

Ecocolonialism and indigenous knowledge systems: village controlled rainforest preserves in Samoa¹

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Ecocolonialism, the imposition of European conservation paradigms and power structures on indigenous villagers, is incompatible with the principles of indigenous control of village rainforest preserves. Since 1988, four rainforest reserves in Western Samoa and one US National Park in American Samoa have been created on communal lands using the principles of indigenous control, preserving a total of 30 000 hectares of lowland rainforest and associated coral reef. The reserves in Western Samoa are owned, controlled, administered and managed by the villagers. While these reserves appear to be robust approaches to preserve establishment within the communal land tenure system of Samoa, the concept of indigenous control appears to conflict with ecocolonialist attitudes that disparage the traditional knowledge, culture, political systems, and integrity of indigenous peoples. We discuss problems that have occurred in the Samoan village preserves and offer suggestions for the establishment of future village-controlled preserves in other areas of the South Pacific.

Ua le mafai ona fa'afetaui ai Ecocolonialism, o le fa'aeeaga atu al lea o manatu ma pulega fa'asaoina fa'apalagi, ma le fa'amoemoe e pulea fa'asaoina e ali'i ma faipule o nu'u lava ia. E amata i le 1988, ua faatulagaina faasaoga 'ese'ese e fa i Samoa i Sisifo ma le tasi i Amerika Samoa i fanua o aiga ma nu'u e lalo ifo al le pulega o tamalii ma faipule, o le aofa'i o ia faasaoga o le 65 000 eka. Ua pulea, faatulagaina, ma faatonuina ai ia faasaoga i Samoa i Sisifo e faipule ma tamalii o nuu ia. E ui lava ina ua foliga lelei al ia tulaga, ua tau fete'ena'i al pulega o matal ma isi manatu faapalagi ae maise manatu faailoga aganuu e fia ta'u vale al le popoto, aganuu, ma fa'amaoni o ali'i ma faipule atoa ma tagata nu'u o ia fa'asaoina. Ma le fa'amatala atu nisi fa'afitauuli ua o'o mai i fa'asaoina i Samoa ma si'i a'e isi manatu o ma'ua e tusa al ma le fa'atulagaina o fa'asaoina fa'alenu'u i isi motu o le Pasifika.

INTRODUCTION

ONE of the most urgent conservation causes in the world is the protection of tropical rainforests. The vast rainforests that covered much of the world's tropical land masses have already suffered a 30 per cent reduction and yet the rate of destruction is still increasing. Conservative estimates indicate that between 1 per cent and 2 per cent of the world's tropical forest area is destroyed annually (Granger 1984; Meyers 1980). This translates into an area of moist tropical forest about the size of Denmark disappearing each year. And more recent estimates, such as those produced by the World Resources Institute,

indicate that deforestation may be occurring far more rapidly — between 16.4 and 20.4 million hectares per year (Anon. 1991).

Because of the serious global effects of tropical deforestation, conservationists world-wide have tried to find new ways of protecting tropical rainforest. Yet it is sometimes forgotten that the tragic effects of tropical deforestation are suffered most immediately and profoundly by those who live closest to the forests, particularly by indigenous peoples who depend on tropical forests for food, shelter, medicine, and spiritual values.

Indigenous cultures are often not consulted when their tropical

rainforests are protected. Even though indigenous peoples usually have deep knowledge concerning the tropical ecosystems in which they reside, historically little attention has been given to their needs and aspirations in the creation of natural reserves. All too frequently, the presence of indigenous peoples in a potential forest preserve has been perceived as a complicating factor rather than as a possible asset. Is it possible to design rainforest preserves that not only protect indigenous cultures, but use their knowledge in their design, creation, and management?

To discuss the promise and potential problems of indigenous controlled rainforest reserves, particularly those recently established in Samoa, it is necessary to first consider the philosophical and historical antecedents to European⁴ and indigenous conservation paradigms. We argue that the confrontation between European and indigenous cultures on conservation principles can be traced to early European views of cultural supremacy that found political expression in the colonialist era.

CULTURAL IMPERIALISM AND INDIGENOUS KNOWLEDGE SYSTEMS

The supremacy of Western culture to all other cultures is a deep theme in most of the Western world. Although the superiority of Western civilization was once used as a justification for colonial expansionism and the concomitant subjugation of indigenous people, the political saliency of this argument has long since expired. However, despite modern scepticism of colonialist motives, a careful reading of their arguments shows that subjugation of indigenous peoples was by them perceived as an altruistic act. With the best of intentions the imposition of European control and political infrastructure on indigenous peoples was accepted by the colonial powers as a responsibility incumbent upon the "civilized nations". Unfortunately "civilization" of indigenous people all too frequently coincided with extraction of their valuable natural resources, and the decimation of their traditional cultures, political structures, and knowledge systems.

The belief that Western paradigms are intrinsically better than indigenous world views is still a potent, if unarticulated conviction, among some. Few Westerners would be willing to trust indigenous knowledge systems for crucial decisions concerning medical care, the legal adjudication of conflict, and the distribution of personal property.

Although the sun appears to have set on the days of colonial expansionism by Western powers, the latent ethnocentrism reawakened by colonialism remains deep within European societies. If we can define "ethnocentrism" as the deep-seated belief that our way of doing things, our world view, our paradigm is inherently superior to all other possible paradigms, then we must reluctantly admit that the spirit of colonialism is still with us, even though its political infrastructure is gradually being disassembled. This ethnocentrism has two facets: first there is a latent unwillingness to consider indigenous paradigms from the inside out, rather than evaluating them in Western terms. And second, there is sometimes manifest an overt hostility when confronted with indigenous ways.

ECOCOLONIALISM AND THE DENIGRATION OF TRADITIONAL CONSERVATION KNOWLEDGE

Some Western environmental organizations have very little compunction about imposing Western solutions on indigenous cultures that possess conservation ethics predating European conservation ethics by thousands of years. Thus, while Western culture has generated an endless stream of environmental disasters, some of even global proportions, we consciously ignore, discount, or erode the wisdom of cultures that preceded ours. We love to quote Chief Seattle, but he, or his modern indigenous counterparts, would never be allowed to lead a major Western environmental organization. Even organizations that claim to champion indigenous causes, top-heavy with lawyers and anthropologists, would never dream of turning over their operating budgets and decision-making authority to the Jivaro, the Penan, or the Samoan Chiefs. Like colonialists of

an earlier era, with the best of intentions we make decisions "for the good" of indigenous peoples, but we would never dream of allowing indigenous peoples to make such decisions for us. Such "ecocolonialism", carried out with considerable zeal and self-righteousness, can be just as corrosive to indigenous cultures as its political antecedents.

In the case of the Polynesians, the insular ecological templates in which their cultures developed imposed harsh and rigorous selection against environmental degradation. Although indigenous Pacific islanders in some cases caused extinction of island plant and animal populations through over hunting (e.g., moas in New Zealand) or poor agricultural practices (e.g., resulting in *Glychenia* dominated sclerophyllous vegetation in Makatea), some of the cultures of the South Pacific rapidly developed cultural proscriptions against resource overuse or destruction. The ecological reasons for these cultural adaptations are clear: unlike continental peoples who could always move on to other lands, island peoples were constrained by the limits of their island homes. Thus the effects of anthropogenic resource degradation were rapidly translated into a reduced human carrying capacity of island ecosystems.

Perhaps for these reasons a very strong conservation and land use ethic was formed as Polynesian culture developed. Land, including the natural plant and animal populations which occupied it, was viewed as sacred and an inheritance from the ancestors. Private land ownership, in the sense of Western uses of that term, did not develop, and instead communal land tenure systems evolved. Although in some Polynesian societies such as Hawaii, strong chiefs manipulated agricultural surpluses for personal political ends (Kirch 1986), the forests and sea were not viewed as personal property. Instead, the Polynesians acted as stewards, with chiefs largely fulfilling the roles of resource managers not only for their current extended families, but also for their dead ancestors as well as for future unborn generations. The religious system of "tapu" was used to protect resources considered particularly vulnerable.

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The remnants of this land tenure system can still be seen in the South Pacific today. In Samoa, Tonga, and Fiji, communal lands can neither be bought nor sold — such monetization of the resource is perceived as being incompatible with indigenous views of its sacredness. Unlike Western paradigms, which view natural resources primarily in economic terms, traditional Polynesian cultures conceptualized natural resources in spiritual terms. The European word, "savage", a word having its roots in the Latin *silvaticus* (woodland), is something inherently evil and to be avoided. But in the Polynesian view, the forests and marine resources are themselves considered sacred.

In the Western view, natural resources are property and hence owned, with conservation having its roots in the wise use of private or state property. Yet the Western conservation ethic is relatively recent. Despite high rates of deforestation in England, it was not until the reign of Charles I that the state attempted to institute conservation measures. In this case the crown acted not to meet the needs of the people, but to secure its own economic interests (Grove 1990).

Eventually ecocolonialism, an unarticulated but powerful corollary to European cultural imperialism, developed for economic reasons and continues today for reasons that are superficially altruistic. Ecocolonialism is the imposition of Western conservation concepts on indigenous peoples. In many senses, Western models of conservation, involving surrender of local control of reserve lands by villagers and chiefs to Western institutions, such as Park Services, National Trusts, or NGOs (non-governmental organizations) are incompatible with the indigenous views of the sacredness of the land. Many indigenous people believe that they were given a special charge by Deity to protect their forests and the land as their heritage; relinquishment of their control violates deeply held spiritual beliefs. Thus, imposition of outside control on village lands is frequently extremely destructive of indigenous cultures.

It is because of this discrepancy between Western rationales for conservation, focusing on resource protection, and indigenous rationales, based on sacred responsibility to kin, ancestors, and deities, that even well-intentioned conservation programmes can be destructive of indigenous cultures: As Grove writes:

"The conservation structures which evolved from early notions of the limitability of resources were frequently just as destructive or oppressive in their effects on indigenous societies as direct ecological destruction and appropriation of environments and common rights by private capital." (Grove 1990, p. 17).

For example, in Africa, significant colonial effort was directed towards the creation of large game preserves primarily to serve Western interests such as commercial safaris and big game hunting, often with little involvement of local indigenous peoples. This has ultimately led to conflict with the local people, such as the Masai. This conflict has been decried by some sympathetic Westerners, particularly those who believe that the Masai may actually know something about managing their ancestral lands. In a recent letter to *Oryx*, the former Warden of Amboseli, David Lovett Smith writes of Amboseli National Park in Kenya:

"The decline of Amboseli has little to do with the large number of tourists that used to visit it or with the increase in elephant population — excuses often used by the authorities, for which there is ample evidence to refute. The demise has been brought about, in my opinion, by inept management and a total lack of communication with the local people. . . . For it was the Masai people who themselves looked after the wildlife until governments and wildlife authorities took over its management, and, from the 1970s on, proceeded to mismanage it so badly." (Smith 1993, p. 2).

Alternative indigenous approaches to conservation have sometimes been consciously impugned by Westerners. For example, sustainable indigenous tropical agricultural systems, including sophisticated schemes of multicropping,

have been denigrated by Western observers as "slash and burn" agriculture, while the activities of multinational logging companies who completely pulp and decimate forests are sometimes conveniently overlooked. Somehow when the hunt for "environmental villains" is carried out, it is too often indigenous people who are convicted, often without evidence.

As a result, the tremendous store of traditional indigenous knowledge concerning the local ecosystems is frequently overlooked by Western conservationists and their western-educated local counterparts.

ECOCOLONIALISM AND INDIGENOUS CONSERVATION IN SAMOA

The islands of Samoa, a South Pacific archipelago approximately 14 degrees south latitude, provides a tragic example of the potential conflict between indigenous conservation ideals and ecocolonialism.

Conservation in Samoa has generally followed traditional Western models, with establishment of preserves or crown lands. However, in the late 1970s, indigenous leaders began to raise concerns about deforestation and perceived declines in flying fox populations. In Samoan legends flying foxes are regarded as guardians of the forests and rescuers of people in distress (Cox 1983). Western scientists have recently confirmed traditional beliefs about the importance of flying foxes in island ecosystems (Wodzicki and Felten 1975; Wiles 1987; Cox *et al.* 1991.) It now appears that flying foxes are keystone pollinators of the island rainforests, and thus merit urgent conservation protection (Elmqvist *et al.* 1992). As a result of indigenous knowledge of flying foxes and extensive studies by our colleagues W. Rainey and E. D. Pierson, both Samoan species of flying foxes were recently given international protection on Appendix I of the CITES treaty (Bräutigam and Elmqvist 1990).

Given the tremendous knowledge and experience of Samoan chiefs and villagers in resource management, we believe the village chiefs council should exercise complete control over

rainforest reserves established on communal lands. The philosophy of having indigenous people control and administer their own reserves has been detailed elsewhere (Cox and Elmqvist 1991). Our first attempt in assisting to establish an indigenous-controlled reserve occurred in Falealupo, Savaii, Western Samoa.

The Falealupo covenant

Falealupo village controls a large peninsular lowland rainforest. The villagers have long resisted overtures to log these forests. But in 1988, the village needed money for the construction of an elementary school required by the government. Most of the villagers are subsistence farmers and have little money, so the offer of the logging company represented the only potential source of cash for school construction.

After much consideration, the village decided to allow logging on a licence basis. The logging company would pay the village for each tree removed from the forest, and was required by the village to stop logging as soon as the funds required for the school was accumulated.

Logging began in June 1988 to the considerable dismay of the villagers. We asked the village council if the logging could be stopped if funds were raised to build the school. The village answered in the affirmative, so one of us travelled to Apia and assumed the \$65,000 school mortgage as a personal indebtedness.

Private individuals and businesses in the United States contributed generously. In January 1989, major overseas donors met with Falealupo village and signed the Falealupo Covenant. In this covenant, the donors explicitly renounced any rights or interest in the land, but pledged to build the school in exchange for the village's promise to continue to protect the rainforest for a 50-year period. The covenant encourages the villagers to continue to harvest the forest for medicinal plants and other cultural purposes on a sustainable basis, but prohibits commercial logging or any other activities that may significantly damage the forest. Under the covenant, complete control and management authority for the preserve

is maintained by the Falealupo chiefs council.

There are several advantages of such covenants. Less money than the market price of the land is required since funds are not used for purchase, but rather for construction of schools, medical clinics, water supplies, etc. Each donated dollar achieves two worthwhile goals, i.e., construction of a needed public work and rainforest preservation. Enforcement or survey problems are reduced since the villagers use traditional enforcement procedures to protect only the lands which they control. Furthermore, villagers have access to a large repertoire of management knowledge accumulated over several thousand years of residency at the site. Thus, reserve management is compatible with indigenous values.

The Falealupo Rainforest preserve has withstood two hurricanes, considerable poverty among the people, and ongoing overtures from logging companies to harvest the timber. All logging offers have been refused by the village. Despite rumors which circulate among some expatriates in Apia, the Falealupo chiefs have stood resolute in their faithfulness to the covenant provisions. Audits by the Development Bank of Western Samoa show that all donated funds have been used for their intended purposes, without any chief or member of the village being compensated or enriching themselves. Recently ownership of part of the Falealupo forest was contested by a neighbouring village which instituted logging, but the Falealupo chiefs council immediately sought and won legal redress by the Land and Titles Court.

Three features of the Falealupo reserve may be unsettling to some Westerners. First is the fact that the Falealupo chiefs council has proven to be an honest and stable political entity that can manage and administer the reserve without outside intervention. This conflicts with unfounded caricatures of Samoan chiefs and village councils as corrupt and incompetent. The second is the sustainable harvest of forest resources by the Falealupo people. Such sustainable traditional use, with a history of hundreds of years, appears to conflict with some Western conservation ethics. Third is the fact

that the collaboration between the foreign scientists and village chiefs who initiated the project remains solid and stable. Despite considerable cultural, educational, and linguistic differences, both sides continue to trust and respect each other, working together in achieving the common goal of conservation and village progress. This conflicts with the belief that Western management and control structures must be imposed on indigenous peoples to accomplish meaningful progress. The fruits of our collaboration include the rainforest preserve, two schools, a small medical clinic, and improvements to the water system. Such overseas assistance has been decried by some as fostering a "handout mentality", but this assistance is not viewed that way by the chiefs, the scientists, or the elected leaders of Western Samoa.

The Tafua experience

Based on the Falealupo model, three additional indigenous-controlled rainforest reserves were established on the island of Savaii on communal forest lands controlled by the villages of Tafua, Faaala, and Salelologa, respectively. Funds for the lands were raised from private European donors in conjunction with a major European NGO. Agreements similar to the Falealupo rainforest covenant were negotiated and signed between the respective village chiefs councils and the European NGO. The funds were used to build needed schools in Tafua and Salelologa, and to initiate a village-conceived ecotourism project in Faaala. An application to the Swedish International Development Agency (SIDA) was subsequently made to match private donations. SIDA granted funds totalling over \$800,000 U.S.D to the European NGO for these purposes. Unfortunately, with the additional funding came a change in attitudes which the village chiefs found condescending and demeaning. SIDA policy required that the funds be channelled through a "local" NGO, but refused to consider the Tafua chiefs council as such an NGO, even though Tafua had an impressive track record, having preserved their rainforest for countless generations. Instead, the European NGO initiated a new local NGO, a western-style organization operating from a different island, whose

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initial membership was drawn largely from the expatriate and western-educated residents of the capital city.

The original idea of indigenous control of the project was gradually eroded as more and more power and authority was transferred from the village councils to the NGO for allocation of funds and decision making authority. The European NGO failed to consider that the inclusion of a third party might be viewed by the villagers as a potential threat to the covenant. Rather than seeking a dialogue with the village on these issues, the European NGO imposed control by the local NGO on the villages.

In administering the funds, the European NGO did not use the Falealupo model, in which village chiefs council allocates funds to needed village projects. Instead the European NGO asked the local NGO to serve as liaison and manager of the project.

The villagers began to believe that the European NGO did not respect their culture and their traditional power structure. For example, the European NGO sought to change certain "objectionable" aspects of Samoan culture, such as gender discrepancies in the village power structure as well as a perceived lack of democracy in administration by the chiefs. The European NGO also objected to the requests of village leaders for SIDA funds to support solar electric panels, hurricane relief including new coconuts to replace those destroyed, subsistence salaries for trail workers, and toilets for the village ecotourism project. However, the European NGO funded office space, FAX capabilities, photocopy machines, telephones, travel expenses, and generous salaries for the local NGO. As a result, as of July 1992, 66.1 per cent of the SIDA funds expended had been used for project administration, and only 33.9 per cent of the funds had reached the villages. The European NGO defended these actions, claiming that the chiefs had a "hand-out" mentality, and that the scientists initiating the project were culturally naïve in catering to the whims of the villagers.

The villagers sent several written protests to the European NGO, arguing

that the injection of a third party (the local NGO) into the covenant relationship violated both the spirit and the letter of the covenant. The village wished to remain as an equal partner in the covenant relationship. The scientists who initiated the project supported the villagers, but were criticized by the European NGO and its surrogates on the following grounds:

- (1) the initiators took the "easiest and most convenient approach"... to "buy the agreement and support of village councils with promises of money (or schools, hospitals, roads, etc)"; and
- (2) that the initiators had thereby created a "dependency mentality" with village "expectations and handouts getting out of hand" by using an "open checkbook" approach to village requests.

These arguments could be dismissed as patronizing to the Samoan chiefs, but do, we believe, merit comment. By Western Samoan Government estimates, logging in the 1980s was proceeding at such a rapid rate that nearly all of the lowland rainforests of Savaii would have been destroyed within 20 years. The major engine behind the destruction was village logging payments used to build needed public works such as schools and hospitals. In Samoa, the villagers themselves are required to pay the construction costs of schools and medical clinics. Lacking other resources, few remote villages (such as those in Savaii), have any means of obtaining the large sums of cash required other than selling their precious rainforests. Although villages such as Falealupo and Tafua have resisted overtures from logging companies for over a decade, the urgent need to build schools and the cultural necessity of protecting the rainforest seemed to be mutually unattainable goals.

In developed countries the cost of construction of schools and medical clinics is borne by governments, and few Europeans would consider it as accepting a "hand-out" to send their children to a government financed school or to use a hospital built with government funds.

Learning of the Samoans' plight, we and other foreign donors wished to keep Samoan rainforests standing, perpetuate Samoan culture, and provide schools, hospitals, solar electricity, and other public works to Samoan villagers. We view our financial assistance not as charitable acts with no possible reciprocity, as the phrase "hand-out" suggests, but as proper compensation for the courageous stand the Samoans have taken against the loggers. When Falealupo or Tafua village created their rainforest reserves, they suffered an immediate economic loss by precluding logging income, a loss that we and other donors were more than happy to recompense.

Neither has there been development of any "dependency" relationship. The village chiefs, unlike the employees of the European or the local NGO, have never received a salary for their conservation activities. The only payments we have ever made to individual villagers have been minimal payments for their personal participation in trail construction; all other funds have gone for public works contracted by outsiders. In keeping with the concepts of indigenous control, the village councils manage, administer, and control the reserves without any outside interference.

It seems incongruous that employees of the European and local NGOs would accuse the subsistence agriculturalists and reef foragers of the villages of having a "hand-out" mentality for accepting schools and hospitals in return for establishing reserves on their property. Landowners in New Zealand, Australia, America, or Europe are personally paid for their property when nature preserves are established on their private land. We know of few Europeans who would be willing to accept access to a public school or community hospital as sufficient recompense for their private property. Certainly European landowners who sell or lease their land for wildlife reserves are not accused of having a "hand-out" mentality; why then should indigenous people be held to a different standard?

In January 1993, the board of the European NGO convened a meeting in

Europe to determine the future of the projects in Samoa. A representative of the local NGO was invited, but no attempt was made to invite any of the chiefs or other representatives of the three villages to the meeting. Learning of this crucial meeting, Paramount Talking Chief Ulu Taufaaaisina Tausaga travelled on very short notice to Stockholm with support from a private donor. Despite Chief Ulu's pleas, the European NGO Board voted unanimously to continue administering the project through the local NGO. The day after the decision, Chief Ulu, after telephone consultation with his village council in Samoa, presented to the European NGO in front of Swedish national TV and press reporters a written and an oral statement severing all ties between Tafua village and the European and local NGOs. In his remarks, Chief Ulu Taufaaaisina Tausaga emphasized that though the village would refuse any funds or gifts from the NGOs, the village would continue to protect the forest:

"To the [European NGO]:

"I have the conclusion of our discussion as we met at your meeting. I tell you that I will return completely unsatisfied with your decision. Enough of that. You have struggled in crooked tricks and ways that are filled with Satanic opinions to corrupt the righteousness from God.

"You have reached your decision. I will tell you the decision of our village. At this time I tell you that our relationship is severed and our covenant ended. Even with my poverty I do not want much money that comes through filthy paths. The truth is that my trust, which I thought was true compassion, has been betrayed, but now it appears that it was the kiss of Judas Iscariot.

"I am Ulu Taufaaaisina Tausaga, the representative of the chiefs and orators and myself. I confirm this day that our friendship is broken. You continue to support the [local NGO] but my village will resign from it. . . .

"Ulu Taufaaaisina Tausaga on behalf of the Chiefs and Orators of Tafua Village, Savaii, Western Samoa. (Letter dated January 29, 1993.)

The other two villages, Salelologa and Faaala, are considering what to do in the aftermath of the Tafua village decision. Meanwhile some employees of the European and local NGO maintain that the foreign scientists have manipulated the village chiefs. The European NGO continues to refuse to regard the oral or written expressions of the village councils as genuine despite Ulu's personal appearance before them. Despite Chief Ulu's refusal of their funding, the European and local NGO still maintain that the Samoan chiefs seek only money and have no genuine interest in conservation.

THE FUTURE OF INDIGENOUSLY CONTROLLED RAINFOREST RESERVES IN THE SOUTH PACIFIC

There are several lessons to be learned from our experiences in the development of village-controlled rainforest reserves in Samoa. The Falealupo and Tafua rainforest preserves have, unfortunately, provided two contrasting models. In Falealupo, village leaders use traditional knowledge to make decisions concerning their forest preserves. Foreign donors have not exercised any degree of control other than assisting in charitable works such as clinics, schools, and solar electricity systems. All decisions concerning dispositions of funds have been ultimately made by the village council itself. Foreign assistance has yet to erode or challenge indigenous knowledge systems or village political structures. Complete control of the project is exercised by the Falealupo village council.

This does not mean that the Falealupo reserve does not face potential challenges. We are seeking to build an endowment for reserve management and searching for ways that the villagers can enjoy some ongoing income from the forest without cutting it down. We have investigated the possibilities of ecotourism as well as medicinal plant harvest, but are well aware of the danger of cultural corrosion inherent in both of these possibilities. The current leadership of Falealupo village is firm in their support of the covenant provisions. Yet the reserve must be endowed, managed and perpetuated in such a way that it will command the loyalty of the next generation of village

leaders that played little part in the original covenant negotiations. Furthermore, we must find ways of assisting village leadership to resist well-intentioned, but potentially damaging overtures from outsiders that might ultimately lead to a loss of village control over their own preserves.

In Tafua, because of our own naivety, we unwittingly facilitated significant cultural interference by foreign conservation organizations and their local surrogates. Originally designed as an exercise in indigenous control — empowering the local people to own, manage, administer, and control a rainforest reserve — the Tafua rainforest preserve inadvertently brought an entire village into direct conflict with a Western environmental bureaucracy, culminating in the journey of the Samoan chief Ulu Taufaaaisina Tausaga to Stockholm where he renounced all ties with the European and local NGOs. The aftermath of the controversy demonstrates that although the ability of indigenous peoples to protect their rainforests is great, indigenous cultures are extremely vulnerable to erosion. The Tafua chiefs and villagers feel so insulted and humiliated that other Savaii chiefs are wary of involvement with any conservation organization.

Unfortunately, ecocolonialism, like its political antecedents, is not carried out entirely by Westerners. Western educational infrastructures, by their implicit denigration of indigenous knowledge systems, have even led some western-educated local people to, with Turner (1884), reject sophisticated indigenous knowledge systems as "heathenism". Even local NGOs may unwittingly espouse ecocolonialist attitudes. In many developing countries, there is a profound cultural difference between the older, traditional village leadership and the younger, western-educated elite. Possession of superficial requisites for meaningful participation in Western societies, i.e., college degrees, competency in colonial languages such as English or French, and an ongoing salary may lead to perceived asymmetries in dealings with traditional village leaders who may possess none of these qualifications. Conservation efforts may flounder when a western-educated local elite perceive themselves as being the sole legitimate interface between village leaders and foreign

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conservationists. In such cases, while local NGOs may represent a potent political voice for conservation at the national level, they may not truly represent indigenous values and concerns at the village level.

Given these concerns, we argue that traditional village councils should be considered as the equivalent of conservation NGOs. We particularly applaud the development of truly indigenous conservation organizations. For example, in Samoa, many of the local Savaii chiefs, including Chief Ulu Taufaasisina Tausaga, have now formed a new indigenous conservation organization, Fa'asao Savaii (Savaii Conservation), to better address their concerns. A female high Chief, Vaasilifiti Moelagi, was elected President of Fa'asao Savaii.

In our opinion, the preservation of indigenous knowledge systems and cultures is equally as important as the preservation of tropical forests. These indigenous knowledge systems are rapidly disappearing under the assault of European cultural imperialism. Yet indigenous knowledge systems may possess tremendous wisdom that could assist Western people in current environmental and health crises. As the UN subcommission on the Prevention of Discrimination and the Protection of Minorities wrote:

"It must be recognized that indigenous peoples have a natural and inalienable right to retain the territories they possess, to call for the return of land of which they have been deprived, and to be free to decide as to its use and development". (UN 1990 as cited in Brownlie 1992.)

True freedom of choice for indigenous peoples requires that they have indigenous options available, options rooted in thousands of years of inherited experience. Even if indigenous peoples retain their lands but do not retain the cultural wisdom that they have gained over millennia, or if they are prevented by ecocolonialism from exercising that wisdom, can they be truly "free to decide as to [land] use and development"?

Given our experience in Samoa, we recommend that the following

measures be implemented in the development of future village-controlled reserves in the South Pacific:

- (1) Village-controlled reserves should be founded using the knowledge and belief systems of the villagers themselves. In this sense, Western-style education efforts may be inappropriate, and outsiders should instead use an inquiry-based system to better elucidate pre-existing conservation knowledge and conservation priorities of the indigenous people.
- (2) Indigenous leaders and power structures should be quickly empowered to direct the village conservation effort. Actions which imply, or are based, on distrust of traditional leaders, which patronize rather than consult with traditional leaders, and which seek to change rather than to understand and reaffirm the local culture are incompatible with the principles of indigenous control.
- (3) Steps must be taken to ensure that the ultimate decision-making authority remains completely with the local village leadership. This is particularly crucial given perceived asymmetries which may exist between village leaders and representatives of outside NGOs.
- (4) Local NGO support must ensure that assistance rather than interference is accorded to village chiefs councils. Local NGO support must be committed to supporting traditional village leaders.
- (5) Large sums of foreign money for conservation, particularly in a developing country, may attract the attention of less scrupulous individuals with little prior commitment to conservation. A remedy for this is to avoid payments to individuals, including salaries for NGO staff. The spirit of volunteerism should be encouraged as it promotes unselfishness and commitment to conservation. We suggest that all donated funds be used solely for public works such as schools and hospitals. Consideration should be given to placing capital funds in trust with village councils allocating annual earnings on the principal.

We fear that if traditional leaders are not empowered to develop their own

conservation efforts, that not only indigenous cultures suffer, but the world as a whole will be decreased diversity and richness. As a result, Western societies may unwittingly deprive themselves of significant conservation understanding and knowledge. As Goodwin *et al.* (1978) wrote of the indigenous peoples of the Amazon:

"Amerindians are the only societies with the necessary knowledge, expertise and tradition to prosper in the Amazon jungle. Amerindians not only profoundly appreciate what exists, but also understand ecological interactions of the various components of the Amazonian ecosystem better than modern ecologists".

We believe that the Polynesian people collectively retain a far better understanding of their island home than Western experts. As scientists stand in awe of Polynesian achievements in navigation, exploration, crop domestication, food preservation, medicine, and conservation. Large areas of rainforest under communal land tenure systems remain throughout the South Pacific. We ask that a place be set at the table of Pacific conservation for indigenous knowledge systems and traditional village leaders.

REFERENCES

- Anonymous, 1991. World resources 1991. WRI Publications, Washington, D.C.
- Bräutigam, A. and Elmqvist, T., 1990. Conserving Pacific flying foxes. *Oryx* 24: 8-89.
- Brownlie, I., 1992. Treaties and indigenous peoples. Clarendon Press, Oxford.
- Clay, J. W., 1988. Indigenous peoples and tropical forests. Cultural Survival, Cambridge, Mass.
- Cox, P. A., 1983. Natural history observations on Samoan bats. *Mammalia* 47: 519-23.
- Cox, P. A., 1988. Samoan rainforest: partnership in the South Pacific. *National Parks* 62: 18-21.
- Cox, P. A. and Elmqvist, T., 1991. Indigenous control: An alternative strategy for the establishment of rainforest preserves. *Ambio* 20: 317-21.
- Cox, P. A., Elmqvist, T., Pierson, E. D. and Rainey, E. D., 1991. Flying foxes as strong interactors in South Pacific island ecosystems: A conservation hypothesis. *Conservation Biology* 5: 448-54.

- Elmqvist, T., Cox, P. A., Pierson, E. D. and Rainey, E. D., 1992. Restricted pollination on oceanic islands: dystrophic pollination of *Ceiba pentandra* by flying foxes in Samoa. *Biotropica* 24: 15-23.
- Grainger, A., 1984. Quantifying changes in forest cover in the humid tropics: overcoming current limitations. *J. World Forests Resources Manag.* 1: 3-63.
- Grove, R. H., 1990. Colonial conservation, ecological hegemony and popular resistance: towards a global synthesis. Pp. 15-50 in *Imperialism and the Natural World* ed by J. M. MacKenzie. Manchester University Press, Manchester.
- Kirch, P. V., 1984. The evolution of the Polynesian chiefdoms. Cambridge University Press, Cambridge.
- Myers, N., 1980. Conversion of moist tropical forests. National Academy of Sciences, Washington, DC.
- Smith, D. L., 1993. Loss of the Amboseli ecosystem in Kenya. *Oryx* 27(1): 1-2.
- Turner, G., 1884. Samoa a hundred years ago and long before. Macmillan, London.
- Wiles, G., 1987. The status of fruit bats on Guam. *Pacific Science* 41: 148-57.
- Wodzicki, K. and Felten, H., 1975. The peka or fruit bat (*Pteropus tonganus*) (Mammalia, Chiroptera), of Niue Island, South Pacific. *Pacific Science* 29: 131-38.

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⁴We here use the terms "Westerner" and "European" as glosses for the Samoan term "palagi", thus including not only Europeans but all peoples and cultures derived from Europe including their descendants in the Americas, Australia and New Zealand.