Indigenous Ecological Activism in Nicaragua:

The Case of Bosawas:

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INTRODUCTION

Over the past several years, the Bosawas Natural Reserve, now a UNESCO International Biosphere Reserve, has generated a surprisingly small literature when one considers its size (7,450 Km2 - almost 7% of Nicaragua) or its biological importance (the southern portion of the largest intact stand of subtropical moist forest north of the Amazon Basin, and one that contains numerous endangered species). Probably due to the persistance of violence and unrest around the southern portion of the reserve and the difficulties of access in the northern (Coco River) portion, academic attention to Bosawas has been comparatively rare. Outside of the literature on indigenous refugees in Honduras as a human rights issue and the struggles for the autonomy of the Atlantic Coast in general (e.g., Amnesty International 1992:30-31; Ortiz 1990; Nietschmann 1989, 1993; Scherrer 1994; Stahler-Sholk 1995), most of the data based on actual research in Bosawas appears in government or NGO archives as field reports, work plans, and evaluations of work done in various projects. The scanty field-based public literature of the early 1990s was published mainly in Wani magazine in Nicaragua and deals with the plight of the indigenous Mayangna and Miskitu people whose historic lands happen to fall within the legally declared area. Within

historic lands happen to fall within the legally declared area. Within this literature, most reports such as that of Howard (1996) and Valenzuela (1993) concentrate on the threats to indigenous lands posed by conflicts between development, conservation, peasant and indigenous agriculture, and place the responsibility for resolving the issues at the feet of federal government institutions.

Overall, published reports that mention people at all take the perspective that indigenous people in Bosawas are a passive population whose rights are being trampled by the sudden imposition in 1991 of a protected area on their historic lands without previous consultation. Particularly lacking in published reports is a sense of how indigenous people are coping with this challenge as well as the threats posed by colonization, how they are forming a new future, and what all this has to do with Bosawas as a protected area. Far from a passive population, the indigenous communities have been extremely active in social reorganization, demarcating their land claims, and defending their forests. A Mayangna acquaintance recently joked that Bosawas should be renamed BOSIWAS for Bocay, Sikilta, and Waspuk (three watersheds occupied by Mayangna indigenous people) because within a short time only the lands defended by indigenous people may have forests.

This article relates the ways that indigenous peoples have organized to defend the forests and their struggle to have their lands legally recognized. The work focuses on the methods that have been employed in the documentation of land claims, the support for indigenous institutions at the territorial level, indigenous land use zoning, indigenous management plans, and the training of indigenous forest guards. The methodological slant seems justified because the work in Bosawas is a harbinger of what might be done in the rest of eastern Nicaragua and it seems necessary at this point to explain in some detail how communities of indigenous people in Bosawas have gone about dealing with the complex land issues.

MODELS OF BIODIVERSITY CONSERVATION IN CENTRAL AMERICA

The Park Model

The attempts in Central America to preserve the remaining tropical forests were sporadic until the 1970s when CATIE (Centro de Agroforestería Tropical, Investigación y Enseñanza) began its

Agroforestería Tropical, Investigación y Enseñanza) began its regional protected areas program based in Turrialba Costa Rica. The models for protecting tropical forests and their biodiversity are few. Most of the CATIE-trained 1st-generation conservationists thought of protected areas on the model of a park in which the work consisted of setting up boundaries and excluding further human intervention in the balance of nature. It was thought that biological sciences linked with state power were sufficient to accomplish this task. This model had worked well enough in the United States and in other countries until recently. The venerable national parks movement is well over 100 years old and has a string of success stories in areas where, if a park had not been created, biodiversity would have been severely reduced. And in fairness, it must be said that most of the early protected areas in Central America were areas that were being treated as a classic open-access commons which was leading to their complete destruction. Nevertheless, by the 1980s it was apparent that human use could not be completely denied in protected areas worldwide, and a number of models were being advanced in various parts of the world as to how indigenous people could be integrated into conservation (Stevens 1997:33-62; West and Brechin 1991; xv-xxiv; Western and Wright 1994: 1-12)

The Biosphere Model

The park model has encountered problems in Central America and other areas of the developing world. If alternatives are not found for people who are dependent on direct appropriation from local ecosystems, the amount of political control required for their exclusion becomes politically difficult to justify. Partly for that reason, the focus of conservation work has expanded to encompass the concept of "biospheres" where resources to be absolutely protected are seen as surrounded by "buffer zones." Within the buffer zone special attention must go to insure that people living within it are the subject of intensive efforts to find subsistence techniques and market alternatives that will mitigate or halt their appropriation of natural resources in the "core zone." The literature on biosphere reserves is full of references to a new kind of "partnership" between biosphere managers and local people (e.g., Poole 1989) The "core zone" receives the absolute protection of the state through its policing forces while the "buffer zone" is supposed to be sustainably managed by local people with assistance by scientists, local authorities, and NGOs.

The biosphere model itself does not come to grips with certain realities of the indigenous world. For one thing many of the "natural"

realities of the indigenous world. For one thing many of the "natural" areas that are the source of conservation effort by non-indigenous ecologists and biologists are actually inhabited by indigenous peoples. In Central America alone, Herlihy (1992) reports that, in 1990, 80% of the total land surface of 71,000 km2 of protected areas set aside in Central America were occupied or used by indigenous people. This included most of the largest areas such as Bosawas. But when the Bosawas reserve was created in 1991 it was originally referred to by government staff and conservationists as a "core zone" surrounded by a "buffer zone." Indeed some effort has gone into determining what is the appropriate "buffer zone" for Bosawas, the line eventually being decided as the southern boundaries of all the municipalities except Waspam that have lands within the reserve. Even today, after intensive study of the 13,000 longterm indigenous residents of the reserve and the 12,000 recent mestizo colonists, many employees of MARENA (the environmental and natural resource ministry) continue to refer to the reserve as a "core zone."

The truth is the originally declared Bosawas Reserve is not a "core zone" in any sense. This biosphere term is not appropriate in any area where indigenous people are still managing the land unless they themselves have set aside lands for absolute conservation. Bosawas is simply a land surface inhabited and used by indigenous people that is of interest to Nicaragua (and the world). Because of the ways that indigenous people have interacted with the land, the areas in Bosawas over which they currently retain control have over 90% primary forest cover. This makes the land of interest to conservationists. Where indigenous people do not retain control, the landscape is rapidly becoming a green desert of pastures.

However, indigenous use and occupation of Bosawas is challenged in two fundamental ways. It is physically challenged by the hordes of mestizo peasants who have swept over the southern boundaries of Bosawas in search of land. Their own way of interacting with the land has resulted in over 80% deforestation in areas such as the Iyas River basin where their occupation is mainly within the past 7 years. Another challenge exists in the implication of the decree that created Bosawas that the lands are now "owned" by a non-indigenous entity, the state. But if the state is a legal property owner, it is a very negligent owner. It has been incapable of protecting Bosawas from the peasant invasions and it has, because of corruption, been guilty of supporting the illegal extraction of timber from Bosawas on massive scales. Under the biosphere model, the state is in default in terms of performing its assigned role, to protect its defined "core area."

The Indigenous Co-Management Model

Fortunately the "biosphere" model of conservation with its major defects stemming from the relative poverty and powerful conflicts of interest of developing nations is not the only game in town. Models of indigenous management and co-management of protected areas are beginning to emerge in the literature (eg. Stevens 1997).The indigenous co-management model assumes, with abundant evidence, that concern over the fate of the forests and other unhampered ecosystems is shared by the state and by indigenous groups. The state is concerned for the natural values involved. The indigenous people are concerned with the value of consolidating their control over lands, the ability to exclude other appropriators and thus retain their identities, subsistence systems, economic future, and political autonomy. If they succeed in retaining all four of these things, the odds are that the health of the ecosystems will be retained. If they lose on any of these fronts, there are no guarantees.

In the indigenous co-management model, the state retains an overall interest in conservation, but achieves its interests by recognizing the right of indigenous communities or groups of communities (called "indigenous territories"in Nicaragua) to stewardship of land and natural resources (Stevens 1997:279-280). The land base must be of a size sufficient to guarantee subsistence plus a hinterland that can act as a source area for maintaining biodiversity. Power is released through the mechanism of land legalization in a form that may retain the state's responsibility to approve overall management plans while granting to the indigenous community or territory the right to exclude other appropriators, with the state's full help and support., to manage resources in ways that are authentic extensions of their traditional practices, and to economic development that does not permanently erode the resource base. For this model to work, indigenous people must sit on, and have definite mechanisms for participation in decisions made by, the government management boards involved in overall supervision of the protected area.

The Indigenous Co-Management Model resembles a familiar conservation model in the developed nation-states where conservationists in both public and private sector organizations often ally with private property holders to achieve their ends. For the private property holder, the end may not be in conservation per se; their goal may be reducing taxes, estate planning, or insuring that the property does not become subdivided and sold. For conservationists, the objective is biodiversity conservation. Each party achieves its objectives through understanding the agenda of the other and seeking

objectives through understanding the agenda of the other and seeking points in common. Each party has power. The power of the property owner stems from the laws regarding private property. The power of the conservationist stems from the general values the society places on conservation and the laws that represent those values.

The authors have been working for several years to assist the indigenous people in Bosawas to document, physically demarcate, and advance their land claims legally, to support and help develop the capacity of their indigenous organizations both as land managers and as legal representatives of indigenous territories that are integrated into overall reserve planning, to facilitate the development of indigenous management plans based on indigenous categories of land use, to train and equip indigenous voluntary forest rangers, and to make all of the above stick in a world in which academically trained govermental sector managers and planners tend to undercut the indigenous defense of the reserve. The purpose is to assist indigenous peoples to defend their homelands and to help them present their claims and their management behaviors in a way familiar to western technical people.

PHILOSOPHICAL/METHODOLOGICAL ISSUES

Why Management by Territory?

Indigenous people in Bosawas in a meeting in Managua in 1993 decided that the logical form of landholding in Bosawas was to organize themselves as multi-community territories, each one with an organization, each one managing its own land through its own norms, and each one seeking legalization through the recognition of common property. The perception of the communities was that this is the best way to manage the resources in an open and democratic way. There are a number of supports for this argument, although territorial titling may seem to pose cross currents for other processes in Nicaragua such as the agrarian reform tradition of single-community titles during the Sandinista government or the ideological constructions of regional autonomy theorists who imagine an indigenous east coast in which land titles are not necessary. .

Essentially, there are three choices in Nicaragua. Land can be directly managed by the central government as is the case with the forest estate outside of the protected areas, by the regional government (as the autonomy statute would have it, or by communities either singly or linked with other communities at the territorial level.

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In the first option, central government management does not work well, because the central government lacks the financial resources and often the political will to exclude other appropriators and because the value of the resources, especially the timber resources makes it relatively easy for would-be appropriators to suborn local officials. Additionally, as officials of the local municipalities can derive revenue from each logging truck that passes, it is in their direct economic interests to continue extraction whether legal or illegal.

The second option, regional management, is the strategy of autonomy on the Atlantic Coast. It has two major flaws.

1. The first flaw is the assumption indigenous ethnicities (primarily Miskitu) will retain control of the political process of apportioning resource access (begging completely the question of whether they will ever get such control in the first place.). This assumption ignores demography. Even if regional leaders were committed to seeing that local communities were the major beneficiaries of the exploitation of their resources, there is nothing in the autonomy statute that allows the autonomous governments to limit the immigration of non-indigenous people to the RAAN. The RAAN is about 50% mestizo at present and the rate of RAAN population growth (15%/year) greatly exceeds the natural fertility rates of indigenous people (alleged to be 5%/year by Buvollen and Buvollen 1994). If indigenous communities are expecting future RAAN governments to respect their rights of access to their own resources, they may be in for a surprise in the near future.

2. The second flaw is the assumption that, even if political control is retained in the indigenous sector of the population, indigenous leaders at the regional level will conduct the affairs of the RAAN in a way friendly to the interests of local indigenous communities. There is little evidence for this assumption; indeed the evidence is that regional governments in Latin America often lack even the most elementary checks and balances, are of questionable representivity, and that the allure of profit may easily outweigh protection of the rights of communities. Lands and resources tend to be viewed as an open access commons from the perspective of many regional

open access commons from the perspective of many regional leaders.

The third option, then, is the management of lands by local isolated communities or by groups of communities linked and legalized as territories with the right to exclude appropriation by non-members. This option has the advantage of clearly specifying a local managerial unit and has a number of "anthropological" advantages as well. A commons managed through norms specified by a community with exclusive use is the most likely commons to be managed for sustainable use (Ostrom 1990:1-28; Ostrom, Walker, and Gardner 1992, 1996). Additionally, the relation of territory and ethnicity is an extremely close one (e.g., Abruzzi 1982; Barth 1956, 1969; Chirif et al. 1991) and indigenous territories are a powerful way to foster the survival of cultural patterns of management, a stated aim in the original Bosawas presidential decree. .

Local Institutional Development and "Participation"

The whole concept of indigenous co-management involves a philosophical and practical focus on the recognition and development of local indigenous sovereignty and management capacity. Far beyond the rhotoric of "participation"which permeates much contemporary international development and conservation discourse, this implies a counterpart relationship between external actors (governmental and non-governmental) and indigenous communities rather than the beneficiary relationship more commonly encountered. The challenge of how comparatively egalitarian and decentralized groups of indigenous communities can effectively relate to more centralized and vertical external actors is one which has heavily influenced the trajectory of indigenous activism in BOSAWAS, as we will see below. A premium has been placed on developing local institutions which, while they may appear less sophisticated than their governmental counterparts, provide the only real foundation for viable local conservation efforts of the future. These realities have obligated the indigenous communities of BOSAWAS and the TNC project to assume a very organizationally intense strategy to land rights advocacy and the promotion of local indigenous management. It is recognized by the indigenous communitiees and those with whom they collaborate that this is a long and gradual process, but strategic investment in "social capital" is considered to be the wisest among available options.

While the literature is replete with references to traditional local natural resource management institutions (Uphoff 1986: 20-52), in the case of BOSAWAS it has become clear that effective promotion of the Indigenous Co-Management Model requires the development of new forms of representative local institutions. Indigenous communities, although they have been sustainably "managine"their land and resources for centuries, are now confronted with new challenges in relating to the outside world, defending their land, culture, and in furthering their evolving social, political, and economic aspirations. In order to effectively advocate land titling, and to facilitate relations with the government and NGOs, indigenous communities have chosen to develop forms of organization recognizable to, and compatible with, the nation state in which they exist. While the Nicaraguan Constitution recognized the existence and rights of indigenous communities, the fact of the matter has been that the legal recognition (personaría jurídica) offered under the Civil Organizations Law has carried more weight in the Nicaraguan Pacific. Moreover, there is, as yet, no legal recognition of the concept of multi-communal indigenous "territories" in Nicaragua While such territories or sectors are a traditional form of social organization in the Atlantic Coast, they do not formally exist in the eyes of the national government which sees such communities through the lens of government through municipalities. The legal umbrella provided by local "associations," the members of which are the communities themselves, has proved to be an effective way to gain representation for indigenous territories within this context.

The existence of some form of representative territorial organization has been a prerequisite to TNC's work in each of the indigenous territories, and the strengthening of these organizations has been integral to the project's approach. One of the principal means of doing so has been to assist them in the process of gaining personaría jurídica, including an extensive process of community-level consultation whereby statues are drafted which incorporate, to the greatest degree possible, traditional structures of indigenous leadership and governance. Another form of external support has been to provide training in leadership and planning, as well as accompaniment in legal advocay efforts. All of the foregoing has lent itself to a gradual maturation of the associations as territorial coordinators and the point of connection between the communities and the outside world. Most important of all, however, has been the leadership and coordination function which the associations have played in the whole process of self-documentation, advocacy, territorial demarcation and defense, and management planning described as follows. In the case of the majority of the territories, the associations have been the principal agents in each of these projects.

associations have been the principal agents in each of these projects, the sum of which has constituted an impressive process of local institutional development. All of this has brought the level of local indigenous "participation"within the BOSAWAS model to levels far beyond the general status quo in Nicaragua and Latin America.

DOCUMENTING LAND CLAIMS THROUGH INDIGENOUS SELF-STUDY.

The careful documention of indigenous land claims in Bosawas by indigenous people themselves began in September of 1993 when a national meeting sponsored by USAID and DANIDA was held in Managua at which representatives for four areas in Bosawas, representatives from numerous sectors of the government, representatives from the RAAN and the municipalities, foreign advisors and observers sat down together to discuss indigenous land issues in the reserve. A rough map, prepared by the Centro Humboldt (a Nicaraguan sustainable development NGO) showed the general areas of the land claims of each group.

In general, the claims tended to reflect watersheds. The main course of the Coco River was claimed by Miskitu people (only the Jinotega contingent Mikitu were present) while the middle and upper Waspuk River and the middle and lower Bocay River were claimed by two distinct groupings of Mayangna people,. The watershed of the Uli river was claimed by an already-titled Mayangna community, Sikilta. In general, the meeting concluded that the indigenous land claims should be documented and then legalized and that the form of the legalization should be multi-community "indigenous territories," a legal figure that would recognize the shared interests of groups of communities in maintaining healthy watersheds and the real overlaps in subsistence areas between communities within a watershed that would make legalization community-by-community socially and ecologically unrealistic.

In February of 1994, the documentation fieldwork began. One of the authors of this paper, Stocks, traveled to Musawas on the Waspuk River with a drafting board, a roll of drafting paper, a set of pens, two GPS units, several Brunton compasses with tripods, a set of topographic maps of the area published by the National Institute of Territorial Studies (INETER), 700 copies of an interview form for a census and social and economic study (hereinafter called the "survey") that had been constructed and pre-tested with the assistance of the Mayangna ethnic organization (SUKAWALA), and - for indigenous researchers - numerous clipboards, flashlights, raincoats,

indigenous researchers - numerous clipboards, flashlights, raincoats, and plastic folders to keep papers dry. He remained in Musawas for the entire duration of the documentation studies, a period just over three months. At a general meeting of community leaders from the territory, Stocks requested that they name a research coordinator for each of two studies to be done, 1) the historical cartography of the territory and, 2) the survey. The named coordinators were to have completed their secondary education and acted as supervisors for the researchers mentioned in the following paragraph.

Each of the communities in the Waspuk was asked to select two researchers who were interested, had shown some aptitude in their studies, and had at least a sixth grade education, one to work on each of the two studies. Additionally, the territory was asked to name five people to become navigational specialists. It was requested that these should be people who had at least a sixth grade education and were known for their quickness in mental mathematical calculations. The communities selected an all male research crew, although there was no specific request in terms of the sex of researchers.

Census and Socioeconomic Studies

Training of the indigenous researchers took place in two sequential workshops of five days each in Mayangna Sauni As. Today, after conducting similar workshops in many areas of Bosawas and after the documentation of five territorial claims, the workshops have been more or less standardized. The following description presents the workshops as a model based on numerous iterations. .

The first workshop is for the house-to-house surveyors. They are first trained to make sketch maps of a village showing the location of each house and to assign each house a number. Then each question on the instrument is reviewed, discussed in Spanish and in Mayangna and practiced by asking researchers to interview each other. The questions are framed in the appropriate indigenous language (Mayangna or Miskito) and the answers for more open-ended questions are translated by the researchers into Spanish When the whole instrument is covered, researchers select families in the town where the training takes place for practice interviews. The results are reviewed researcher by researcher until everyone is familiar with the form, the ways of asking questions that will elicit valid responses, and the ways that the data will be summed up.. After training, this crew is dispatched to the field, each person assigned to his own community. The researchers in the smaller communities return to the base when they are done, prepare tables to summarize and calculate the data

they are done, prepare tables to summarize and calculate the data under supervision of the coordinator, and then are reassigned to help with the study in the largest communities.

A second and parallel data collection system is conducted to assess the impacts of the communities on wildlife. Each researcher is asked during the course of the socioeconomic and census study to conduct interviews with people whom they know to be hunters and with whom they have some relation through kinship or friendship. These interviews investigate the most recent day of hunting and then work sequentially back through time until the hunter's memory fails to reproduce the event. Data are collected on the date of the hunt, the number of people involved and their sex and age, the equipment, the distance traveled, the time involved, the game taken, and the time of return to the village. In general, it is found that hunters can reach back for about two months of data.

The collection of the raw data in the initial case of Mayangna Sauni As took one month. Subsequent studies have varied between three and six weeks depending on the number of communities in a territory and the logistic problems encountered. At the end, the survey coordinator selects two assistants from the most able of the researchers and they work up tables that summarize all the data from the individual community notebooks and perform appropriate statistics, mainly the calculation of percentages for summary tables.

In subsequent studies of other indigenous territories within Bosawas, research coordinators and able researchers were used as trainers in a snowballing process that has resulted in a cadre of Miskitu and Mayangna people who are not only able researchers and coordinators but who have experience in training as well. Stocks' role gradually changed from that of doing direct researcher training to that of facilitator and advisor, although the pattern continues of maintaining full time residence in the area of study until studies are complete.

The Cartographic Studies

The cartographic work involves training two kinds of investigators, those assigned to historical cartography and those assigned to become technical specialists in navigation.

The second workshop follows on the heels of the first. Prior to the workshop, Stocks produces a draft map of the area using the INETER 1:50,000 topographic maps as the base map. The draft map, called the "geometric map," may remain out of sight during the first two days of

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The cartographic workshop begins by asking participants in conjunction with territorial leaders to draw their own map of the area claimed, assigning a name to each reference point. This map is called the "cognitive" map. After delimiting the area on the cognitive map, participants then work for the remainder of the day filling out some of the details on the map, particularly the application of names to the layout of the main river system and its main tributaries. An additional task on the first day is to design a system of categories that represent how lands are actually used in a rough-grained way.

Once the cognitive map is drawn, the "geometric" map is laid out and participants spend the second day trying to transfer data from the cognitive map to the geometric map. Inevitably, there are major problems. Often the cognitive map has more streams identified than are shown on the geometric map. Often names are given to hills that are not the primary landscape features in an area. Local knowledge is much more detailed than "official" knowledge. Another problem stems from the lack of names on the official maps. Faced with several mountains in a particular place on the geometric map and with some insecurity about the relation of names of streams to the geometrically precise representation of streams, the participants eventually founder. However, there are now areas of relative security of knowledge and areas of doubt.

The areas of doubt become the subject of the third day of the workshop. Participants are separated by community and each investigator is given drafting paper and access to the geometric map, now with some cultural information on it. They are asked to trace the area of the territory of which their home community has detailed knowledge. This activity gives participants an exposure to what is involved in drawing maps, control lines, coordinates, legends, etc. and provides them with their own instrument for further study.

The fourth and fifth days cover the techniques involved in getting accurate information from informants in their own communities using the same techniques of drawing cognitive maps first and provisional fitting of information to geometric maps second. Areas of remaining doubt are to be visited personally in the company of a person or people who know the area. The use given by the community to different parts of the territory is recorded. Additionally, each investigator is asked to maintain a notebook record of interviews in which all historical information gathered is written down. Inevitably when people talk about land there is a rich fund of information that is

when people talk about land there is a rich fund of information that is tapped and the intention is to gather this together to be later turned into an ethnohistorical account of the indigenous occupation of the claimed territory. Investigators practice interviewing each other to elicit stories taking notes and immediately writing them up as fuller field notes that try to capture as much of the original terminology and expression as possible.

The investigators then leave for their communities, carrying with them clipboards, plastic folders, draft geometric maps, flashlights, and notebooks. They are asked to check back in to the research base on a weekly basis to supervise the copying of their information onto the INETER topographic maps in pencil, to be cross-checked. This information is then transferred to a final inked map of the area that is gradually built up during the entire process of data collection. Cross-checking is often done by older people who have extensive knowledge of the territory and who are asked to drop by the study center as the map develops.

Once the map research is advanced, the mapping coordinator begins the work of drawing in the use zones identified by the researchers in each area and making sense of them in a territorial context. The final result is a map of the territory naming rivers, hills, towns, places, and the uses given to each area. The categories vary slightly from territory to territory, but in general indigenous people have identified zones of agriculture, gold-panning, frequent hunting and gathering, infrequent hunting and gathering, conservation without human use, and sites of cultural and historical interest.

DEVELOPING INSITUTIONS AND PROCEEDING WITH THE LAND CLAIMS

Following the self-documentation process described above which has now been completed for all six BOSAWAS indigenous territories, four processes have been initiated at the field level by the indigenous territories of Bosawas:

1. the development of indigenous institutions and the forging of a political consensus on their ownership and management of resources, i.e., the process of concertación (this process is interwoven with all subsequent steps)

2. the physical demarcation of the territories

3. the development of territorial management plans

4. the establishment and training of an indigenous forest guard corps

These steps are viewed as necessary under the assumption that if indigenous people are to retain control over resource management in their territories, they will have to be proactive in protecting their land base and showing that they are capable of defending and managing it. So far they have done so brilliantly. The communities have struggled valiently to more the land claims forward in the legal/political arena. Because there is no precise English equivalent, we will refer to this process as "concertación," the process of gathering a political consensus, first horizontally between neighbors, then vertically between territory and increasingly higher levels of government. This component has been guided by one of the authors, Lilliam Jarquín of the Nicaraguan legal/environmental NGO, CEDAPRODE.

The Concertación Process

Resource management issues, including biodiversity conservation, are not resolved only at the local level and local institutions of territorial management have not developed in isolation in Bosawas. A friendly policy environment at the national level and the participation of regional institutions are also necessary. We may think of these levels as potential constraints on the ability of even a competent local institution to perform adequately. The concertación process is designed to gather a political consensus at local, regional, and national levels about tenurial, jurisdictional, and resource use norms, in this way placing political pressure on higher levels to form favorable policies that already have a context in which to operate. This sequence reverses the often-observed process in which policy (including new law) is formed and then poorly applied to the local context.

In Bosawas indigenous people, having documented their own land claims and formed effective plans for protecting natural resources, have now packaged the information in ways understandable to outsiders. The indigenous organizations are involved in a process of building support for their own land claims and management plans beginning with their nearest neighbors, then proceeding to the municipality and gradually to the regional autonomous council, and thence to national levels. If the groundswell of support works properly, the process should logically culminate in the granting of

properly, the process should logically culminate in the granting of legal titles to the indigenous territories. At the same time attorneys work on the deeper backgroud legal issues, particularly the implications of legalization for older laws still in force. While applicable to the entire autonomous region, these steps are complete for the Bosawas territories and it seems possible that the territories will receive some kind of presidential decree recognizing their land and resource tenure soon.

The concertación process will have other lasting effects. As indigenous territories in Jinotega Department have advanced their claims, they have created legal civil societies (NGOs) that represent them and are the institutional basis for resource management decisions and territorial planning. In addition each territory's leaders have been integrated into the Bosawas Commission, an institution created by government decree that is responsible for the overall management planning for Bosawas. Finally, the development of the federation referred to as the "Waula Federation" representing all six indigenous territories in Bosawas shows promise for carrying increased weight as their decisions and recommendations are carried by the indigenous representatives to the Bosawas Commission.

Physical Demaraction of Land

It is well known among the leaders of the indigenous territories of BOSAWAS that the cartographic demarcation of land claims and the advocacy of the same before the government are important but not sufficient measures to effectively defend these claims against the advance of the agricultural frontier and accompanying mestizo colonization. This is a fact which has been eloquently and tragically demonstrated by the case of the Mayangna community of Sikilta, which was granted legal title to some 64,000 hectares of land by the INRA (National Agrarian Reform Institute) in 1987. For the last several years, this territory has been subjected to a major mestizo invasion. In 1994, there were approximately six colonist families living in the Sikilta claim; at the time of this writing, the number is estimated at 25 families and climbing. In the absence of physical demarcation and defense, the community's legitimate INRA land title, and even the ostensible sympathy on the part of INRA and other municipal authorities, has been of little avail against the wave of colonization and deforestation. For this reason, it was considered of paramount importance that the documentation and advocacy process be accompanied by efforts directed at the protection of the territorial limits newly agreed upon through the concertación process.

limits newly agreed upon through the concertación process.

Because of the extraordinarily large areas embraced by the territories, traditional methods used for parcel demarcation are considered inadequate. Contemporary hand-held GPS (global postioning system) technology, used in concert with standard map and compass navigation, provide the means to traverse the extremely long territorial boundaries with an acceptable level of precision. In order to establish a sustainable local capacity to manage the demarcation process, indigenous field surveyors representing each territory are trained in GPS and compass navigation during the course of the aforementioned documentation process. These para-engineers, along with local coordinators, then become the leaders of territorial demarcation teams which work rotating turns in demarcating the territorial boundaries most threatened by invasion. In the later stages of the project, this demarcation was made more permanent through the establishment of cement landmarks at critical junctures and signs at regular intervals along the boundaries.

At this writing, approximately 250 km of boundaries have been demarcated by locally managed teams trained through the TNC project and in some cases given support through GTZ (German Cooperation). Predictably, these demarcation efforts were accompanied by some conflict with mestizo colonists living adjacent to or within the boundaries of the reduced territorial claims These have largely been resolved through negotiations between local indigenous organizations and mestizo leaders. The negotiations have required yet further compromise on the part of the indigenous territories, but ultimately, along with the demarcation process, have resulted in a dramatic change in the pace of invasion. Between 1990 and 1995, nearly 35% of the traditional claims of the Bocay Mayangna (Mayangna Sauni Bu) and the Upper Coco Miskitu (Miskitu Indian Tasbaika Kum) were effectively lost to colonization. After negotiation and demarcation, no new invasions were observed in 1996 and 1997. In 1998, however, a group of 25 armed colonists from nearby Siuna invaded the Lawas River area of Mayangna Sauni Bas and a handful of other colonists has been pressuring Mayangna Sauni Bu and Mayangna Sauni As. On the other hand recent developments in Mayangna Sauni Bas include the acquisition of a block of land outside BOSAWAS by the government on which to settle the colonists who have invaded Sikilta.

Management Planning Process

Subsequent to the initiation of the demarcation process, local indigenous leaders in Bosawas began to indicate an interest in developing management plans that would set standards and regulations for natural resource use within the territories. This interest was first made manifest in Mayangna Sauni As. In early 1996, the territorial "sindico" requested technical assistance from TNC in the development of a management plan. After consultation with other territoriial leaders, it was agreed that TNC would support participatory management planning processes in all five territories. There were two principal objectives: First, the locally developed plans were to serve as a formal basis for local management efforts, a sort of rudimentary internal environmental law. In this sense, they are expressions of local concern regarding the sustainable use of natural resources, and provide a framework for resolution of conflicts over resources and sanction of uses or abuses seen as unacceptable by the local population. Secondly, the management plans were to be the next logical step in the documentation and concertación process in which the communities had been engaged since 1994. The management plans provide the communities with a way to formalize their commitment to sustainably manage their traditional lands, and to express this commitment in a way that is understandable and acceptable to those outside the territories concerned with the conservation of the Reserve. From TNC's perspective, the management plans are totally consistent with the project's pragmatic and moral commitment to local management discussed above. Therefore, an intensive effort was made to involve local people in a planning process to the fullest extent, the intention being to develop realistic and intelligible norms that represent the consensual decision of the communities that would ultimately implement and enforce them. One of the authors of this paper, Beauvais, and Victor Roberts of TNC agreed to design and execute the process.

The methodology for the participatory planning process varies somewhat from territory to territory, but in all cases the management planning process is based on two complementary phases: a grass-roots consultation process and an external technical consultation. In the first and most intensive phase, the communities of each territory are provided with an opportunity to spontaneously express their will regarding the management of their lands and resources. This is accomplished through a consultation process coordinated by local facilitators selected by the territorial organizations. In each territory, a six- to twelve-member team of facilitators initiates the process through a six-day workshop. This workshop serves primarily to develop the basic structure of the normative portion of the management plan through identifying a series of "critical areas" or categories for norms, based on the previous territorial self-

categories for norms, based on the previous territorial self-documentation work. In all cases, some distinction was made between natural resource norms, on the one hand, and priorities for socio-economic development, on the other.

The natural resource norms are based on the land-use zones previously identified through the cartographic study. These include gold panning areas, watershed protection areas, agricultural areas, hunting and gathering areas, and conservation areas. Through a process of open dialogue and small-group sessions, the facilitators are encouraged to analyze the current use and status of each one of these areas, existing or potential issues with this use, and management solutions. Their analysis includes study of territorial maps and data on resource-use found in the socio-economic studies, as well as reflection on their subjective knowledge of local land and resources. The crucial step in this process is the leap from a positive description of the existing situation of natural resources and land use, to a normative prescription for future use. In the course of this analysis, the facilitators identify a series of more general norms which correspond not to any one resource-use category, but rather to all of them. These norms are later grouped under the categories of "land tenure and use rights" (i.e. who has what rights to what resources) and "management and protection" (i.e. who has what responsibilities for the management and protection of which resources). With respect to economic and social development priorities, the "principal problems" (such as health, education, drinking water, channels of commercialization, etc.) which the socioecomic study had identified are ranked by importance and were used as the basis for discussions.

Having established a structure for the normative portion of the management plans, and having themselves experimented with developing norms for resource use, the facilitators divide up into teams and disperse for a period of several weeks to conduct community consultations in each of the communities of their territory. These involved one- to two-day meetings open to all community members during which the rationale for the management plan is discussed, and participants are given the opportunity to propose and debate use-norms for each of the categories identified by the facilitators. All meetings are held in the local indigenous language and proposed norms are formulated and recorded in the same. This process results in a separate proposal from each community, including revisions of the land-use zoning established by the original cartographic study. The communal proposals aree then synthesized by the facilitators into a draft territorial proposal which is then presented at a two-day territorial assembly of leaders representing each of the communities. Norms are discussed, reformed, and approved which

communities. Norms are discussed, reformed, and approved which results in the first draft of the plan which is subsequently translated to Spanish by the facilitators.

Having completed the first, "grass-roots," phase of the process, the draft is then submitted to natural resource management and legal experts for an external technical consultation. This consultation generates a series of recommendations concerning proposed norms which are potentially contradictory to Nicaraguan law or to accepted standards of natural resource management. These recommendations are presented before a second two-day assembly of territorial leaders, resulting in a thorough review, debate, and in many case reform of the first drafts of the management norms. The result is the approval of the first territorial management norms for each of the five identified indigenous territories of BOSAWAS. This normative core of the territorial plans is complemented by extensive technical documentation of the ecology and natural and cultural resources of each territory a service performed by technical assistants in Managua on the basis of existing data. A popular version of the norms themselves is generated in a separate publication and widely distributed in the territory.

The plans are currently considered to be the "law" within the territories, pending review and reform in three to five years. Sanctions for violations basically follow the lines of the sanctions available to any egalitarian political organization. Violations are discussed in community meetings and the mechanisms of social pressure are brought to bear. In an effort to gain official recognition of this local management initiative, indigenous representatives to the BOSAWAS National Commission are seeking the Commission’s and the BOSAWAS Technical Secretariat’s approval of the norms as the basis for natural resource use within the territories.

Surprisingly, there has been some internal resistance within MARENA to accepting the indigenous management plans. While the government discourse has revolved around current professional technical standards of protected areas planning, the essential problem seems to be that there are two quite distinct methods at work, each implying a different evaluation of the capacities of indigenous people . The indigenous plans have been formed through bottom-up methods of community-based conservation (Western & Wright 1994) under the assumption that unless indigenous territorial managers are empowered to design their own norms and sanctions the result will be chaos. MARENA planning, on the other hand, tends to favor highly technical plans drawn to the spefications of outside consultants and protected area employees, only subsequently seeking approval from

protected area employees, only subsequently seeking approval from indigenous residents. This type of top-down consultative process (Stevens 1997:270-275) has little chance of implementation and reflects a view that indigenous people must be "controlled."

Meanwhile, the indigenous management planning process has already expanded beyond its original scope to include an initiative for interterritorial cooperation in the conservation of the core area of BOSAWAS (see Varese 1996 for a discussion of the emerging indigenous conservation movement in Latin America). Recognizing the interdependence of the contiguous "conservation" areas identified through the cartographic studies (located at the heart of the Reserve at the headwaters of the Lakus, Piu, Uli, Kwahbul, Umbra, Sangsang, and Waspuk Rivers), and the similarity of use norms established for these areas, the five indigenous territories have developed a proposal for the establishment of a joint indigenous protected area known as the "Waula Conservation Zone". This proposal was presented to and approved by each of the five territories in territorial assemblies held throughout June and July of 1997. While each territory is to maintain sovereignty over its portion of this area, there are plans for cooperation in joint vigilance, protection, and study of this nucleus of virgin forest. Indigenous leaders are collaborating in a coordinating body the earlier mentioned "Waula Federation" that is rapidly becoming the spokesperson for indigenous interests within the reserve and is taking steps to become a legalized NGO. The Waula Federation recently met to write a joint letter to UNESCO pointing out the failures of the Nicaraguan government in terms of its lack of respect for indigenous management plans and zoning in the newly created Bosawas International Biosphere Reserve.

Indigenous Forest Guard Training

Beginning in 1997, . Bosawas'indigenous territories decided to form a corps of voluntary forest guards This program has its antecedents in the Bosawas National Technical Secretariat's (SETAB) establishment of a voluntary program of forest guards in the mestizo communities around Siuna. In 1995, SETAB identified seven sectors to place future forest guards (based on the five indigenous territories plus two areas of mestizo settlements). In 1996, the program for Mayangna Sauni As was initiated and in 1997 the programs for the three northern territories commenced. These three territory count for 38% of the reserve and represent 33 indigenous communities with a population of 8,500 people. Most of the Waula Conservation Zone falls within these territories.

falls within these territories.

The territorial management plan is the basis for the indigenous forest guard training . Therefore the training of indigenous forest guards differs from the training of mestizo forest guards as the mestizo areas lack management plans and do not have territorial borders to defend. The primary goals of indigenous forest guards are, through boundary patrols, to keep out invasions of colonists in indigenous territories and to monitor internal compliance to territorial norms of natural resource use. Having called for the establishment of a guard force in each territorial management plan, the indigenous territories contacted TNC for technical and financial assistance in the training. The establishment of the Forest Guards was the next logical step in the development of local capacity to self-manage natural resources use, because it involved implementation of the management plans, maintenance of lines of demarcation, territorial security and environmental education. In all, 85 indigenous forest guards have been trained. These people have now become valuable assets to MARENA in 1998 as Bosawas faces the possibility of devastating El Niño-related fires caused by drying during the present dry season.

The training methods follow a pattern now familiar to Bosawas indigenous territories. Local communities name candidates for training while training emphasizes local monitoring and management. Sessions are carried out in the native languages by facilitators from the area who have previous exposure to the materials. Five days are given over to classroom exercises and field practice in the context of the first round of patrols. Workshops begin with an analysis of the critical indigenous values on the forest and the threats posed to resources as they defined them by the various processes underway in the area. A second theme deals with the legal restrictions on management resulting from national law and the national structures in place mandated to administer BOSAWAS. This is followed by an analysis of the management plan for the territory and a profound study of the 1:50,000 maps of the territory and its use zones. Small groups design presentations of the norms established by the management plan. By the third day workshops shift to the role of the forest guard and groups elaborate a set of internal regulations, an operating plan for patrols of vigilance, and a plan for coordinating the work of individuals with the group and with the territory. The fourth day is dedicated to technical work with topographic maps and compasses to teach navigating skills in the work of demarcation. The fifth day is dedicated to first aid classes given by local indigenous nurses. The days of patrol work for each community group that follow the workshop are accompanied by representatives of TNC. In some cases the forest guards are instructed in the use of global positioning

cases the forest guards are instructed in the use of global positioning systems.

The forest guards have now become valuable assets to MARENA as Bosawas faced the possibility of devastating fires during the 1998 dry season. While at present the technical capacity of the forest guard corps remains limited, they enjoy a gread deal of local acceptance and are univormly considered important leaders in their communities. Apart from their duties in monitoring and denouncing illegal natural resource exploitation, they also represent a very apt insitutional basis for future efforts on local indigenous wildlife and fisheries monitoring or other participatory scientific research. In 1998 a group of four of them were trained as para-botanists in a 5-day workshop designed to prepare them to collect botanical data and preserve specimens.

DISCUSSION AND CONCLUSIONS

Indigenous Activism And Its Aftermath

The activism of the indigenous communities in Bosawas seems to be a harbinger of the future in several ways. The Bosawas case indicates ways outside conservation NGOs can productively interact with indigenous people. Indigenous people may have deep knowledge of their ecosystems, a will to defend their natural resources against invasion, and a will to resist the hegemonic domination of their cultural systems by outside influences, but all of these are typically devalued and disempowered by the act of creating protected areas in indigenous homelands by federal fiat. Having stimulated and witnessed the creation of such areas by various nation-states, the typical international conservation NGO now often finds itself victim of its own ideological stance, a "nature story" which foregrounds biodiversity and backgrounds indigenous concerns. Such an ideology can actually work against the protection of indigenous areas when it refuses to take indigenous agendas and organizational capacity into account.

However, when indigenous agendas for the vindication of their land claims and associated resource rights are taken seriously, the possibility exists that an outside conservation NGO (either national or international) can establish an extremely productive relationship with indigenous people by supporting such claims. And by supporting the documentation, demarcation, institution-building, and finding appropriate political paths connected with such claims, the organization learns a great deal, perhaps most importantly that indigenous communities may have their own concerns about habitat,

indigenous communities may have their own concerns about habitat, about sustainability, and about the future in ways that are quite compatible with the central mission of conservation NGOs. NGOs may learn that their role may be in helping indigenous people build up a systematic knowledge base that will allow them to adjust to future demands of a constantly changing economy. Of course, NGOs give up power by not being able to impose their own categories of reality at the beginning of a conservation process through their connection with central governments. But at the same time they gain a future; by working through indigenous agendas, they can become part of a unified process of conservation, not combatants struggling with indigenous people for power in a context in which the resources they wish to conserve are disappearing.

While the aforementioned role of indigenous and associated NGO activism may be attractive enough, BOSAWAS still gives pause for thought. One NGO may have learned a lesson here, but it is not at all obvious that all BOSAWAS actors have learned the same lesson, nor is it insured that the process begun by indigenous people will prevail. The recent (March 1998) awarding of International Biosphere Reserve status to Bosawas by UNESCO is a response to a MARENA, not an indigenous, initiative. The entire presentation and negotiation with UNESCO over this prestigious identification was done without the knowledge or participation of the indigenous people in Bosawas. This fact becomes more egregious when one considers the purpose of international biosphere reserves, the special consideration given to biosphere reserves that have indigenous populations within them, the "participatory" rhetoric of the biosphere discourse, and the fact that the application to UNESCO makes use of a good deal of original indigenous work on their claim documentation. The central government of Nicaragua has continued to act in top-down ways with regard to the indigenous people and at this moment the process of legalizing indigenous lands in Bosawas is conflicted in ways too complex to address in this paper.

However, even without legalization, the Bosawas process is having an effect on the conflicts over land and resources that have flickered and occasionally flared all over the Atlantic coast of Nicaragua for hundreds of years. At this point the "autonomy" of the RAAN is at a low ebb. The governments of Violeta Chamorro and now Arnoldo Aleman have had great philosophical difficulty with autonomy, as they consider the autonomy agreement forged by the Miskito and the Sandinistas, especially its placement in the constitution of Nicaragua, as a giveaway of natural resources they consider to be national. The autonomy agreement is viewed as the basis for what is seen as a pernicious and seditious separatism. As a result of federal inattention

pernicious and seditious separatism. As a result of federal inattention to the autonomy process, eastern Nicaragua now faces an armed rebellion in 1998 through the rearming of the Yatama political party.

At the same time, the World Bank, in its Nicaraguan "corridor" project to support a green belt connecting all of Central America along the Atlantic coast, has voiced its desire that the Nicaraguan central government deal with the indigenous land issue. However, a pilot project to determine the extent of indigenous community land claims outside BOSAWAS resulted in a map full of overlapping land claims by various communities. Meanwhile, a related World Bank-contracted consultancy has yielded a draft of and Indigenous Land Law which is unmistakably deleterious to indigenous rights, statist, and totally opposed tot he priciples and methods of demarcation discussed above which have been successful in the BOSAWAS context. A similar jproblem exists in the Awastingni land claim which, because of the lack of a concertación process, has resulted in numerous conflicts. Because these conflicts can easily be used by politicians and bureaucrats unfriendly to indigenous or environmental concerns to reject all indigenous land claims, it has been suggested in several forums that Bosawas might be an example of how indigenous people can themselves document their claims without major conflicts.

The Future of Bosawas

What will the future bring for Bosawas? As with all questions about the future, it depends. Assuming indigenous activism continues to win some level of support, the authors project a continued struggle for legalization of the indigenous lands. Ultimately the indigenous people will win some form of legal recognition because, as time goes on, it will be increasingly obvious that the lines separating forest from farmland will be the boundaries of the defended indigenous territories. Also, the indigenous struggles for land outside Bosawas will put increasing pressure on the government to legalize already-well-documented lands, if only as a token. .

The success of indigenous activismn in Bosawas will likely be heavily influenced by the willingness of intermediary NGOs to collaborat with local indigenous organizations in integrated conservation and development efforts. Such urban-based partner organizations can have a tremendous impact in helping remote indigenous communities to project themselves in the debates over land tenure, reserve management, and other issues such a social service provision, etc. Alongside this issue of representation and recognition faced by all Nicagraguan indigenous communities, those

recognition faced by all Nicaqraguan indigenous communities, those living in Bosawas are faced with the challenge of convincing external conservation interests of their commitment to, and technical capacity for, management that includes conservation objectives. It should be recognized that there is, at least potentially, a fruitful complementarity between the kinds of indigenous knowledge and management capactiy possessed by local communities and the forms of scientific knowledge and technical assistance which can be provided by outsiders. The Bosawas communities recognized this value and have continually manifested their desire to link with outside technical and scientific assistance in the interes of better representing themselves as capable and responsible natural resource managers. The economic situation of Bosawas' indigenous population is likewise an area of great concern and opportunity. The success of indigenous advocacy efforts and thge very sustainability of local organizations will ultimately depend on the communities' capacity to generate income capable of supporting them. The degree to which the communities are afforded economic opportunities which are compatible with the Reserve's conservation objectives will heavily influence its long-term sustainability. Given the state's limited disposition and ability to collaborate with the communities in these critical areas, there is a tremendous opportunity and need for intermediary grassroots support organizations to do so.

Because of the work of zoning the territories and the eventual creation of the Waula Conservation Zone by the indigenous people themselves, it is likely that their own definition of the core conservation area of the biosphere will have to be accepted although, this will not be accomplished without a struggle. The lack of concordance between indigenous and government aspirations, actions, and ways of expression means that there will continue to be a counterpoint of discourse that will be emotionally invested and occasionally hostile. Nevertheless we do not expect that the government will prevail unless the indigenous people receive so little support for their own demarcation and defense activities that they are eventually violently overrun. In that case Nicaragua may end up with a moderately sized national park in the area of the Waula Conservation Zone, divested of its wildlife and possibly its valuable timber resources. Failing to support the indigenous people in the defense of the much larger system, the government will be limited to what it can actually afford to defend. If the case of Saslaya National Park is an example, this will not be a large area. Ultimately, the best possible alternative for those interested in Bosawas is to support indigenous activism, abandon top-down methods of dealing with the indigenous people, and hope to contribute something to their struggle and the scientific basis for their management.

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