Indigenous Control of Tropical Rainforest Reserves: An Alternative Strategy for Conservation

Several mechanisms have been used to acquire land for tropical forest reserves. Legislative designation of National Parks on government-owned land, cession of private land, and outright purchase of private land are examples. However, these approaches may be inequitable, particularly in situations where the land is under indigenous control. Indigenous groups have a strong tradition of preserving and managing their land. For example, the Amurh San in Bolivia's reserva de biosfera Yuracara have maintained a communal culture and social system that is based on the protection of their land. Indigenous groups have a right to the land and have a deep understanding of the environment. It is important to recognize and respect their rights to manage the land.

INTRODUCTION

Over the past twenty years, public alarm over the rate of deforestation has increased dramatically. By the late 1970s, it was estimated that the original 1.6 billion ha of tropical forest had decreased to 1.1 billion hectares, i.e., over 30% (1). Even more alarming is the rate of destruction. For example, in Southeast Asia, deforestation is occurring at an annual rate of 2-3 million ha per year. The possible results of this deforestation include: a reduction in the rate of evapotranspiration, which leads to a decrease in rainfall; a decrease in the productivity of crops; and an increase in the risk of flooding and drought. The only solution is to restore the forests and prevent further deforestation.

The possible effects of tropical deforestation include: a decrease in the rate of productivity; a decrease in the rate of photosynthesis; a decrease in the rate of evapotranspiration; and an increase in the risk of flooding and drought. The only solution is to restore the forests and prevent further deforestation.

The possible consequences of tropical deforestation are: a decrease in the rate of evapotranspiration; a decrease in the rate of photosynthesis; a decrease in the rate of photosynthesis; and an increase in the risk of flooding and drought. The only solution is to restore the forests and prevent further deforestation.

Current Strategies to Create Rainforest Reserves

Most existing rainforest reserves were created using one of four strategies of land acquisition and preservation. These strategies are: (1) outright purchase of private land for conservation; (2) cession of private land; (3) establishment of national parks on government-owned land; and (4) joint management with local communities.

1. Outright Purchase of Private Land

Outright purchase of private land is a common strategy used to create rainforest reserves. This approach involves the purchase of private land by the government or non-governmental organizations. The purchase of private land can be expensive and may face opposition from the landowners. However, this strategy can be effective if properly implemented.

2. Cession of Private Land

Cession of private land involves the transfer of ownership of private land to the government or a non-governmental organization. This approach can be effective if the landowners are willing to transfer ownership of their land. However, this strategy may face opposition from the landowners and may be difficult to implement.

3. Establishment of National Parks on Government-Owned Land

Establishment of national parks on government-owned land is a common strategy used to create rainforest reserves. This approach involves the designation of government-owned land as a national park. This strategy can be effective if properly implemented. However, this strategy may face opposition from the government and may be difficult to implement.

4. Joint Management with Local Communities

Joint management with local communities involves the establishment of rainforest reserves with local communities. This approach can be effective if properly implemented. However, this strategy may face opposition from the local communities and may be difficult to implement.

These strategies are usually used in combination to create rainforest reserves. It is important to recognize the strengths and weaknesses of each strategy and to choose the most appropriate approach for each situation.
The Samoan flying fox, Pteropus samoensis, was in danger of extinction due to deforestation and commercial hunting. Recent traces of the flying fox has increased due to the recent creation of many non-forested reserves in the Samoan islands. Samoan residents have always pointed to the ecological importance of the flying fox; only recently have Western scientists disproved the appearance of many Samoan plants on the flying fox for pollination by seed dispersal.

Photo: P. A. Cox.

Many Samoan plants on the flying fox for pollination by seed dispersal.

Photo: P. A. Cox.

vital to establish several new reserves in Western Samoa and American Samoa. What is sought about these reserves is that they be established as customary lands without alteration to the indigenous Samoan land-tenure system or Samoan culture. To attain this goal, several land acquisition and management techniques were developed and these may prove useful in other areas of the Pacific that have communal land-tenure systems.

In traditional Polynesian societies, land, including the natural plant led animal populations which occupied it, were viewed as sacred and an ancestral inheritance. Private land ownership, in the sense of European uses of the term, did not develop. Instead communal land-tenure systems were established with chiefs acting as managers and stewards of the land rather than as owners. Although Western cultures have altered and had an impact on South Pacific cultures, the deep commitment to conservation and the traditional communal land-tenure system remains relatively intact in many parts of the archipelago, e.g. Samoa, Tonga, and Fiji.

LEASING INDIGENOUS LAND FOR RESERVES: THE CASE OF THE AMERICAN SAMOA NATIONAL PARK

The large interior forests of Tutuila and Ta'u Islands, American Samoa, have played an important cultural role, being traditional areas for game hunting and foraging for food and medicinal plants. These forests also possess archaeological remains and mythological sites that are sanctified by many communities.

As many American Samoans have had the opportunity to visit National Parks and reserves abroad, the idea of setting aside some of our own forest areas as reserves has slowly increased in strength. As chief Muniia's site from Ta'u Island explained, "Ever since I have been young I have had a dream—a dream of a park or refuge that would protect our rain forests. For years I have prevented any logging of our family land on the south side of Ta'u Island. I want to preserve that forest for my grandchildren and future generations." (7)

This concern about protecting the forest for future generations finally reached fruition in a Samoan initiative to petition the United States Congress to create a US National Park in American Samoa. Field hearings of the National Park Subcommittee were held in 1967. Based on the tremendous public support for a National Park voiced in the hearings, a joint study between the US National Park Service and the American Samoan government was commissioned by Congress. This study identified three areas as having the significant scenic, biological and cultural resource necessary for a US National Park; the rain forest on the Ta'u Island and the northern side of Tutuila Island, and the coral reef community of Ofu-Ofu-Olosea Island.

However, the land acquisition techniques commonly used by the US National Park Service, e.g. land purchase, proved to be in conflict with both the Samoan culture and the conservation of American Samoan which forbids purchase of traditional lands. As the Samoans explained, their conservation ethic is based on over thousands of years of experience. Given their respect for both their ancestors and uncommon generations, they did not apply it as prudent to surrender control of their forests to a country such as the US which had been in existence " scarcely more than 200 years."

After considerable discussion between National Park Service officials, the American Samoan Government, and the traditional chiefs andD1809?? the affected vil- lages, it was finally decided to use negotia- tion long-term lease at the sole land acquisi- tion tool. Under this scheme, villagers will lease their lands for 50 years to the US National Park Service for development of a National Park subject to certain constraints. For example, the National Park Service is forbidden to build roads into the forested districts and to allow the construction of buildings or other overnight accommodation on leasehold land (other than a small primitive camping area in the Ta'u forest). In addition, buy villagers retain rights to forage for forest plants for medicine and other cultural purposes, to construct small plantations in specified areas, and to continue non-com- mercial forest foraging, as long as traditional techniques and tools are used in all cases. In addition, the National Park Service has pledged to manage the park to close cooperation with the traditional chiefs and leaders of Samoa. To accomplish this goal, an advisory committee comprised of indi- viduals appointed by the American Sa- moa Government and the US Secretary of Interior will work closely with the US Park Service in establishing the park.

Acquisition of the land is treated pro- voked some moral controversy in Washing- ton, but strong bipartisan legislative support in both the House of Representatives and the US Senate, together with effective lobbying of the American Samoa Conservation group ("Le Le Vao Maua, Bas Conservancy International), and an informal coalition of biologists, artists, and students at Brigham Young University, the Univer- sity of California, Berkeley, and New York City, assisted the bill as being passed by both houses of Congress within a single session time. The bill was signed into law by President Reagan in October, 1980 being
viation (SNF) was approached and rapidly agreed to establish a special appeal (8) among its members for funds to build schools, hospitals, and other needed public works in Tulia, Pa Ja, and Sieloting villages. Equally significant, SNF pledged other management and administrative expertise to the project and agreed to send several of its board members to Samoa to meet with the village chiefs. Through a series of meetings between SNF representatives and the Tulia village council, a covenant was negotiated for creation of the Tulia rain-forest reserve. In many respects, this covenant resembles the Palafouco covenant in that the donors renounced all rights to the land and the villages pledged to preserve the forest for 50 years. While continuing to be allowed to use the forest for specified cultural purposes. But the Tulia covenant, unlike the Palafouco covenant, also mandates protection of the contiguous marine resources, including a specific ban on the hunting of sea turtles. The Tulia covenant was signed during a special toast ceremony in Tulia in January 1990 (9).

SNF has recently signed similar covenants with the chiefs of Pa Ja village who are using SNF funds to construct a small visitor center and guest house in the reserve, and Sieloting who are using funds for the construction of a primary school building.

Realizing that the Tulia rain-forest reserve must not only meet current needs of the village (i.e., construction of a school), but also future needs of the village, SNF has applied for and received funding from the Swedish International Development Agency (SIDA) for needed infrastructure, such as a secure water supply and improved road, and for assistance in the development of village-based environmental tourism in Tulia. These funds will be administered by SNF in close consultation with traditional village leaders.

The proximity of Tulia to the major wharf on Sieloting, and the proximity of both the Tulia and Palafouco reserves to commercial airstrips and small hotels suggest that carefully planned environmental tourism may allow both villages to realize income from their forests without the necessity of logging. But all parties to these agreements agree that any development of tourism must be village initiatives, rather than foreign initiatives, and must be carefully planned and controlled so that the Samoan culture in these areas is not jeopardized.

DISCUSSION

Successes in Samoan have indicated the potential of indigenous control strategies to rapidly facilitate establishment of reserves in other areas. However, careful analysis and knowledge of local cultures and languages are necessary, as is a willingness to engage in negotiations according to local customs. It is necessary that donors of funds renounce all land rights and legal penalties, and that the covenants be based on trust between donors and the local people. Given indigenous views on the sacredness of the land, short-term arrangements, such as setting up reserves for c. 50 years are necessary, and may be one serious disadvantage to this type of strategy. However, given the rapid rate of tropical rain-forest destruction we believe that generating rain-forests for even a limited time period, e.g. 50 years, is a worthy undertaking. We predict that any rain-forests remaining intact in the year 2040 will be valued to such a degree, both by the indigenous peoples and the international community, that there will be little debate about the need to continue their preservation. Perhaps one of the greatest gifts we can donate to coming generations is intact rain-forests; 50 years from now the global effects of deforestation and loss of biodiversity will be all too apparent.

In Samoa, the use of novel concepts of land acquisition and careful consultation with indigenous peoples has resulted in the recent establishment of four major rain-forest reserves. Although each reserve differs in concept and approach, they all rest on the belief that the Samoan people themselves possess keen insight into the management and preservation of island rain-forests. We believe that similar approaches may be useful in other parts of the Pacific and perhaps elsewhere. If rain-forests are occupied by indigenous peoples with a long history of occupancy; 2) the indigenous peoples possess strong conservation ethic; and 3) individuals, conservation organization or government agencies are willing to devote the time and resources needed to develop rain-forest reserves, then, according to the needs and aspirations of indigenous peoples, rather than hard-line approach on models that have proved useful in developing countries. We believe that reserves established in this manner will benefit from much of the enforcement and management problems other types of reserves. Although different models of reserve establishment may be appropriate in other areas, we offer our experiences in Samoan for consideration by conservationists elsewhere.

References and Notes