchange lessons-learnt and develop models for best practice and it deserves to be continued.

Up till now the group has met twice a year and discussed a variety of projects and legal options. The work of the Kamiali group could possibly be strengthened by:

- Developing a comprehensive e-mail list of conservation practitioners in PNG;
- Setting the topics and dates of Kamiali meetings well in advance of the meetings;
- Keeping the responsibility for organizing the content of the meetings with one or two organizations;

- Focus on stories from the field rather than on policy and project cycle talk. We all know that we need to do things together with local landowners but what does this mean in practice? How do various projects go about working with communities, what did they tell local people, how did these respond?
- Focus on specific themes rather than general project and policy statements. Examples could be i) strategies and experiences with community engagement; ii) realistic options for conservation-related development activities; iii) strategies for marine protected area establishment; iv) the various legal options for conservation available under PNG law; v) community-based measures for wildlife conservation; vi) experiences with conservation education etc. etc.
- Emphasize the need to record these experiences. At the moment there are draft reports of the first four Kamiali meetings and power-point presentations are also circulated but this information is not brought to a level that makes it accessible to future conservation practitioners.
- An example that may be followed is that of the 1997 Motupore Workshop which recorded the presentations of a variety of participants. It might be worthwhile for the Kamiali group to consider organizing a similar somewhat larger conference in 2006 on the basis of the presentations given at the Kamiali workshops so far.

There is some debate within the Kamilai Group as to the need to include landowners and their CBOs. While it is absolutely valuable to hear the impressions of conservation projects from landowners themselves it is not a good idea to mix conservation practitioners with their target groups. Conservationists, whether they like it or not, find themselves in a negotiating positions vis-à-vis local landowners and need to be able to discuss their strategies among themselves. Organizing a separate meeting to have landowners that have opted for different forms of resource use (logging, mining, conservation) to talk to each other could be very worthwhile.

REFERENCES

- Beehler, B. 1993 'Introduction to the CNA report, Volume 2', in B. Beehler (ed) *Papua New Guinea Conservation Needs Assessment, Volume 2: A Biodiversity Analysis for Papua New Guinea*, Department of Environment and Conservation, Waigani, Papua New Guinea, pp 1-15.
- Babo S., 1998. 'Wildlife management areas in a broader perspective.' in S. M. Saulei and J. Ellis (eds.): *The Motupore Conference: ICAD Practitioners' Views from the Field*, Papua New Guinea Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-Papua New Guinea/93/G31, Waigani, Papua New Guinea.
- Brunton B., 1998. 'Private contractual agreement for conservation initiatives' in S. M. Saulei and J. Ellis (eds.): *The Motupore Conference: ICAD Practitioners' Views from the Field*, Papua New Guinea Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-Papua New Guinea/93/G31, Waigani, Papua New Guinea.
- Alcorn, J.B. and Beehler (eds) 1993. *Papua New Guinea Conservation Needs Assessment* Department of Environment and Conservation, Waigani, Papua New Guinea
- Bass, S. B. Dalal-Clayton and J. Pretty 1995. *Participation in Strategies for Sustainable Development*, Environmental Planning Issues No. 7, London: IIED.
- Brooks, S. 1996. *Small Business Development in Papua New Guinea*, Papua New Guinea Biodiversity Conservation and Resource Management Programme, DEC/UNDP OPS-PNG/93/G31, Waigani.
- Brown, M. and B. Wyckoff 1992. *Designing Integrated Conservation and Development Projects*, Biodiversity Support Program/ US Agency for International Development.
- Ellis, J.A. 1998 *Race for the Rainforest II: Applying Lessons Learned from Lak to the Bismarck-Ramu Integrated Conservation and Development Initiative in Papua New Guinea*, PNG Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-PNG/93/G31, Waigani.
- Filer, C. (ed) *The Political Economy of Forest Management in Papua New Guinea*, Waigani: National Research Institute (Monograph 32)
- Filer, C. with N. Sekhran 1998 *Loggers, donors and resource owners; Policy that works for forests and people*, London: IIED/ Waigani: National Research Institute
- Grant, N. 1996 *Community Entry for ICAD Project Projects - The Participatory Way*, Papua New Guinea Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-Papua New Guinea/93/G31, Waigani.
- IUCN 1999 *Parks for Biodiversity: Policy Guidance based on experience in ACP countries*, World Commission on Protected Areas of IUCN, European Commission, Directorate General for Development, Brussels.
- James, J. 1996 *Proceedings of the 1995 Meeting of Integrated Conservation and Development Projects in Papua New Guinea*, Papua New Guinea Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-PNG/93/G31, Waigani.
- Johnson, Arlyne, 1997. 'Processes for Effecting Community Participation in the Establishment of Protected Areas: A Case Study of the Crater Mountain Wildlife Management Area.' In C. Filer (ed.), *The Political Economy of Forest Policy in Papua New Guinea*, Waigani: National Research Institute (Monograph 32) pp 391-429.
- Kalwij, J. and J. de Koning 2000 '*Conservation in Competition: Responses to ICAD Implementation in the Lakekamu Basin, Papua New Guinea*', Unpublished MSc Thesis, Development Sociology Group, Wageningen University, the Netherlands..

- Kinch, J. 2001. *Social Evaluation Study for the Milne Bay Community-Based Coastal and Marine Conservation Program*, Alotau, Milne Bay Province, Papua New Guinea.
- McCallum, R.D. and N. Sekhran 1997 *Race for the Rainforest: Evaluating Lessons from an Integrated Conservation and Development 'experiment' in New Ireland, Papua New Guinea*, PNG Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-PNG/93/G31, Waigani.
- Salafsky, N. 1997 *Eleven Steps for Setting up Community-Based Timber Harvesting Enterprises*, European Union-Islands Region Environmental & Community Development Programme, Papua New Guinea.
- Sekhran, N. 1996 *'Pursuing the 'D.'* In *Integrated Conservation and Development Projects (ICADPs): Issues and Challenges for Papua New Guinea*. London: Overseas Development Institute (Rural Development Forestry Network Paper 19b).
- Sekhran, N. and S. Miller (eds) 1994 *Papua New Guinea Country Study on Biological Diversity*, A Report to the United Nations Environment Program Waigani, PNG, Department of Environment and Conservation, Conservation Resource Centre, and Nairobi, Kenya, Africa Centre for Resources and Environment (ACRE).
- Sekhran, N., W. Ginn, F. Arentz, M. Hedemark, R. McCallum 1996. *Model Business Plan for a Sustainable Forestry Enterprise in Papua New Guinea*. Papua New Guinea Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-PNG/93/G31, Waigani.
- Sullivan et Al. (2002) *Mounds of Yam*, unpublished report for the Adelbert Mountain project, TNC Papua New Guinea
- Van Helden, F.W. 1998 *Between Cash and Conviction: The Social Context of the Bismarck-Ramu Integrated Conservation and Development Project*, Waigani, National Research Institute, Monograph 33.
- Van Helden, F.W. 2001a *Through the Thicket: Disentangling the social dynamics of an integrated conservation and development project on mainland Papua New Guinea*, PhD Thesis Rural Development Sociology Group, Wageningen University,
- Van Helden, F.W. 2001b "Good business' and the collection of 'wild lives': Community, conservation and conflict in the Highlands of Papua New Guinea' *The Journal of Asia-Pacific Anthropology*, Australian National University, Canberra (in press).
- Van Helden, F.W. 2004 "'Making-Do': Integrating Ecological and Societal Considerations for Marine Conservation in a Situation of Indigenous Resource Tenure", In Leontine Visser (ed.) *Challenging Coasts: Transdisciplinary Excursions into Integrated Coastal Zone Development*, MARE Publication Series No. 1, Amsterdam University Press. pp 93-118.
- Van Helden, F.W. and J. Schneemann 2000 *Cutting Trees to Keep the Forest: An Overview of Lessons Learned from Community-based Sustainable Forestry Programs*, ICCO, Zeist,
- Whimp, K. 1995 *Legislative Review Report 5: Conservation*, an unpublished report by the Department of Environment & Conservation Strengthening Project, AusAid/DEC, Papua New Guinea.

ANNEX 1: TERMS OF REFERENCE

-- Terms of Reference --

Lessons Learned from Community Based Forest Conservation and Sustainable Resource Use in Papua New Guinea

**Contractor: Adelbert Mountains Forest Conservation Program
The Nature Conservation
in partnership with
WWF Forest of New Guinea Program**

Contract supervisors

Paul Lokani, Director, Melanesia Program

Kath Shurcliff, Director, Conservation Leadership Initiative, The Nature Conservancy

Questions and issues to be addressed

1. **Engaging Communities:** How have communities been engaged in projects? What are the relative strengths and weaknesses of the different approaches? Which have been most effective in achieving long-term objectives?
2. **Coordination and Conflict within Communities:** How have projects encouraged clans to cooperate with each other? Which factors enhance/reduce the probability of conflict among clans engaged in projects? If such conflicts have arisen, how have they been effectively handled? Whether/how demarcating clan boundaries has led to conflicts and how such conflict has been reduced or prevented.
3. **Protected Areas:** What different types of protected areas are being used in PNG? What are the relative merits of the different types? What has been successful in conservation area establishment and management? What has not?
4. **Land Use and Resource Management Planning:** What tools are being developed for helping communities to manage resources and land use? What is effective and what issues are there in applying these?

5. **Species Harvest Controls and Other:** What examples are there of harvest of natural products within sustainable limits (crocodiles, okari nuts, eaglewood)? What are the lessons in developing effective species harvest
6. **Development Activities and Incentives:** How have incentives for conservation been used? In what form and with what delivery mechanism are they most effective? Have incentives reduced self sufficiency? If so, how was this addressed?
7. **Partnerships and Government:** How has integration of environmental and development/social issues (health, education etc) been successfully achieved?
8. **Community institutions:** What are the available options for community institutions and community based organisations? What are the relative strengths and weaknesses of these different institutions? What are the conditions under which community institutions are most likely to succeed? Provide case studies of successes and failures.
9. **Scaling Up:** Are there examples of successful partnership with government at national, provincial, district and/or local level? Why were they considered successes? Where unsuccessful, what went wrong and why? Are organizations such as church groups (e.g. Lutheran Development Services) and some development agencies (e.g. World Vision, UNICEF) effective and cost-efficient in working at scale with hundreds of communities? How have they been able to scale up these activities?
10. **Collecting and Sharing Information / Lessons Learning:** Have information sharing protocols for collection and sharing of information with landowners been used? What forms are recommended? What issues are there with collecting information in Melanesian communities? How have lessons been learnt and shared across the conservation community?
11. **Measuring Effectiveness of Current Efforts:** What tools are there for assessing the effectiveness of conservation efforts? Where possible, make simple calculations of the return on the investment (e.g. \$/ha conserved).

Process

1. Undertake a literature review previous lessons learned documentation e.g. "Race for the Rainforests", evaluations and reports from specific projects etc
2. Conduct visits to project offices and in some cases to field sites to gather first hand information where reports and interviews of managers are insufficient.
3. Hold a one day workshop with participants in the "Kamiali Group"
4. Prepare draft chapters and circulate by email for comment.

5. Discuss final draft at the Kamiali Group meeting in 2005.

ANNEX 2: ITINERARY FOR LESSONS LEARNED ASSIGNMENT

Date	Activity
8 and 9 April	Travel from the Netherlands
10 April (Sunday)	Arrival in Madang, short talk to Leo Sinuria and Ruby Yamuna at WWF Madang.
11 April	First Visit to TNC project Office to meet Warren Jano and Francis Hurahura.
12 April	Visit with Warren Jano and Cosmos Apelis to ALMAMI LIG and TNC project site. Sit in on the meeting of the Conservation Area Management Committee, discussion with LIG president Moses Oram, LIG Officer Gideon Magorgor and landowner John Kose.
13 April	Meeting with Francis Hurahura and Warren Jano of Steering Committee and with Peter Moikia and Francis Beibi of the TNC Community Facilitation program.
14 April	Work on literature study and report outline. Short talk with Dan McCall at WWF Madang. Met with Leo Sunari of WWF on the eaglewood trade.
15 April	Meeting with Bazakie Baput at FPCD Madang on the wokabaout sawmill programme in Madang Province and with John Chitoo, Yat Paol and Barry Lalley of the Bismarck Ramu Group.
16 April	Literature study and dinner with Paul Lokani, Francis Hurahura, Warren Jano, Cosmos Apelis, Sylvia Avitu and TNC filmcrew.
17 April	Travel to POM with TNC team and preparation for Kamiali workshop
18 April	Visits several Port Moresby based organizations: Lester Seri and John Sengo at CM, Gai Kula and Peter Bosip at CI, Yati Bun at FPCD.
19 – 21 April	Kamiali Workshop on Motupore Island and talks to Katayo Sagata (WCS), Tom Pringle (SCCP), Ruby Yamuna and Leo Sunari (WWF), Peter Bosip (CI), Jim Onga (DEC), Steven Sukot (PWM), Bing Siga (VDT) and Warren Jano, Cosmos Apelis, and Sylvia Avitu (TNC).
22 April	Return to POM. Write up at TNC office, visit to Gai Kulka at the CI office, Dinner with Helen Rosenbaum Teamleader of the CELCOR evaluation team.
23 - 24 April	Travels to Goroka, meeting with Helen Perks of RCF. Day spent on write up
25 April	Meeting with Robert Bino (ex-RCF) followed by travel to Lae
26 April	Meets with Aung Kumal, Steven Yangal, Thomas Warr and Bing Siga of VDT.
27 – 28 April	Travel to POM and preparation for debriefing
29 April	Debriefing

30 April	Return to The Netherlands, arrival on Sunday 1 May
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ANNEX 3: MATRIX OF AREA-BASED CONSERVATION OPTIONS UNDER VARIOUS PAPUA NEW GUINEA ACTS.

Options for Reservation	Applicable Act	May protect	Land ownership	Management/enforcement	Applicable to marine resources?	Is hunting /fishing allowable?	level of protection
National Park/ Nature reserve	National Parks Act	All biodiversity and scenery	Government	Government	Probably	No	High
Fauna Sanctuary	Fauna Act	All fauna	Landowners	Government	Yes	No	High for fauna Low for flora
Protected Area	Fauna Act	Selected fauna	Landowners	Government	Yes	Within Regulations set by OEC	High for some fauna. Low for flora and other fauna
Wildlife Management Area	Fauna Act	Selected fauna	Landowners	Landowners/ Government	Yes	Within Regulations set by WMC	Variable for fauna; Low for flora
Conservation Area	Conservation Areas Act	All biodiversity and scenery	Landowners or Government	Landowners/ Government	Yes	Within Regulations set by CAMC and OEC	Variable

Section 30	1998 Fisheries Management Act	All marine biodiversity and Scenery	Resource owners	Resource owners	Only	Within regulations set by management plan	Variable
Section 32	2004 Fisheries management Bill	All marine biodiversity	Resource owners	Resource owners	Only	Within regulations set by management plan	Variable
Section 43	2004 Fisheries management Bill	All marine biodiversity	Resource owners and open seas	Government	Only	Within regulations set by management plan	Variable
Conservation Deed	Law of Contracts	Wide range of possibilities	Resource owners	Resource owners	Yes	Within regulations set by the deed	Variable
Almami LLG Act	New Organic Law section 44	All biodiversity	Landowners	LLG and resource owners	Probably	No	Variable
Talasea LLG Act	New Organic Law section 44	All marine biodiversity	Landowners	LLG and resource owners	Probably	Only customary fishing activities	Variable
