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Biodiversity Conservation in Melanesia: Addressing Risk and Uncertainty Among Stakeholders

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Biodiversity Conservation in Melanesia: Addressing Risk and Uncertainty Among Stakeholders

The lowland rainforests of Melanesia have attracted the interest of those who produce and trade in global commodities. Tropical timbers are a valuable resource and are in strong demand in their raw form in East and South-east Asia and in their manufactured forms throughout the world. The exploitation of this resource has come rather later in Melanesia than in other tropical countries of the South-east Asian region for a number of reasons. Among these are the lower density of commercial species in comparison with forests in other places in South-east Asia (Nectoux & Kuroda, 1989), doubtful political stability, insufficiently skilled labour force, lack of infrastructure, high comparative wage costs, cultural behaviours at odds with commercial exploitation, and insecure legal tenure of the forest resource or State inability to enforce tenure.

The biodiversity values of these lowland rainforest areas are regarded as very high by a wide range of interested parties ranging from ecologists and biologists to people holding general conservationist and preservationist attitudes. Other values pertaining to economics, potential genetic knowledge, water resources, cultural and sociological issues for local forest dwellers, subsistence food supplies etc., are held at various levels of commitment by a variety of other groups. Attempts to manage the forest resource has resulted in a variety of schemes one of which involves Integrated Conservation and Development Projects (ICADPs). This paper briefly examines the ways in which the players/stakeholders in one of these ICADPs in Papua New Guinea perceive and act upon risk and uncertainty. While the author's observation and research is the source of the information in the case of this ICADP, other ICADPs are mentioned in a comparative sense with the information based on some personal observations but mostly on the writings of people intimately involved in their facilitation.

The Integrated Conservation and Development Project at Kamiali is activated by the local landowners in partnership with an indigenous NGO, The Village Development Trust. External help has been sought, mostly for financial aid but including some technical assistance, from a variety of offshore donors and a couple of government departments. The major stakeholders examined in this paper are the indigenous landowners (the Kamiali people), the facilitating Non-Government Organisation (the Village Development Trust), and the external donors (Interchurch Organisation for Development Co-operation – ICCO, World Wildlife Fund – WWF, New Zealand and Australian High Commissions and the Rainforest Information Centre being the major ones). Other groups also have a stake in this development but in a minor way by comparison with those mentioned above e.g. National and Provincial governments, adjoining landowning communities.

Background

The Kamiali

The author has used the name Kamiali for the group of Kela speaking people from a cluster of five hamlets around Nasau Bay (about 60-80 km south-east of Lae). These people identify themselves as a single community and operate as one. For that reason they will be referred to as a village in the following discussion. The Kamiali first came to the attention of the author in 1993 when they were cited as belonging to one of four villages involved in what was then known as the Lasanga Island-Lake Trist Conservation Project. This was a paper proposal put forward by the Village Development Trust and the people of the villages of Kui, Buso, Siboma and Lababia (Kamiali) to the World Wildlife Fund for the preservation of a large area of approximately 250,000 ha. at risk from large-scale logging in return for assistance with environmentally-sensitive development projects. Since that time the lack of a consensus among the villages and between clans in the villages has resulted in the abandonment of the original conception with only the people of Kamiali retaining their commitment. The final outcome has been the formation of an Integrated Conservation and Development Project centered on Kamiali and the declaration of a Wildlife

Management Area (WMA) of 47,413 ha. on August 6, 1996¹. The Wildlife Management Area constitutes all but 3,300 ha. of the land area claimed by the Kamiali. This latter area lies to the north of the WMA and is the home of the Kaiwa people of Salus.

A comprehensive description of the Kamiali and their society can be found elsewhere (see Martin, 1999) but in brief they divide themselves into two major groups (clans) called the Areme and the Gara, each of which has six lines or families (sub-clans). They are gardeners and fisherfolk and, in general, their activities are confined to a narrow coastal strip and the deltas of the Bitoi and Tabali rivers. Hunting is an activity confined to a small group of men with dogs but this is a minor activity and little food is derived from this source.

The Village Development Trust

With the backing of the Foundation of the Peoples of the South Pacific, VDT was begun in 1990 with the following central elements as defined by its mission statement:

- *Empowering and supporting village communities to manage their resources in ways that promote self-reliance and that are environmentally, economically and socially sustainable* (Village Development Trust, 1998)

To achieve this the goals of the Trust are to:

- Promote sustainable livelihoods for village people
- Develop appropriate technologies for village use
- Improve the utilisation of village resources
- Promote environmental issues
- Train villagers and extension personnel
- Establish and maintain environmentally acceptable standards for marketable natural resources
- Develop village level skills (Farley *et al*, 1993).

The Village Development Trust (VDT) has undergone considerable expansion in the ten years of its existence to 2000 from two foresters concerned with the training of potential small-scale sawmillers in forest management and the operation of portable milling machines, to a staff of nine including foresters, financial and development planning managers, a women's affairs officer, project managers and office workers. The Trust has a number of projects and areas of interest in which it has contributed its growing skills. These can be grouped into two main areas, the Morobe Eco-timber Producers Group and the Kamiali ICADP. VDT is governed by a Board of Directors consisting of local indigenous businessmen and landowners, the executive director of another national NGO and a scientist.

It is only in relatively recent times that the Trust has shifted from providing training for individual operators of portable sawmills, and raising the awareness of these operators and village people along the south-east Morobe coast, to environmental issues. This expansion has coincided with the growing skills' capacity of the Trust and its ability to raise significant amounts of funding from a variety of external sources. The expansion has taken the form of attempting to create a small-scale eco-timber industry, with its centre in Lae, consisting of a collection and resawing facility, advice from foresters employed by the Village Development Trust, access to finance, access to 'green' export markets and assistance in the formation of an ICADP at Kamiali.

The Location

A major factor in gaining the assistance of external donors with a conservation mission is the potential of the area for preservation of its biodiversity and the value such donors and the local people place on that biodiversity. Western biological knowledge of the Kamiali area, and for a

¹ 29,285 ha. is terrestrial and 18,128 ha. marine, including Lababia, Jawani and Battaru islands (National Gazette, No. G77 - Sept. 19, 1996)

significant distance to the south, is limited. The Conservation Needs Assessment of 1993 is extremely brief in its description referring only to an ultrabasic montane flora, plus coastal, mangrove and seagrass communities that are botanically unusual and virtually unsurveyed (Beehler, 1993). Also, the Kuper Range, to the south of Kamiali, is virtually uninhabited by humans. The coast and seas off Kamiali are considered of high priority in marine biodiversity with their reefs, sea walls, mangroves and Leatherback and Green turtle nesting beaches. The reefs, islands and sea life of this area are affected by the drainage of the upland regions through the many rivers of the region and for this reason the area has also earned a classification as a critical watershed. The lack of knowledge of the flora and fauna of the area may have a role to play in the designation of 'high' and 'very high' priority for biodiversity conservation but the combination of the above characteristics makes Kamiali, and other areas nearby, of critical importance in any general conservation plan for Papua New Guinea.

Stakeholder Agendas

Local landowners

Local landowners will attempt to exploit economic opportunities as they arise. They are as interested as anyone else in improving their quality of life and see modern (Western) consumer goods, services and lifestyles as adding to that quality. Their particular social context qualifies the way in which they go about exploiting economic opportunities. For instance, the accumulation of prestige (particularly by men) is highly valued and competition for prestige in a village setting influences relationships between stakeholders in the management and development of projects. Within a local landowner group this competition can take the form of disputation between villages or, as in the case of a single village, different 'lines' or subclans will compete, especially if threats to the village as a whole are not recognised.

Entering into agreement with outsiders to establish an Integrated Conservation and Development Project can be driven in whole or part by an effort to increase security over land. For example, the establishment of Wildlife Management Areas (WMAs), often an outcome of such agreements, can be seen as legitimising a land claim. Van Helden (1998) records such a case in the anxiety of Ramu valley people at the immigration of Jimi valley settlers in their region in the Bismarck-Ramu ICADP. Both the Gimi and Pawaian people in the Crater Mountain ICADP see value in securing claims to land through the establishment of WMAs (Johnson, 1997; Pearl, 1994). The Kamiali have already had a WMA gazetted but groups on the Western and Southern borders are beginning to question its boundaries.

While it is rare, the agenda of a land owning group can involve the conservation of natural forest (in addition to the land on which the forest is found). Van Helden (1998) notes that the Sepu clans on the Ramu River are anxious to preserve cultural identity in the midst of immigration from the Jimi valley and an influx of loggers and miners and that identity is linked to their environment. Reports also exist of the rejection, by the Maisin people of Collingwood Bay in Oro Province, of offers of logging at least partly motivated by a concern to preserve sacred sites (Martin, 1999).

The facilitator of the ICADP

There are a variety of facilitators of ICADPs in Papua New Guinea and each of them has its own mission. These missions will contain elements of 'development' and 'conservation' in various mixes. For instance, there may be a central focus of conservation with an understanding that without meeting the needs/wants of local inhabitants little progress will be made. On the other hand development may be the central focus with an understanding that this must be sustainable and therefore related to environmental protection, especially if donor funds are dependent on the latter. Sometimes the facilitator is a partnership between a local NGO and an international conservation group, sometimes the facilitation is directly through the international conservation group. However, most of the ICADPs in Papua New Guinea have an indigenous NGO providing this facilitation. This is the case for the Kamiali ICADP where the Village Development Trust carries out this role.

The general mission of the Village Development Trust has been pointed out earlier but it is important to recognise that there are other elements in its agenda that do not appear in its stated objectives. This is the case of other NGOs as well. For instance, the Village Development Trust has a long-term goal of making itself self-sufficient in its core funding through selling its services as a trainer and perhaps middleman for a small-scale, community-based forestry industry. Its medium term goal is to cover its costs through external donor funding. These institutional maintenance goals are essential for the realisation of its mission and are to be lauded. However, there is another aspect of this that bears upon the way risk assessment is viewed. The NGOs are an alternative career path for professionals in a country where opportunities are limited. The survival of the institution is essential to the work aspirations of a number of talented individuals.

NGOs will often have a dominant individual operating as CEO and influencing the Board of Directors in the policy direction of the institution. This is particularly true of small NGOs or recently formed ones. The agenda of such individuals can be localised with personal interests in a tribal area influencing policy formation and consequently the manner of risk assessment. It is the author's observation that the influence of such individuals decreases as the institution grows in size and its skills base expands. This is evident in a broadening of its interests and in collective policy development.

External donors

Generally an ICADP will have a strong association with a single international donor e.g. Greenpeace in the case of Collingwood Bay, Conservation International at Crater Mountain, UNDP/DEC at Lak. It can be said that the central mission of each of these has been conservation of an undisturbed environment. The Kamiali ICADP is something of an exception in that the facilitator has followed a different path in finding its funding from a variety of sources, many of which have had development as their central mission. Initially this was not the case as limited financial backing came by way of the World Wildlife Fund and the Rainforest Information Centre in respect of the Lake Trist – Lasanga Island Conservation Project, the forerunner of the Kamiali ICADP (much reduced in size from the original conception). However, as time progressed many sources of funding were tapped.

The donor agencies external to Papua New Guinea divide themselves into two groups according to their orientations to conservation and development. The first of these, which include government agencies, the United Nations Development Program, private foundations and Church groups, exhibit a focus on specific outcomes involving material improvements to people's lives in the way they deal with applications for funding. Improving the capacity of NGOs to carry out a facilitating function in their interface with local groups, specific training of local people and the provision of the means to increase village incomes tend to gain most support. Conservation is often seen as a valuable adjunct to the activities that are being funded. Relations between this group and the NGOs were generally good with a high degree of agreement between their goals and implementation processes.

The second group of external agencies have a conservation focus in common i.e. their mission statements have a primary focus on preserving ecological integrity. Improvement in the quality of rural villagers' lives is seen as a means to this end. It is with this group that the author observed differences emerging with the Village Development Trust. Because of the focus of this second donor group, submissions for aid from the NGO are centred around the conservation outcomes expected. The groups with a conservation mission are often, but not always, conduits for government aid and the submissions to government from the conservation organisation may sometimes place emphasis on development rather than environmental issues in order to meet the perceived requirements of the government agency concerned. Confusion can arise when the external donor applies somewhat more stringent environmental scrutiny to its audits of the facilitating organisation than its own submissions to government agencies suggest is warranted.

Stakeholder Risks

In discussing the way risk is assessed and acted on in the establishment of the partnerships involved in setting up an Integrated Conservation and Development Project, the author will point to differing aspects of perception about relationships among the players/stakeholders. Territorial relationships are exhibited in the social bonds established in local history and particular bio-physical environments. A temporal aspect accompanies the spatial orientation of these territorial relationships. Local needs, wants and behaviours are time-dependent in the sense that they are influenced by culture, that evolved set of beliefs or way of interpreting the world, which is established over time and by the fact that future generations have a claim on the local area. That localised spatial/temporal dimension incorporates socio-political, economic, cultural and intergenerational content.

Development viewed from a functional perspective can look quite different from that of a territorial one (a functional perspective is one in which people are linked or related by purpose or function rather than by the space or territory they occupy). For example, significant cultural change or dislocation at the local level may barely be visible from a national, functional perspective. Logging and mining companies have goals and structures located in function, long-term temporal frameworks and national and international linkages. They interact with local, rural people whose goals and structures are located in their social relationships and in Papua New Guinea's case, centered on short-term cycles. This interaction raises specific problems in both development and conservation areas.

Rural communities in Papua New Guinea are characterised by territorial relationships in contrast with the functional forms of commercial and industrial forces, development agencies, international conservation groups and regional and national government. While both forms are present in any society or organisation there are aspects of their social integration which place them towards opposite ends of a continuum. Hettne (1995) compares territorialism and functionalism with distinctive types of social organisation such as *Gemeinschaft* and *Gesellschaft*. Functional relationships are founded in mutual self-interest and pyramidal power structures lacking spatial relevance and characterised by relations between individuals rather than being group-oriented (Friedmann & Weaver, 1979). As a consequence, integration of functional 'committees' with the biophysical environment is difficult and mutual self-interest leads to "segmentation rather than the integration of human populations" (Ife, 1995:92).

Local landowners

When forming partnerships with a facilitator and with donor organisations local landholders are in the business of assessing risk in a number of areas; economic, social and cultural. For instance, there is the possibility that an economic opportunity will be foregone. This is particularly relevant in lowland forest areas of Papua New Guinea similar to that around Nasau Bay occupied by the Kamiali. The forest may be in demand from logging companies or significant areas of forested land by mining companies. The short-term financial return from selling resources to these companies has to be assessed against longer-term returns from conserving natural resources and involving themselves in 'new' forms of business for which there are no obvious models available.

The security inherent in kinship linkages can be seen as being at risk as cash generating options are proposed in terms of small-scale, individual or nuclear-family owned business. The functional linkages required are often at odds with the way people have related in the past (the change in relationships is frequently not recognised until actually experienced). When the potential for such change is recognised it may be assessed against an offer from a logging or mining company offering financial returns into a fund actually or theoretically owned by the whole community. Individuals may see the opportunities for prestige gains either diminished or foregone. This is particularly the case where prestige creating relationships are seen in territorial terms and change requires prestige to be delivered via functional means. Finally, there is a fear that the community will be used by outsiders for their own benefit and to the disadvantage of the community. This is a 'logical' supposition for those viewing the world through a territorial perspective rather than a functional

one (see Martin, 1999 for a more detailed examination of the attitudes and worldviews of stakeholders).

Facilitator

Despite the indigenous background of the staff of a facilitating NGO, risk assessment lies much more in the functional arena than in a territorial one. If the advocacy of the organisation is not pitched in such a way as to appeal to potential donors then the existence of the organisation may be compromised (and thus the careers of many who have chosen NGO service as an alternative to the public service). If the mission of the organisation is too dissimilar to that of potential funding agencies then the organisation may find its existence precarious, or be faced with compromising that mission in its submissions for funding. For instance, if it is appealing to a conservation agency interested in biodiversity preservation then it will be under pressure to ensure its project fits the functional orientation of that agency, which may take the form of ensuring an area of a particular size is preserved given ecosystem requirements. This may directly cut across the territorial requirements of the landowners in the area. There are a number of examples of such conflict in Papua New Guinea e.g. Lak and Lasanga Island-Lake Trist conservation projects.

In addition to concerns about meeting the general outcomes expected by the donor agencies there are concerns associated with 'process' policies of those agencies. For example, the notions of participatory behaviours and those of equity can be different for donor organisation and those of the landholders. Donor organisations may make equitable distribution a condition for assistance when the success of small-scale business is optimised by ownership and management residing in the hands of a single family group or sub-clan. Many development professionals working in Melanesia and interviewed by the author were critical of the lack of success, due mainly to interclan or individual rivalry, of business ventures in which whole communities were the owners.

Facilitation may involve the NGO being directly involved in a business partnership with local landholders as the only realistic method of achieving its goals. Apart from potential conflicts of interest, there are problems for the NGO in ensuring functional chains are constructed to ensure viability of the business. The eco-forestry business promoted by the Village Development Trust is a case in point. There the NGO must balance competing territorial perspectives of the landholder harvesters with the functional requirements of a production and marketing chain (Martin, 1997).

Each of the perceived elements of risk referred to above in regard to the facilitator of the ICADP can be seen as pressure to operate in a functional way and the author is of the opinion that this is, in fact, how the perspective of the facilitator develops. However, in some cases individuals exercising power within an NGO will perceive risk to personal prestige opportunities in facilitating a project if it takes time and opportunities away from their local kingroups. This has been observed where the NGO is relatively localised but is in a growth period with its general skills and interests expanding. Conflict can often eventuate in such circumstances.

External Donors

External donors face the risk of their essential missions being compromised e.g. in the case of a conservation oriented organisation that viable ecosystem preservation is not the outcome of their expenditure of resources or, in the case of a development oriented organisation, that economic improvement is diminished by conservation measures being given too high a priority (in their opinion). These are functional concepts as also is the accountability of these external donors to their membership/contributors. That accountability will be both financial, in terms of measurable outcomes in line with the mission statements of the organisation, and in what the membership/contributors see as appropriate social behaviours exhibited by those they are providing support for e.g. in respect of such things as participatory strategies and social equity.

Risk Minimisation Behaviours

An issue has been made of the functional and territorial orientations of stakeholders because it is the view of the author that these are influential in the decisions they make when strategies are being

determined for involvement in Integrated Conservation and Development Projects. Minimising risk is always an essential element in the determination of strategies.

External Donors

When auditing submissions for financial and/or technical aid, donor agencies are seeking outcomes stated in terms consistent with their mission, consistent with what is known of the necessary and sufficient conditions for ecosystem viability, and development strategies which have shown a success rate elsewhere (success being defined within the context of the culture of the donor organisation). In minimising risk by accommodating the demands of its membership/contributors it is seeking clearly measurable outcomes in relatively short timelines. Other aspects of the donor organisation culture may demand the presentation of strategies consistent with ideas of participation of those the aid is designated to help and with social equity. However, the later 'processes' are difficult to measure and thus tend not to receive an equal measure of attention with material outcomes in the subsequent audits.

Facilitators

For the facilitator the risk is that a submission will not measure up to the requirements of donor organisations and thus put its existence, its mission, and the careers of its staff in jeopardy. In attempting to reduce this risk its submissions (usually on behalf of landowner groups but including core funding for its own maintenance) tend to specify material outcomes and timelines rather than process and attitudinal change. Project tracking and measurement proposals tend to favour what is easily measurable and influence stated outcomes. The partnerships the facilitator has forged with local landowner groups does not ameliorate this approach but in fact may reinforce it as the landowners see outcomes in material ways. Similarly, the strategies employed emphasize functional relationships as these are perceived, correctly in the author's view, to satisfy the requirements and orientation of potential donors.

The pressures on the facilitator shape its behaviours along functional lines. This leads to conflict with the territorial orientation of its local project partners in many situations (see Martin, 1999 for examples of how these conflicts develop and for the context in which resolution is sought).

Landowner groups

The problem for individuals and extended family groups (sub-clans) is to ensure they make the most of the opportunities available in any partnership/project. This means their immediate kinship group is represented on all committees, action groups etc. and in a position to take advantage of any situations likely to benefit the family group or enhance the prestige of the individual representative. The outcome of this apparent risk minimisation behaviour is competition between kingroups and aspiring individuals often to the detriment of the community group as a whole (although it would not be seen in this light by the players). Functional aspects take second place to territorial/kingroup considerations. Distrust and jealousy are extremely common outcomes.

Leadership tends to be sectional and tightly localised. Individual leaders have a need to gain followers among near or extended kingroups rather than from a broader constituency in the first instance. When disparate group representatives (leaders or prospective leaders) are brought together, the outcome is that of competition rather than cooperation. The internal politics of a community is often masked or opaque to their partners in a project and to external observers. This is due as much to the culture of the facilitator and external donor groups as it is to any deliberate efforts on the part of the local community to mask their differences.

External groups view their interaction with their local partners through their own cultural filters. For instance, the chairman of a local committee is assumed to be a leader in his (rarely her) local community and to speak for the committee. This is often not the case as the local spokesperson may be an aspiring leader and presenting his own agenda in the hope of stealing a march on rivals. The local community and the real leaders, who tend not to risk their own reputations in direct interaction with outsiders, at least in the early stages, allow the aspiring young men to test themselves and only step in when an obvious threat to their community eventuates. This has the effect, in the eyes of the traditional leaders, of minimising the risk to community opportunities and their own prestige while allowing for a denial of responsibility if things go wrong in the interaction

between spokesmen and external partners. The high risk takers are the men aspiring to prestige and leadership and who expose their competence and skills to their peers as they interface with 'outsiders'. While this observation cannot be taken as universal there are plenty of examples evident in the creation of ICADPs at Kamiali, Crater Mountain and Lak (Johnson, 1997; Majid-Cooke, 1997; Martin, 1999).

A major point being made is that the functional strategies of the facilitators, supported and encouraged by external donors, can be at odds with the behaviours of local landowners. Attempts to minimize risk by encouraging representative (functional) groupings can generate increased risk due to the competitive (territorial) behaviours of local people. In general, insufficient consideration is given to strategies which are complementary with the worldviews of locals. There is evidence that this may be changing with experience although there are also indicators that functionality still overrides the territorial context in the statements of influential people.

Conclusions

The ICADPs at Crater Mountain and Kamiali have had a measure of success, albeit with accompanying difficulties. The lack of success of the Lak ICADP has led to a form of community entry that has emphasized a territorial approach in another ICADP at Bismarck-Ramu. Experience in a number of combined conservation and development attempts suggest that there are considerable problems associated with creating a functioning management body inclusive of the disparate clans and tribes of the designated conservation area, especially within the timelines shaped by access to financial aid. This has been the case at Crater Mountain (Pearl, 1994; Johnson, 1997), Lasanga Island - Lake Trist (Martin and Taylor, 1993), Lakekamu - Kunimaipa Basin (Pupang, 1996) and Kikori River Basin (Naug, pers. comm. 24/9/96).

The way in which Crater Mountain and Kamiali have developed suggests the possibility of a 'territorial' strategy being appropriate in some circumstances. In both of these cases elements consistent with a territorial approach can be discerned. It must be noted, however, that this has not been by design but rather has arisen by circumstance. In the case of Crater Mountain, interest in conservation was initially confined to the village of Ubaigubi and other villages were added to the group over time. Eventually some of these dropped out, leaving four villages to allocate land to the Wildlife Management area. While there is a single management committee the literature suggests that each village works relatively independently of the others. The development of a functional management committee for the WMA has developed only gradually over time.

The Kamiali ICAD project arose out of the inability of a large conservation concept (Lasanga Island-Lake Trist) to obtain support from outside donor organisations. The resultant, greatly diminished, area contains only one village, one tribal group, two clans and 12 kinship or subclan groups all of which have a long history of relative co-operation. In Crater Mountain and Kamiali conflict situations have been common, both within each area's population as attempts were made to reach consensus positions in regard to numbers of issues, and as they have interacted with outside facilitators. What is significant is that despite this both have achieved the declaration of a Wildlife Management Area and show evidence of improved cash income since they entered into partnership with conservation oriented change agents. They also show no sign in the short to intermediate term of succumbing to outside pressures for large-scale exploitation of their resources (recognising that these outside pressures are of a limited nature, especially in the case of the Kamiali). The suggestion being made is that the processes involved in the creation of these ICAD projects, along with certain chance events and natural biophysical conditions, have articulated with the territorial perspectives of the local people.

Limited options for the sale or 'rent' of their natural resources have provided the conditions in which the Kamiali ICAD project has essentially been confined to one 'territory'. The WMA itself is only 47,413 ha. of which 29,285 ha. is forest. This is well below the size necessary to ensure the long-term viability of ecosystems according to knowledgeable sources working in Melanesia (Alcorn, 1993; James, 1996). To extend the scope of the present WMA at Kamiali requires the co-operation and agreement of surrounding village groups rather than clan groups. Given past

practice, and the views of what constitutes an appropriately sized area of conservation by groups donating money or organisational skills, it could be expected that a functional approach would be attempted. This involves putting together a representative management committee of the disparate groups concerned and accepting the inevitable competition, jealousies, disputes and uncertainty this entails. On the other hand, a territorial approach would involve adding 'independent' territorial units and integrating these as, and when, social conditions allow.

A territorial approach can allow for some differentiation of development and a tolerance of a degree of inequity that would not be countenanced by some of the groups in 'partnership'. Such differences are likely, in the short term at least, as there are limited opportunities for income generation in the area. If conservation-oriented facilitators are to support individual 'territories' defined by coherent landowning groups (in this case mostly of village size) then they would have to be prepared for the risk and uncertainty involved in trying to put together conservation areas as amalgams of these territories. The current practice, in virtually every case, has been to assess an area for its biodiversity values and then, if criteria are met, to attempt to create a single management unit representative of the territorial groups owning land in the area. Facilitators are looking for some security that their resources are going into a biodiverse area of viable size. However, it is doubtful that the risks involved in a 'territorial' approach would be any greater than apply at present. The lessons so far are that such single management units are rarely coherent and that the uncertainties and distrust displayed by the members in dealing with people of other tribal or clan groups is a significant factor affecting the chances of survival of the conservation area. By dealing with territorial groups independently of each other the uncertainties of the people within each group could be lessened. As opportunities based in mutual benefit arose for integration of these groups then those opportunities should be exploited. Overall, the combined levels of risk and uncertainty in the area containing the biodiversity values should be reduced and the longer term aim of their maintenance enhanced. There would be a shift in the perceived distribution of risk and uncertainty from local landowners to the external donor agencies. It must be reiterated that such a strategy will not be appropriate in all situations. However, it has possibilities in the area of the Morobe Southeast coast and other similar areas may also be amenable to such a strategy.

The idea of a large Wildlife Management Area or Conservation Zone obtaining greater protection through agreements among the landowning groups of the area providing pressure on individual groups to work within common sets of rules need not be lost. However, it should not be expected in the short to medium-term. Many years may pass before functional links between groups provide sufficient incentive for such agreements and joint decision-making structures to eventuate. Those functional links will tend to weaken the territorial perspectives of the landowning groups and arise from the need to co-operate in developing a range of small-scale business ventures such as tourism, ecoforestry and fishing.

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