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I INTRODUCTION

The current ecological crisis has elicited worldwide recognition of the imminent need for environmentally sound economic development, use of natural resources and wilderness conservation. Despite the complex hurdles challenging Belize, this young nation has managed to confirm conservation priorities on its agenda and 37.2% of its land areas enjoyed some degree of reserve status as of 1991, (King 62) among these, the Cockscomb Basin Wildlife Sanctuary.

At the entrance to Cockscomb Basin Wildlife Sanctuary (CBWS) lies the small Mopan Mayan village of Maya Centre. Historically, the international conservation movement has looked to the traditional relationship between native peoples and the earth as a model of sustainable resource management and spiritual fulfillment. It would thus seem to follow that the presence of Maya Centre would be advantageous towards the management and buffering of CBWS. It became apparent upon our first visit to Maya Centre that the situation is far from simple or free of conflict. Many Latin American conservation projects have received international recognition for their successful efforts to integrate indigenous villagers, especially the Community Baboon Sanctuary in Bermudian Landing. It was obvious to us after spending a few months in Belize that the actual situation in Bermudian landing is very controversial and bears little resemblance to the picture-perfect description portrayed in our Environmental Studies texts from our American universities. The brief overview presented by the chairman of the Mayan Centre village council, Ernesto Saqui, depicted a similarly problematic situation with his own village and CBWS. Noting the trend of conflict and contradiction from our previous impression, we became drawn to studying the true relationship between village (indigenous) land use and conservation, specifically in Maya Centre and CBWS.

The following paper is a result of the investigation into this complex relationship and its implications. We have sought to provide a relatively comprehensive description of the history, current status and potential directions of the situation, focusing on the following aspects:

1. The histories of Maya Centre and the creation of CBWS and their interaction
2. The parties involved in the relationship: the villagers, the private estates, BAS , the GOB and their respective interests
4 The reaction of Maya Centre to the Creation of CBWS and a changing economic base
5. Maya Centre entering the market economy
6. The Mayan culture respond to this trend toward the market
7. How land use issues threaten to CBWS
8 Long-term solutions

Due to the innumerable complexities involved in the relationship, it is inevitable that some aspects have eluded our foreign viewpoint or understanding. Also, there are many areas which we recognize as deserving further study; these will be highlighted as well.

Based on our interpretation of the players and their interests, the issues which have arisen, and the proposed solutions, we will analyze the roots of the struggle and the current situations, offering our personal insight into the merit and viability of the prescriptive measures which have been recommended. This investigation has proved personally invaluable in exposing us to the perspectives often omitted in our textbooks, the difficulties involved in cross-cultural fieldwork, the structure of the decision-making network within the government and the NGOs and all the unanswered questions and undetermined procedures within this young frontier of a country.

Because Belize's conservation policies are not yet entrenched, it is important to look at the paths on which they tenuously embark and try to project where they may lead, given the obstacles they have encountered thus far. Learning about the problems which have arisen surrounding Cockscomb may help the Government of Belize (GOB) and NGOs to avoid similar situations in future projects. In addition to the relevance of this study, to the future conservation projects and communities. CBWS and Maya Centre face some dangerous threats which need to be addressed now to ensure the survival and viability of both entities. Recently, a rumor circulated that the Minister of Works, (Melvin Hulse) intended to dereserve half of CBWS to be divided up among private land owners. The exposure of his alleged plans evoked furious reaction from enough people to extract his assurances that he would not follow through but the incident lingers as a reminder of CBWS' unstable status. Simultaneously, falling citrus prices threaten the livelihood of Maya Centre's milpa farmers and alternative crops need to be investigated in case the trend continues. The culture and community of Maya Centre is also being tested by the introduction of tourism in the traditional village. In light of these problems which arise from inextricable circumstances, it is important to search for holistic plans instead of relying on uni-dimensional perspectives offered by separate government ministries, NGOs or villagers. As outsiders, we may have a more objective viewpoint allowing us to see the problems through a variety of perspectives (though we also certainly see the situation with some biases - we do not have a direct or vested interest in any situation). We hope that our project is helpful towards these ends.

II. BACKGROUND

Before delving into the integral components of the relationship between land use of Maya Centre and the conservation tactics of Cockscomb Basin Wildlife Sanctuary, it is necessary to get

an overview of the situation. The overview consists of the histories of four primary entities: land, Maya Centre village, CBWS and relevant policies of the Government of Belize(GOB).

A Land description

(Information provided by CBWS operational Plan 1994-1995, BAS)

(See Appendix I) Cockscomb Basin Wildlife Sanctuary and Maya Centre are located in the central part of the Stann Creek District. CBWS encompasses the Cockscomb Basin. Maya Centre lies 10 km from the Eastern boundary of CBWS.

CBWS has an area of 102,400 acres or 154 square miles. Cockscomb Basin is generally a large valley bordered by high ridges and low hills on all four sides. To the North is the Cockscomb Range, to the East Cabbage Haul Gap, ridges to the south and the Maya Mountain divide to the west. Cockscomb Basin can be broken up into two basins: east basin and west basin. The east basin is the headwater of the South Stann Creek. The west basin is the headwater for the Swasey Branch (part of the Monkey River). The east basin is generally flat, 75% being below 200m above sea level. The tallest ridges rise to 400m above sea level. Water flows through the South Stann Gap, from the South Stann Creek (Kamstra, 1987). The west basin is generally mountainous, only 20% being below 200m above sea level. The remainder of the basin is a series of hills, ridges and steep valleys. The Swasey Branch leaves the basin through a section of the Maya Mountains (Kamstra, 1987).

The bedrock of Cockscomb Basin is decidedly granite. Above the bedrock the soils vary in type. Soils, "...throughout the region are composed of quartzite, stony, boulders, sandy loam, with depths of 3 inches. Granite, sandy clay loams can also be found "(CBWS Operational Plan 1994-1995, p10). These soils are basically infertile and highly erosive.

Cockscomb Basin receives 250 cm of rainfall on average, yearly. Temperatures range from 11° C up to 39° C. Thus Cockscomb Basin is well suited for forest vegetation. There are two general kinds of vegetation. "Transitional Broadleaf Forest poor in lime-loving species consisting mainly of semi-evergreen forest which is found in higher elevations. Broadleaf Forest with few lime-loving species consisting mainly of semi-evergreen seasonal forest which is found over the larger part of the Basin." (CBWS Operational Plan 1994-95, P11).

About half of the rare or endangered species of wildlife of Belize are located in CBWS. There are, "52 species of mammals, 290 species of birds, 23 reptiles and 6 amphibians...recorded from the Basin." (Kamstra, 1987). The jaguar and howler monkey are the most famous residents of CBWS.

Maya Centre is situated along the Southern Highway. The village rests upon 50 acres of land. The access road to CBWS runs along the southern border of the village. The western and northern sides are bordered by private landowners. The eastern boundary lies 1 mile to the east

of the Southern Highway. All of the farming land lies between the Southern Highway and the eastern border. The farm land is bounded by the Cabbage Haul creek to the south and by the Sittee River to the north. It is roughly a mile square in size.

Land type for agriculture

h = high flood plain bench (h) which is 3-6m above a low flood plain or 5-10m above the river and is rarely flooded, only after exceptional storms.

t = terrace, which is only flooded after very exceptional climatic events that would occur with a frequency of a1000 years or so, 3-10m above high flood plain bench.

w = areas of alluvial wash are found on the edge of the land system where alluvium has been deposited when the river has overtopped the terrace during the exceptional climatic events (Land Resource Assessment of Stann Creek District, 1989).

The villages use their agricultural land for milpa farming. Milpa farming involves the ancient Mayan practice of slash and burn agriculture. Today, *milperos* clear 1- 5 acres of land annually with their machetes, allow the cut vegetation to dry in the sun and subsequently burn it. This method transfers the nutrients trapped in the lush, sub-tropical vegetation to the soil where it is used to nourish crops. A cleared plot is used for one-two years after the farmer clears another parcel while the original land is left fallow to regenerate for five to ten years. Maya Centre farmers grow traditional crops on their milpas, and citrus trees including oranges and grapefruits. The acres planted with citrus are not left fallow as with traditional crops and sometimes farmers hire tractors to clear land for the trees. Also, chemicals are increasingly used as fertilizers and pesticides, unlike traditional milpa farming, which is purely organic and unmechanized.

B. Maya Centre

(information provided by Liberato Saqui)

The village of Maya Centre was established in 1976 by families from the village of San Antonio. Reasons for migrating from San Antonio included the unavailability of farm land, jobs and money. Also, the original families were discontented with the lack of infrastructure and community development.

Fifteen to twenty families settled the area now known as the Maya Centre village. Presently, thirty to thirty-five families inhabit the village. At the time of arrival a private land

owner, Dr. Buck, owned the land on which the families squatted. However, just around the time of settlement, Dr. Buck exchanged the land with Donald Who, another private landowner. Most of the land was being used for mechanized rice. Donald Who donated 1,000 acres on the eastern side of the Southern Highway for farm land (mechanized rice land) and an additional 50 acres on the western side for a village. Thus, the families took up non-mechanized rice farming on the 1,000 acres, known as Maya Farmland Layout.

Soon after obtaining land from Donald Who, the village founders created a school. The school was built by community volunteer labor and resources.
Initially, the children were instructed by unpaid volunteers. Ernesto Saqui was the first teacher. During the early stages of the school, and village, the Catholic Mission came to Maya Centre and expanded the scope of the school. They offered insight and gave Ernesto a pay of $50 a month for teaching. The government soon became involved. The Minister of Education visited the institution. He officially recognized the school and appointed a government paid, Garifuna principal, Norris Williams.

One of the main reasons for establishing the school was to get title to the land of Maya Centre from the government. One of the criteria for officially establishing a village is having a primary school. Around 1977-78, the individual families from Maya Centre were given title to the village land and the 1,000 acres of farmland.

Also around the time of founding, a village council was created. The first chairman was Eulogio Sho, uncle to Ernesto and Liberato Saqui. Eulogio Sho was chairman from the time of inception until 1984. In 1984, there was a shift in power within the government. The Peoples United Party (PUP) of Eulogio Sho, handed the reins over to the United Democratic Party (UDP). Likewise, political power shifted in Maya Centre. Eulogio Sho and his PUP influenced council were voted out of office. (In an attempt to win community support, after defeat, Eulogio Sho introduced the Baptist church to Maya Centre. It is speculated that he used the new church was to gain community support from those converted to Baptism.) A UDP influenced council came into power with Ernesto Saqui as chairman. The new council aimed to improve village infrastructure.

This new council renovated the now old, decrepit school in 1985. Around this time USAID and the Government of Belize put in hand pumps around the village, for drawing water more easily (although the pumps were faulty and did not work). In 1989 work was begun to build the community centre. Surveying of lots being given to families by the government occurred in 1989. In 1992, a larger school was being built to accommodate a growing population and allow for better furnishings. This was funded by the International Rescue Committee. The Community Centre was finished, the school was finished and a rain water tank was constructed, all by 1993. Streets were made into Maya Centre in January of 1994. Electricity came to the

village in July of 1994. Again with the help of the International Rescue Committee an efficient Rudimentary Water System was put in with piped water in September of 1994.

Note

In 1981, there were eight Mayan families living in the area of Quam Bank (10 km west of Maya Centre). These families were living in the same area of where Cockscomb Mintil Saw Mill (USA logging company) was operating. The company began logging around 1978 but began to decline in the early 1980s. By 1982/1983 logging ceased. Reasons for the decline and halting of timber extraction of Quam Bank are sketchy. With the establishment of CBWS, the villagers were forced to leave their homes. Around December of 1984, the eight families of Quam Bank migrated to Maya Centre where they were accepted and given land, to some degree.

C. Cockscomb Basin Wildlife Sanctuary

In response to an alleged jaguar population/habitat decline, BAS asked Dr. Alan Rabinowitz for consultation on jaguar ecology. Dr. Alan Rabinowitz was researching the area of Cockscomb Basin. His research concluded that the ecosystem of Cockscomb Basin was well suited for jaguars and their habitat. It was also revealed that human activities, such as hunting, may contribute to decline in numbers of wildlife. For instance, extinction of the howler monkey, in Cockscomb Basin, may have been influenced by hunting (CBWS Operational Plan). In an effort to preserve wildlife habitat CBWS was proposed in 1984. Due to national and international acknowledgment of this proposal, CBWS was officially established in 1986.

The GOB appointed the Belize Audobon Society (BAS) a manager of CBWS. Government departments were unable to handle the management of CBWS. BAS was capable of managing CBWS, thus took over the role. Ernesto Saqui was hired as director of CBWS. The BAS, World Wildlife Fund, USAID and Jaguar automobiles company fund CBWS.

D. Governmental Policy

In recognition of the importance of Belizean natural areas, the government has produced three protective acts: Environmental Protection Act, National Park system Act and Wildlife Protection Act. These documents establish proper environmentally sound behavior, classification and aspects of natural areas and wildlife, and the relationships between interest groups and natural areas and wildlife.

III. METHODOLOGY

In pursuit of this study we conducted reference research, arranged interviews with GOB officials and representatives from relevant NGOs, utilized ethnographic participant observation approaches, designed a set of questions for members of the Maya Centre village council, the Baptist minister and the women involved with the craft shop and used the long interview sessions with Ernesto to tie our information together and tap into his enormous wealth of knowledge about the area. In addition, we read works by policy makers, economists, theologians and ethicists to give us a broader background for the larger paradigms we use in the last two sections.

A Reference Research

We utilized materials from the Belize Center for Environmental Studies, the Audobon Society, the Monkey Bay Wildlife Sanctuary library, the Ministry of Natural Resources and the Ministry of Tourism and the Environment. These materials included management plans, ecological summaries of anthropological research, potential land use references, maps, official GOB protective legislation, and research on other areas which seemed to share some basic characteristics of the Maya Centre/CBWS relationship, specifically Programme for Belize's Rio Bravo. We sought to get and understanding of the biology and geology of the region to better sort out the discrepancies in the various interpretations of past, present and potential land uses of the region. We also attempted to get a broad idea of land tenure in the area since the attainment of the documents listing specific owners of surrounding acreage requires special authorization and weeks of writing. We analyzed the wording of the protective legislation to determine the spirit and denotations of the laws and how they are manifest in the actual management of CBWS region.

We looked for similar research done pertaining to other conservation project and villages but found mostly management plans describing intended programs and little specific information about the actual dynamics of the relationships. After gaining a basic understanding of the problems and proposed solutions, We used written references to investigate further, specifically, we looked at the intricacies of the citrus, cacao and other agricultural industries to determine where the small milpa farmer fits into the system now and his place for the future.

B Interviews with Government & NGO Officials

We used the opportunities to meet with policy makers to uncover the GOB's activities geared towards community development of Maya Centre and secure the protected status of CBWS. It became evident to us from the onset of our investigation that just as the physical well-being of the Maya Centre villagers and the ecosystem of which they are a part is dependent upon the maintenance of the floral/fauna biodiversity of CBWS, the political security of CBWS depends

upon the support and economic well-being of the Maya Centre community. Ernesto and Osmany Salas recognized this dependency in the general management objectives of the operational plan for January 1994 to June 1995 in the following stated goals:

> b. Promote and facilitate nature-based tourism in order to improve the national and regional economy;
>
> c. Increase public awareness and understanding of conservation and ecological principles, and to demonstrate the importance of protected wildlands areas for the future well-being of all Belizeans; (Salas 18).

The management plan goes on to outline programs designed towards these ends. We wanted to determine what GOB ministries and the NGOs are doing to help achieve these goals and facilitate a smooth transition for the Maya Centre community. Our interviews lead us to many subdivisions of the Ministry of Natural Resources, the Minister of Agriculture, the president of the Audobon and board member of Programme for Belize, NARMAP, BEST, Community Development office of the Stann Creek District and the Centre for Environmental Studies.

C. Participant Observation

In order to get a feeling of the lifestyles of the villager and the dynamics of their community, we spent a lot of time interacting with the villagers in the context of their daily lives. We attended a town council meeting in which a system of house-by-house payment and general maintenance for the new water pump was designed. Although the meeting was conducted almost entirely in Mayan, we observed a lot about the personalities and positions of each member and the informal atmosphere of the session. We also spent time casually walking around the village watching the daily rituals of washing, cooking, bathing, child rearing, school children playing and the domesticated animals roaming freely around the thatched houses. We talked with the women in the craft shop about their business and the crafts and the conversations drifted towards other subjects such as marriage, religion and the community of Maya Centre. One day we went to a milpa with Antolino Pop where he showed us the different crops he was growing, explained problems confronting the plants and his rationale for choosing the crops on his plot of land. He described the process of rearing his citrus trees, harvesting the fruit and selling the yield to the large processing plants. We observed Antolino and his partners clearing the fields with their machetes as he told us stories about guiding 200 pound "torsts" up to Victoria Park. The villagers were generally very friendly and receptive to our efforts to interact in village life.

D. Village Interviews:

Under the advisement of Ernesto and his wife, Aurora, we opted not to conduct house to house interviews or use surveys in the village. They felt that the villagers would not react well to this approach and recommended that we strategically chose interviewees who would represent a broad spectrum of viewpoints. We decided to limit our interviews to members of the village council, the women of the craft shop and the Baptist minister. After designing a separate set of questions for each group, we conducted a series of interviews which included a few random interviewees who did not fall into any group. Without exception, the interviews went very well and we were able to collect a lot of information, although many of the respondents had practically identical (almost verbatim) answers to our questions.

E. Sessions with Ernesto

Our time with Ernesto consisted of a series of long conversations which proved to be invaluable for our investigation. As manager of CBWS, an employee of BAS, a milpa farmer, trained educator, conservationist and village chairman of Maya Centre, Ernesto is intimately familiar with all of the issues surrounding the relationship between CBWS and Maya Centre. He clarified much of the scattered information we collected and filled in the gaps. Each session, he presented us with many new issues and accounts of the how past program proposals have enacted upon the issues which have lingered on for years. Our only limitation was time - Ernesto's busy schedule sometimes rendered us with half a list of questions upon which we had not even touched. This paper cannot even begin to delve into the well of Ernesto's knowledge on these issues (and we would refer any questions, clarifications and inquiries to him).

F. Broad Based Readings:

The small village of Maya Centre and CBWS are components of Belizean, international and universal systems. We feel it is important to analyze how these systems impact on the issues - specifically placing them in the context of the international political economy and a system of ecocentric ethics. In order to get a broader understanding of these larger system, we read books and articles from the Monkey Bay W.S. library.

During our ISP, we stayed for one night in Aurora Saqui's guesthouse (we were her second guests!). The rest of the time we slept in tents on the side lawn along with the four dogs, two cats and several chickens and cooked our meals under a thatch. Before and after our fieldwork in Maya Centre, we stayed at Monkey Bay for the easy access it provided to Belize City, Belmopan and the library.

IV. PARTIES, INTERESTS AND ISSUES

A Parties and Interests

In our first conversation with Ernesto, he identified three distinctive groups involved with the protection of CBWS and development of Maya centre: the local indigenous people of the village, the foreign/domestic large landowners/developers and the government. We will use these general groupings to describe the parties and their respective interests in the CBWS/Maya Centre relationship. We have added the Audobon Society and Ernesto Saqui as separate entities since they are key players in the management of these issues.

The following section functions to provide a broader overview of the parties, including background information and the specific factors which shape their interest in land use. In the process of this investigation, it became evident that it is impossible to isolate the single issue of land use in this multifaceted relationship.

From its most fundamental point, human's view of nature is engendered through history, religion, education, language, economics, socialization, natural environment and lifestyle. In the Western tradition, perceptions of nature are strongly influenced by the Judeo-Islamic-Christian worldview, the capitalist market growth mentality, the modernist faith in technology and the theoretical and experiential distance maintained from nature in the aftermath of the scientific and industrial revolutions.

In the developing world, including Belize, the impact of these foreign conceptual influences is beginning to permeate society at the macro level through the international political economy. Their impact is not so easily entrenched in village culture due to the very concrete powerful role of nature in everyday rural life. In the case of Maya Centre and CBWS, land use is influenced by the villagers subsistence needs, the citrus market, the conservation ethic promoted by the Wildlife Sanctuary and all of the historical, economic, cultural factors underlying these influences. An understanding of these factors is necessary to determine each parties interest in land use and their roots.

1. VILLAGERS OF MAYA CENTRE

Land use is fundamentally affected by culture. Culture, represents a general way of being for a group of people. It is an amalgamation of a wide variety of interrelated aspects of the group. In respect to the people of Maya Centre there is one basic culture, which intermingles with variations. The main components are: daily activities (of men, women and children), food, language and dress, religion, education and external factors.

Throughout the day men, women and children pursue different activities. Men of all ages typically work in wage jobs and milpa. Adult men split their time up during the week between

wage jobs and their milpas. Some evenly distribute their time to each chore. Some direct more attention to one more than the other. The two main wage jobs are working for CBWS or for citrus companies. Men constantly involved with wage jobs may pay other men to tend to their milpas. Those who tend to their own milpa usually put as much effort into farming as they would put into wage jobs per day.

The daily life of a woman in Maya Centre includes chores such as cooking, cleaning the home and washing clothes. Cooking begins early in the morning before the rest of the household awakes. Cooking continues in intervals throughout the day, concentrating around breakfast, lunch and dinner , ending some time after dinner. The home is cleaned sporadically throughout the day, whenever time permits. Laundry is typically done in the morning, by hand wash-board, so that clothes can air dry on the line in the afternoon sun.

Children attend the Catholic grammar school. The school day commences around 8.00 a.m., breaks for lunch between noon and 1.00 p.m. and ends about 2.30 p.m. After school and on weekends boys and girls help out their parents and older relatives with daily chores. Boys attend to farms with their fathers, older brothers or uncles, while the girls aide their mothers, sisters or aunts at household tasks.

Food eaten by villagers comes from milpas, hunting or the market. Food from milpas consists of corn, beans, ground foods (i.e. tubers) and fruits (i.e. citrus). These crops can be used to create traditional foods: corn tortillas, stewed beans, re-fried beans, boiled potatoes and fresh fruit. Sometimes, men will hunt peccary, gibnut or armadillo for meat. Often meant and staples like flour and rice are purchased from markets. Non- traditional food like macaroni and cheese are also obtained from shops. The traditional language. Mopan Maya, is spoken everywhere and by all villagers. Non-traditional languages, English, Creole and Spanish, are spoken regularly in school, to non-Mayans and in conjunction with Mopan Maya.

As with food and language, dress is both traditional and non-traditional. male dress seems very similar to dress of typical Belizean men. Females wear traditional Mopan Maya dresses and embroidered blouses.

Religion comes in three denominations: traditional Mayan, Catholicism and Baptism. Traditional Mayan religion is manifested in some daily activities and mythology through superstitions. One belief being that Ix-tabui will lure unfaithful men away into the forest to their doom. Bathing in the Cabbage Haul creek may be only done by an individual during the afternoon day light hours, so as to not interfere with spirits, known as owners, embodying the water.

The non-traditional religions of Catholicism and Baptism have existed in Maya Centre for over a decade. Roughly half the village is Catholic and the other half Baptist. Each religion h as been fully integrated into the culture of the village.

External factors, such as Christianity, continually influence traditional Mayan culture of the village. Once introduced, they gradually embed themselves within the intricate framework of the culture. For instance, electricity was introduced to Maya Centre in July of 1994. Now a family has the option of owning a refrigerator. The refrigerator allows for long term storage of perishable foods, such as meat. The families with refrigerators can now take advantage of the easy access meat from the market, (another external factor) and keep it from spoiling. From this example it can be seen that external factors relate and integrate with other external and internal characteristics of the village culture.

The interrelationships of external and internal influences shape the culture. Interrelated cultural aspects, such as the agriculture/refrigerator relationship are fundamental components of the land use issue. Attitudes and actions towards land use originate through people's lifestyles and behavior.

2. BELIZE AUDOBON SOCIETY (BAS)

Since its founding, BAS has maintained a clear philosophical base shaping its position on land use.

> The Belize Audobon Society is a non-profit, non-governmental organization dedicated to the promotion of the sustainable use and preservation of our natural resources in order to maintain a balance between people and their environment. (BAS Mission Statement from Brochure)

In addition to its original educational, research and lobbying programs, BAS has undertaken the management of nine federally Protected Areas to promote this Mission. These responsibilities have drawn the organization into a complex arena of social, economic and political struggles. BAS seems to recognize the need to address issues which not only directly influence on their efforts to encourage conservation, but also threaten the physical and political security of Protected Areas. As primarily a naturalist origination, BAS is not necessarily equipped to address the spectrum of issues facing the Protected Areas. They are admirably attempting to implement programs to alleviate some of the more imminent social/economic threats to CBWS, some with notable success. To offset some of the village income lost due to the creation of CBWS, BAS is currently creating a multi-tiered management plan allowing for the sustainable extraction of non-timber forest products (NTFP's) for subsistence use and commercial sale. (Rath and Salas personal interviews) BAS also relies on educational outreach programs in Maya Centre and other local communities to demonstrate the value of CBWS and other Protected Areas. The organization seems to understand the villagers' difficulties in fully appreciating the value of CBWS when they do not have basic economic security and is thus attempting to find means for the Sanctuary to provide local income, as well.

In many ways, BAS' hands are tied due to stipulations in protective legislation and the lack of any secure legal contract defining the nature and duration of their role as Protected Areas managers. They are currently lobbying the GOB to provide legislation to eliminate these administrative obstacles.

BAS' interest in land use in the CBWS region is thus complicated. Their primary allegiance is to the preservation of the region's wilderness, but they recognize the other parties' needs for the resources. They are eager to find compromises to satisfy both the villagers' livelihoods and ensure the health of CBWS' ecosystems. Accordingly, they support sustainable resource management, not locking up the land on which people have depended for centuries. However, they are not as sympathetic to the profit-seeking motives of the large private estates in the area and feel that some of the villagers subsistence needs could be met by acquiring a portion of these fertile lands though the Land Acquisition Act. (Rath and Salas personal interviews) Their position is summarized well here :

> Our magnificent coral reefs and islands, spectacular wild areas, and great diversity of wildlife are fast becoming known in the world of international tourism. They all need to be protected *now*. The Belize Audobon Society is committed to the cause of conservation, but the support of the Belizean people is necessary. Government, business organizations, and institutions all need to be concerned in preserving what is good in the natural environment, and in developing it in such a way as to maintain, and if possible to improve, the quality of life for themselves and future generations. (BAS Brochure)

3. ERNESTO SAQUI: CBWS SANCTUARY MANAGER & MAYA CENTRE VILLAGE CHAIRMAN

From his variety of leadership capacities, Ernesto has a unique perspective in the relationship between CBWS and Maya Centre. On one hand, his traditional Mopan Mayan background and upbringing shape many aspects of his lifestyle, including his household and milpa. He understands (first hand) the needs of the people of his village and at the same time sees the roots of the conflict between their lives and conservation agenda of CBWS. His role as community leader and spokesman in the past placed him in a forum in which was exposed to BAS , conservationists, etc. and he has adopted many of their goals as his own. While he fully appreciates the importance of conservation, he feels the pressure CBWS puts on the village. His dual position as village chairman and manager of Cockscomb provides a vital thoroughfare for ideas and a bridge facilitating effective implementation of programs. His leadership alleviates many communication and trust problems that would probably arise if an outsider took over. Ernesto is committed to integrating the Maya Centre community into the vision and management of CBWS, realizing the inherent interdependency between the two.

Although the international conservation movement pledges its respect and even emulation for indigenous cultures, Ernesto is not convinced of the commitment in practice. Sensitivity to Mayan culture is often placed on the back burner in order to address the more politically powerful threats which arise. He is also skeptical of the GOB's commitment to the success of CBWS due to its failure to commit resources and infrastructure necessary to promote the Sanctuary as a scientific, recreational and tourist facility.

Ernesto has doubts about the potential of CBWS for providing opportunities to Maya Centre to secure a new, stable economic base. He sees many outside influences irreparably dividing the community, especially religion, politics and tourism. Without the community cohesiveness to resist the inflammatory tendencies of these forces, Maya Centre has become embroiled in internal conflicts brought on by religious exclusion, UDP/PUP battles and financial competition. He also sees the tendency for passive Mayan mantality as an obstacle in the villagers' attempt to take advantage of income-generating opportunities provided by CBWS. For example, since Ernesto introduced the idea for the craft shop in 1988, it has not developed any further than its original incarnation. Even if villagers could secure livelihoods from tourism, NTFP extraction or citrus, he is wary of the cultural effects of those situations, especially after witnessing villagers beg tourists for irons and cameras.

In response to the concurrent need for conservation and village subsistence, Ernesto feels that acreage should be acquired from the large estates who do not demonstrate any vital need for the land. His position was crystallized in the midst of the controversy surrounding Maya Centre's efforts to get safe drinking water. Due to the agricultural waste in Cabbage Haul Creek (the village's nearest water source)from their upstream neighbors, the water became inpotable. The village obtained resources from the International Rescue Committee, but the project entailed having to use a strip of privately owned land(belonging to a foreigner named Mr. Yancy) to lay the pipes. Yancy gave verbal per mission for the construction to take place, but later on, his lawyers (Pitts and Elrington Law Firm, a Belizean firm) presented Maya Centre with contracts claiming all rights and ownership of any equipment set up on his land. Frustrated, Ernesto went to the government and requested aid. The GOB allowed the pump to be installed on a part of Yancy's land. If Yancy was to intervene on the interests of Maya Centre, in respect to the pump, then the GOB would ensue acquisition of the land which Yancy was not using in any capacity. This issue represents the clash of private property rights and basic human rights. Thankfully, the latter triumphed in this instance.

Ernesto's interest in land use is to secure the Protected Status and ecosystem health of CBWS. Additionally, he seeks to provide villager's with workable land for milpa to relieve their dependence on the floundering citrus and capital-intensive tourism industries.(E. Saqui personal interview)

3. PRIVATE LANDOWNERS

(See Appendix II) Another party that controls land around CBWS and Maya Centre are the private landowners. This group includes a variety of individuals and organizations that own large tracts of land. There are both Belizeans and foreigners within this category. This group brings in another dimension of interest into the land use issue. The major interest of the private land owner is the financial value of the land. Private landowners can be broken up into three groups: citrus growers, speculators, and developers.

The most popular manner in which private land owners use their land is for citrus crops, including grapefruits and oranges. These profitable crops are used solely for commercial markets. The citrus is grown on a large scale. In September 1990, the Belize Citrus growers Association (CGA) estimated 25,000 (10,000 ha) of citrus in cultivation.(King, Pratt 35) Mr. Bowman owns citrus plantations to the north and south of Maya Centre. Further south, three different Mr. Zebani's own citrus and banana plantations. Bowman and the Zebani's are Belizean.

Speculators compose the second largest landholders in the region. These people are foreigners, generally speaking, who seek to purchase land in Belize in anticipation of financial return through development. For the most part, the speculators either develop the land themselves or sit on it and wait for the monetary value of the land to rise before selling. Speculators mostly own the land that lies between Maya Centre and CBWS. Currently, CBWS draws many speculators to the area due to the international reputation the sanctuary has earned through Rabinowitz's book and film. The lack of tourist facilities and large tracts of unused land surrounding CBWS represent untapped income making opportunities to many investors. The three big speculators are Mr. Bowman(Belizean born with British lineage), Mr. Dunker(Jamaican), and Mr. Polack (Jamaican).

The last group of landowners are developers. Developers include citrus growers, speculator or individuals/organizations that plan on developing a piece of land. The land in question may have been obtained from either Crown land or private land. Many of the foreign owners have retained titles since the colonial days. What the land is developed for depends upon the owner and the laws of the Environmental Protection Act. Around CBWS and Maya Centre, land is typically developed for citrus, although increasingly, tourism projects are in the works. For example, one foreign developer was planning to build a hotel on the land adjacent to the western border of Maya Centre.

5. GOVERNMENT OF BELIZE

The GOB structure parallels the Westminister Parliamentary System. The Prime Minister holds a very powerful executive post in which he exercises the right to appoint his Cabinet of

Ministers from members of the House of Representatives. The ministers are thus political appointments and often have little relevant experience in the fields of their respective ministries. There are many ministries directly/indirectly involved in the CBWS/Maya Centre land use relationship, including the Ministries of Natural Resources, Tourism and the Environment, Agriculture, Public Works, and Human Resources.(Vernon lecture at SPEAR office in Belize City)

The GOB is less than fifteen yeas old and is still in the midst of organizing itself to effectively address basic governing duties. District extensions of ministries are just now being established as legislation is slowly but surely being generated. This settling process is occurring over the backdrop of fiery partisan controversy, a liberalizing regional and global economy, intensified pressure form the international conservation movement, an influx of Central American refugees, a flight of human capital to the States, and an increasingly popular taste for foreign products. There are many factors making it difficult for the GOB to find a balance between economic development and conservation. Currently, the Ministry of Tourism and the Environment is running a year long campaign to convince the populace that ecotourism is good for Belizeans.

There is no government policy directing community development in Mayan Communities. The current medium range economic plan leaves little room for the self-reliant subsistence lifestyle of milpa farming.

In terms of interests in land use in the CBWS region, the GOB plays a diplomatically silent role. Because of lack of resources, it has requested that BAS handle management responsibilities in CBWS for an undisclosed duration. The conservation division in the Forestry Department shows little sign of growth. The GOB cautiously waits atop a fence between the large estates and the conservationists. On one hand, they want to attract foreign capital and jobs to fuel a struggling economy and on the other hand, they want to retain Belize's ecotourism appeal. The GOB's interest is unclear. Meanwhile, individual Ministries address specific issues as they arise from Maya Centre/ CBWS region.

The GOB does control a sizable area of Crown land on the eastern border of CBWS which is included in the Special Development Area plan currently being designed by the physical planner in the Ministry of Natural Resources. (Cardona personal interview) The results of this zoning project may have significant impacts on the land use in the CBWS region. Two years ago, the former Physical Planner of the Ministry of Natural Resources and BEST tentatively agreed to include Maya Centre, CBWS and the Crown land on the northern border in a SDA project. Since then, Ms. Cardona has replaced Mr. John McGill as the Physical Planner and there are no current plans to include this area in a SDA plan. (Cardona and E. Saqui personal interviews)

B. Issues

The story of Maya Centre village began in 1976. For almost a decade Maya Centre enjoyed a fairly simple lifestyle, somewhat untainted by the complexities so often wrought by the politics surrounding land use. On the other hand, CBWS' history has always involved the political controversies surrounding land use. When the histories of CBWS and Maya Centre collided in 1984, they locked and have taken the same intertwined path in history since. Because the two now share an intertwined destiny, they have confronted each other in land use agendas. When discussing land, it is always relevant to include private land owners and the government. The collective backgrounds of private land owners and the GOB are also involved in this relationship. When the conflicting interests of the four entities come into contact, an issue of importance arises.

These are the following issues that will be discussed in the following section: (1) The reaction of Maya Centre to CBWS and to Maya Centre's change of economic base; (2) Maya Centre entering the market system; (3) Maya Centre's cultural reactions to (1) and (2); and (4) Threats to CBWS' security.

1. MAYA CENTRE REACTS TO CBWS AND ITS CHANGING ECONOMIC BASE

The creation of CBWS spurred a wave of change that would wash over Maya Centre. The introduction of conservation as a competing land use gave rise to many issues which altered the villagers' economic base and thus, challenged their well- being. We define one's economic base to include more than the source of monetary income. Instead of limiting the scope of discussion to market-biased activities, we look to Thomas Michael Power's interpretation from his work, The Economic Pursuit of Quality. " The real economic base of a community consists of all those things that make it attractive place to live, work or do business. That means the economic base includes the quality of the natural environment, the richness of the local culture, the security and the stability of the community, the quality of the public services and the public works infrastructure, and the quality of the work force. " (Daly 135) The following section will examine the direct impact of CBWS on this base, as well as the indirect repercussions felt due to the village's increased land use competition with the private estates in the area.

a. Alan Rabinowitz's Legacy

After completing twenty months of research, Rabinowitz indicated that his results showed the Cockscomb Basin to be an appropriate location for a jaguar reserve. He arrived at this conclusion based on the jaguar population density in the area, the rugged, isolated nature of the basin, the abundance of wildlife, the fragility of the forest ecosystem and the protection it provides for three major watersheds. (Rabinowitz 1986) The basin was granted Protected status. Part of Rabinowitz's plan entailed the Mayans living in Guam Bank leaving Cockscomb, due to

the physical pressure their milpas and hunting put on the jungle. According to Margarito Bolon, who lived in Guam Bank, and Liberato Saqui (villagers of Maya Centre), the villagers were never educated about the reasons that they were being forced to move. In his book Jaguar, Rabinowitz repeatedly expresses his affection for his Mayan neighbors, but he could not ignore the negative environmental impact of their lifestyles. In his words, "The futures of the Maya and of the jaguars were being controlled and determined by factors beyond their understanding or control. Though both kept on shifting and readjusting their territories, soon there would be no more places to go. For the Maya, I saw no real hope of preserving their simple way of life in a society that regarded them as primitive and pagan." (Rabinowitz 1986 340) In spite of himself, Rabinowitz's baby, CBWS, became one of the controlling factors of the Maya people to which he refers.

The people of Guam Bank were given no compensation or land to mitigate their lost homes, nor did the people of Maya Centre receive anything to make up for their livelihood lost with their hunting and milpas on CBWS land. No explanation, no compensation. This was not a good way for the relationship between CBWS and Maya Centre to begin.

The villagers eventually learned about the purpose of CBWS from a Peace Corps volunteer who was brought in to help set up the base camp. Rabinowitz closes his book describing the peaceful, conflict-free integration of the Mayans of Guam Bank into their new homes. Some were working as watchmen for CBWS, he notes triumphantly. Unfortunately, the real story does not end so happily ever after. (Rabinowitz 1986, M. Bolon, L. Saqui personal interviews)

b. Waves Washing Over Milpas

After the village of Maya Centre received official title for the square mile of land known as Maya Centre Farmland Layout, the village council divided the land into thirty acre parcels and allocated them to individual households for milpas. The households then obtained official leases for their plots from the Ministry of Natural Resources, and a few (10%) have since gained full individual titles. (BEST Community Survey) Unfortunately, the majority of the Reservation land is low- lying and wet. The lack of drainage renders it too wet to grow the villagers' staple crops such as corn, beans and rice very well. The land produces one corn crop per year and some plots produce a second smaller harvest in April. Every villager with whom we spoke confirmed this grim description. " The corn don't like so much water. Beans no grow good. . . Rice no grow well either and too much work. I must do everything by hand- drying, peeling. . . "(Pop personal interview) Some households have plots in the h and t sections which according to the Land Resources Assessment of the Stann Creek District is "highly- moderately suitable for milpa, maize and beans limited by nutrient availability." (See Appendix III) The w (alluvial wash) portion, which includes the majority of land in the Reservation, has " very limited cultivation potential."

The Farmland Layout as a whole is classified as having " overflow" drainage density and considered "low risk-low potential system." (King, Ballie 1989) The clay soils which dominate the area and the heavy rains (250 cm annually) of the region are the main factors limiting the land's drainage and thus, its fertility.

The villagers were aware of the Farmland's deficiencies since they first migrated to Maya Centre. They had followed Mr. Who's example and used the land to grow rice, although it never produced crops of a high enough grade for extensive commercial sales. They depended upon the hilly lands within the present CBWS borders for milpa land. Historically, Mayan milpas are generally planted on hilly lands for the natural drainage they provide which is so vital in the wet climate of southern Belize. The Cockscomb lands, including the area the Guam Bank families worked, produced good corn and bean crops. The Protected status granted to the Basin in 1984 prevented the villagers from farming there and they were forced to use the Farm land Layout to grow corn, beans, rice, etc.

Representatives from BAS and the Ministry of Natural Resources have shown support for legislation and a management plan which would allow for NTFP extraction and possibly permits for subsistence hunting and fishing. It is doubtful, though, that milpa farming within CBWS boundaries will ever be allowed due to the controversy surrounding the sustainability of slash and burn agriculture. Our research has revealed many conflicting opinions on this topic. Agricultural Prospects in Belize warns against the potential environmental hazards posed by milpa, especially localized soil erosion and fire risk when the dried vegetation is set aflame by the farmer. The authors cite the recent influx of refugees (who also practice milpa farming) as a source of great environmental concern due to the sheer increase in acreage that is cleared every year and the steep slopes on which they plant which are very prone to erosion. "Traditional slash and burn agriculture (principally for maize and rice), with an ever reducing fallow period, will come to be regarded as wasteful of both land use and labor effort." (King, Pratt 63, 92-98) In Jaguar, Alan Rabinowitz expresses his opinion of the environmentally detrimental effects of slash and burn agriculture versus the Ancient Mayan sustainable practice of shifting cultivation. He explains, "' . . .. the seeds of forest trees are less easily dispersed than the seeds of grasses and successional trees. Thus, for a cleared area to completely recover, primary forest must be close by. If clearings are large, the return to the forest may take hundreds, even thousands of years. When clearings become surrounded by more clearings, the forest may never recover. . . their agricultural system , though efficient in an extensive and balanced forest environment, cannot succeed over time in isolated pockets of forest." He goes on to identify the Mayans as the most immediate threat to the Cockscomb Forest. (Rabinowitz 1986 317-8) The Minister of Agriculture , Russell Garcia, cautioned against the environmental pressure sustained by inefficient land use and

agriculture due to lack of management skills. (Garcia personal interview) Milpas, for the most part, have lower yields per acre that mechanized farms, at least in the short term.

On the other side of the fence, both Ernesto Saqui and Ms. Melicia Cardona of the Ministry of Natural Resources doubt the severity of environmental damage potential of milpas. Ernesto pointed out that a milpa farmer could survive using five acres of land in his entire lifetime while mechanized farming entails the clearage of thousand of acres. The Dictionary of Environment and Development defines slash and burn agriculture as ". . . an ecologically sound method of farming common in the tropics. It is the only sustainable way of farming in rain forest because of the soils low fertility." The author goes on to caution, "As a result of increasing human numbers and social pressures limiting access to land, fallow periods have declined or disappeared altogether. When this happens, slash and burn becomes a distinctively destructive means of farming, giving the land no time to recover its fertility." (Crump 227)

Most opinions which we encountered found milpa farming sustainable provided it was carried out in areas of low population densities and the land was left fallow for sufficient periods between planting. There is really no question that milpa farming is less destructive that mechanized farming, but there is debate whether it makes the most efficient use of the land in the long term. Ironically, the sustainability of milpa farming is really a political, economic and social question. Because most of the arable land in Belize is owned by large estates, the Mayan villages are pushed into pockets of marginal farmland, usually in ecologically sensitive areas. What is really unsustainable in this issue- the large estates clearing the fertile lands for citrus and other commercial crops, the milpa farmers planting on erodable soils, or both? There are powerful forces behind conservation projects and large scale agricultural development, but the milpa farmers hold little political influence as a group, and virtually none as individuals. "The country's small milpa farmers. . . have not been given a favored place in Belize's agricultural development. There are some 6,000 subsistence or sub-subsistence milperos growing mainly corn and beans in roadless areas and on mountain slopes. These small growers have little access to credit of technical assistance." (Barry 63) Politically and economically speaking, milpa farming is the easiest endeavor to discourage. But where does this leave the subsistence Mayan farmer and his fragile culture?

In the case of Maya Centre, the villagers still do milpa farming, but most grow citrus (60%), for which they must use fertilizers and pesticides to sell their harvests to the large processing plants. Currently they are making a profit of $.50/bag, maximum. Although slashing and burning is the most important agricultural method, half of the farmers rely on mechanical devices. (BEST survey) It seems as though the spirit of milpa farming is slipping aware. Now villagers seem discouraged by the poor harvests of their staple crops, but not defeated. They

continue to plant corn, beans, ground foods and some plots produce enough volume for household use. They rely on the income from the sale of their citrus crops to make ends meet.

c. Hunting/Fishing

The creation of CBWS altered the villages economic base by prohibiting hunting and fishing on Sanctuary land. Before CBWS, the forest was like the villagers' "refrigerator" where they went for meat, fish, herbs, thatch, etc. (L. Saqui personal interview) The game meats and fish provided a significant portion of their protein intake. Now, although here is still illegal hunting on CBWS land and the nearby private estates, many households have to purchase meat products at the market in Dangriga or Hopkins. Many families raise pigs and poultry right in their yards, but these animals represent large monetary investments due to the cost of the feed, so they are only slaughtered on special occasions and are most often sold for $60/pig and $3/chicken.

Hunting is prohibited in CBWS to protect all wildlife, particularly jaguars and their natural prey. Alan Rabinowitz claimed that the Mayan inhabitants of Guam Bank " had virtually wiped out all of the game animals in the area." (Rabinowitz 1994) The villagers hunt for gibnut, peccary, wild turkey, and armadillo on the nearby Crown land, deserted private estates, and sometimes in CBWS. In order to curtail the illegal hunting activity, CBWS created clear boundary demarcations (Since many hunters claimed that they did not even know they were on Sanctuary land). Ironically, many hunters actually use the boundary lines as hunting paths. Currently, Ernesto is arranging a Boundary Awareness Program in the communities surrounding Cockscomb to raise awareness of the issue and to try to instill a stronger association between hunting in CBWS and ILLEGAL ACTIVITY. It seems that if someone took the time to explain to the hunters the repercussions of excessive hunting and fishing (58% of those surveyed reported game animals harder to find, 70% had a difficult time finding gibnut, the most pursued game meat), they would limit themselves to sustainable capacities, realizing their vested interests in maintaining game populations. (BEST Survey) Permitting hunting/fishing for subsistence purposes may help to offset the effects of CBWS on the village's economic base, but it could also be opening a dangerous Pandora's box.

d. Wage Jobs

Due to the limitations put on traditional methods of survival, many families must look to other ways of creating a living. One manner in which villagers generate subsistence is through partaking in wage jobs. Wage jobs produce a significant means for procuring the basic necessities, such as food, clothing, shelter, health, etc. A wage job is best defined by an employment by some person or organization that provides a regular pay. In Maya Centre wage jobs are decidedly male dominated. Wage jobs are offered by CBWS, hired labor positions and

the school. Women do not generally engage in any kind of wage job, as defined in this manner. (Here wage jobs are not considered to be tourism affiliated. Tourism type jobs typically create irregular incomes. To be discussed in the next section).

Cockscomb Basin Wildlife Sanctuary employs seven men of the village. This involves about 20% of the families. CBWS does not hire any personnel from surrounding communities. Thus, only Maya Center villagers financially benefit from CBWS wage jobs. The funding of these jobs is provided by BAS, also the major funder of CBWS as a whole. Men are hired on a constant basis throughout the year, as wardens, rangers and for maintenance. According to Ernesto Saqui, CBWS provides the workers with 50% of their family's total income. Occasionally, men are hired for special projects or part-time for random jobs. For instance, Emiliano Pop, has been hired from November of 1992 until May of 1995 to track the recently re-introduced howler monkeys.

Another common type of wage job are hired labor positions. 40% of the families receive income from men working as hired laborers. (B.E.S.T. Maya Center Women's Group Survey 1993) Although these labor jobs are not very dependable or consistent, they bring in a significant amount of income. Hired labor usually refers to men working milpas of other village farmers in Maya Centre or families from surrounding communities. Those who do work on farms of others, generally do not have farms of their own. It is very common for a full-time worker for CBWS, due to lack of spare time, will hire a man of Maya Centre from time to time to work his milpa. Another kind of hired labor, is village infrastructure maintenance. For instance, a man will be hired on a regular basis to tend to the water system, specifically, fixing the pump mechanisms and pipes, both of which need frequent servicing.

The other type of wage job is offered by the Catholic grammar school in Maya Centre. There is only one school in the village and it employs three individuals. Two Mayan women work as teachers along with the principal, Liberato Saqui.

Income made from wage jobs may constitute upwards of 60% of the village's families total incomes. This is a sizable amount of monetary income that strongly influences the lives of those benefiting. Wage jobs allow villagers to buy things they are no longer able to acquire from past, traditional methods. Since hunting is difficult to depend upon, even as a supplementary activity, meat usually must be obtained from markets. Thus wage jobs make it possible for villagers to buy meat from the markets. Other staples like rice, which is difficult to grow on Reservation land, are also purchased with the money generated from wage jobs.

e. Tourism Related Jobs

In response to the influx of tourists visiting CBWS, some members of Maya Centre have decided to capitalize on the opportunity. Assuming that CBWS remains a long time neighbor, villagers are ensured a consistent income from tourists throughout the tourist season. The tourist

season runs from November/December to June. As the popularity of the Jaguar Reserve increases, so does the amount of people who come to visit it. There is only one way into CBWS, by way of the access road which begins at the entrance of Maya Centre along the Southern Highway. There are no other communities or parties currently established within the vincity, so Maya Centre villagers are the sole beneficiaries of the CBWS tourist industry. As the volume of tourist increases, so does the local peoples' amount of interest. This is very evident in Maya Centre. To date there are three types of businesses established in response to the tourists: two crafts shops, one guest house and self-employed jungle guides. There are tentative plans for another guest house and for a restaurant, catering to foreign taste buds.

In 1988 a group of women from Maya Centre established a craft shop at the entrance of the access road into the village, which leads to CBWS 10 km away. Originally 18 women founded the shop. Presently 80% of the village families benefit from income generated by the craft shop. For the first few months, to get the project off the ground BAS paid the women of the craft shop a small stipend to open the gate and monitor tourist entering CBWS with a guest book. Now, the women volunteer to work in shifts, keeping the shop open seven days a week from 7 AM to 5 PM. The only income of the craft shop comes from selling crafts made by various women from Maya Centre, surrounding villages and the Toledo district. Once business provided a somewhat stable income, the Craft Shop initiated a program through which they pay women from other villages for crafts when they bring them in, and then they keep the money from the sales. The products may not be sold for months, but this program guarantees the women from other village money for their products immediately and cuts out the need for another costly bus ride. (E. Pop personal interview) In 1992 the craft shop generated $58,000. (E. Saqui personal interview) The women get paid from the sales of their own individual crafts. The average income made from crafts is $350 per family. (B.E.S.T. Maya Center Community Survey 1993) In 1993 a second craft shop was constructed at the northern border of Maya Centre village along the Southern highway. No information was to be collected about the second craft shop, although we learned indirectly that it was started by a splinter group of the Maya Women's Group and is dominated by Baptist women. (M. Bolon personal interview) It does not seem that the second craft shop draws much business and it was not clear whether it is even currently operational.

In 1994 a guest house was founded. It is located at the western border of Maya Centre village along the access road. The guest house was established by Aurora Saqui, wife to Ernesto Saqui. Cost for one day of lodging is $35 and food can be provided for $24 for 3 meals. It is too early to know any income figures.

Aurora's guest house is and individual endeavor and threatens to elicit jealously among the other villagers. There is interest in building another guest house co-operatively in the village.

It would be constructed by the Maya Women's Group. Conflict within the Group and within other village cooperatives will doubtlessly affect the viability of this possible guest house.

Tourists may hire guides from Maya Centre to take them on scenic hikes through the bush of Cockscomb Basin. There is no established association of guides in Maya Centre, nor do any people of the village belong to any guide associations outside the village. Although it is possible for tourists to locate individuals (typically men) to carry them into the jungle. There are only a handful of qualified men for guiding. Most guides are used for overnight trips, like a 3-5 day trek to the top of Victoria's Peak. Guides are all self-employed, earning about $30 a day. Income created by guiding is supplementary and its percentage contribution to village income unknown. Many nearby resorts carry tourists into the Reserve and insist on using their own guides, significantly limiting the work opportunities for Maya Centre guides.

A potential business may be created by Julio Saqui. Julio, brother to Ernesto, runs the only market store in the village. He mentioned in casual conversation that he is developing plans to expand his little store and add a restaurant/bar. This establishment would target the tourists who frequently pass by his store on the way to CBWS. Julio's establishment would provide a few wage jobs for villagers to work in the kitchen and in other capacities for the restaurant.

Commercial agriculture, wage jobs and tourist related jobs all represent Maya Centre's response to CBWS and a changing economic base. Other signs of this transformation include the changing methods and goals of subsistence agriculture and the role of hunting, fishing and gathering. Maya Centre is gradually entering the same capitalist market system in which most Belizean human communities participate.

2. MAYA CENTER ENTERING THE MARKET ECONOMY

While adjusting to the effects of the formation of CBWS and a shifting economic base, Maya Centre was propelled into the national market economy. Although the village was not completely self-sufficient prior to CBWS, the hunting fishing, milpas and thatched homes made them self-reliant in many aspects of their livelihood. The effects of a market economy run deep in communities, altering basic perceptions of good, what they represent and how they are exchanged. Ernesto told us that he remembered a time in Maya Centre when a group of people could be sitting around and if one person had some fruit, he would simply pass it around to the others, knowing that the hospitality would be reciprocated when someone else had some fruit. This would not have been a conscious act of generosity; it was simply the way things were done. Now, Ernesto reimbursed, money would inevitably enter the picture. Whether or not the fruit bearer wanted monetary compensation, the question would run through people's minds.

The injection of money into the process of obtaining goods objectifies the "purchase." Picking an orange from a tree may elicit questioning into the source of the fruit- Where does it

come from? People would respond in innumerable ways: a product of chemistry, a gift from God, maybe the orange god, the baby of a giant orange, or maybe it is just an illusion. Human imagination, spirituality and faith are aroused by simple inquisitions. This phenomenon is particularly prevalant in Mayan culture in which religious creeds are derived from physical entities of nature. The purchase of an orange from a shelf or a stand does not lend itself to contemplation or traditional mythology as easily, cutting out that intermingling with mystery. Where does the orange come from? -the quarter you paid for it or Julio's store. It would take a thoughtful consumer to even think about the tree.

From an individual level, the effects of a market economy produces cumulative impacts on the culture of a community. The market also has marked influence on a macro level. In order to adjust to the new dependence on faceless, amoral trading partners, the community restructures its internal means of production. The members of the community must decide whether to cooperate or compete with on another on formal, business level. The demands of this relationship necessarily alters the dynamic of the village, economically, socially and politically. Maya Centre was pushed into the market with little guidance from outside organizations or community- based efforts to help prepare for impending changes. Individuals adopted wage jobs and commercial crops in addition to their subsistence activities (i.e. milpa, hunting, fishing, etc.). These practices significantly altered many villagers' traditional lifestyles and self-reliance.

a. Wage jobs

The concept of performing a duty and receiving a reward for such duty is a universal understanding to all human cultures and societies, although the reward system is highly diversified. Telling a joke to someone, and them responding with a chuckle is an example of an action/reward relationship. A common reward system in the capitalistic society, is receiving money for performing some kind of work performed for an individual or organization. In 1980 a common reward system in Maya Centre was receiving a meal as compensation for providing a meal.

Since the introduction of CBWS, the reward system of the community of Maya Centre has taken on an increasingly capitalistic tilt. The recent introduction of wage jobs marks the progression of this market trend. As mentioned earlier there are three kinds of wage jobs: CBWS jobs, hired labor and school jobs. It is important to discuss the relationships in which certain wage jobs most significantly influence land use in the new market economy. Two out of the three wage jobs qualify as being significant: CBWS jobs and hired labor. School employees represent a very small portion of the village population and income. CBWS jobs are of particular interest considering the major focus of this paper is the relationship between Maya Centre and CBWS.

When BAS hired village men in 1986 as CBWS wardens, the NGO and the Sanctuary entered a long term, intimate relationship with the community of Maya Centre. (From this point on it will be understood that CBWS management implies the involvement of BAS in all of its business) CBWS is greatly responsible for the financial well being of almost 20% of the families in the village. The employment provided by the Sanctuary fosters a dependency among its workers and their families (like most jobs in a capitalist economy). Stemming from the dependency is the lack of interest in milpa and traditional means of subsistence. The new found security of CBWS jobs only strengthens the connection of those individuals to the capitalistic system.

Let us look at a hypothetical situation of a fictional family in Maya Centre- the Mopans. Mr. Mopan was hired by Cockscomb Basin Wildlife Sanctuary in 1987. It is now 1994 and Mr. Mopan still works for CBWS on a consistent basis. He is a regular employee. By working for CBWS he provides 50% of the family income. This is a sizable amount for the average villager in Maya Centre. Mr. Mopan holds a lease for 30 acres of land in Maya Centre Farmland Layout. It is average land for the Layout. At its best, the soil can yield two harvests of corn, two of beans, and two of ground foods, although harvests are never very abundant or extremely healthy because of the nature of the pre-existing conditions.

In 1986 Mr. Mopan had five acres in cultivation. On two acres he grew subsistence crops, including corn, beans, cassava, calilou and onion. On the other three acres he had approximately 300 trees of citrus: 200 orange trees and 100 grapefruit trees. The rest of the land he owned was all bush. By himself and with the occasional help of his friends and sons, he managed the crops and orchards regularly. By the end of that year he produced enough food to be 100% self-sufficient, plus have some excess to sell at the market in Dangriga. His citrus trees yielded the fruit to make a decent profit. All in all, the produce that came from the land allowed his family to be self-sufficient and created about 90% of the families income. The other 10% came from odd jobs.

Presently, Mr. Mopan works full time for CBWS. Two days a week he tends to his milpa. A couple of times a week he hires other men in the village to work his farm. Five acres are still active. Now, only one acre is used for the subsistence crops and the other acre he used in the past for these foods is left completely unattended to. The citrus still stands as it did before. The total land in cultivation yields enough food for 50% self-sufficiency and the citrus yields just enough to break even, due to the drop in market prices and the rising cost of inputs.

CBWS allows Mr. Mopan to provide the rest of the food needed by purchasing it at the markets. The income, in conjunction with his wife's craft sales, allows the family to be completely secure in terms of housing, clothing and health. If the land needs tending to, he pays hired hands. The family is strongly relying upon the security of CBWS for its livelihood.

The hired hands become dependent upon the livelihood of Mr. Mopan. Hired hands for farming are usually available because they do not have land for themselves. Mr. Mopan helps to sustain the families of two men that he regularly hires.

Then, one day Mr. Mopan comes home from work to tell his family that he has been laid off. BAS has had to make cutbacks in CBWS employment because of lack of funding. No longer is Mr. Mopan able to generate 50% of the family income. He can no longer buy as much food from outside sources and he can not pay others to work his farm. There is only enough food being grown to satisfy the family for a few months. The citrus will not be ready to bear until the next season. His wife's craft sales are not at all significant because it is not tourist season yet. Problem.

The two men, and their respective families, hired for labor by Mr. Mopan also lose out. The work they did on Mr. Mopan's farm created a third of their respective incomes. They too will have a difficult time providing for their families. They were indirectly affected by CBWS, but as directly affected by the new market system as Mr. Mopan. Problem.

This is a worst case scenario of an unfortunate individual being cut off from a previously dependable source of income. This is the inherent risk in a capitalist system. When one relies upon the system for a livelihood, one is at its mercy. If the system fails you, you lose out like a heroin addict just cut off from your fix. You crash. A society like Maya Centre is partially integrated into the capitalist system. It has only recently become a player in the international game of **Capitalism**. It is too early to analyze the effects of this shift. One women really did tell us of her husband's recent loss of his CBWS job due to BAS cutbacks (She was partially pleased because he can now rest on Sundays). It is possible that their family is encountering similar circumstances as those of the fictional family of Mr. Mopan. Dependency upon a job is not an uncommon sight in the States and in Belize City. Yet to be dependent upon a wage job in a culture just acclimating to capitalism, it is a drastic change. The goodness or badness of the change is subjective, but the change itself should be carefully observed. Many occurrences of worst case scenarios would probably make one deem the shift as a bad thing. Although if the new market system sustained itself and progressed, one would probably deem the shift as a good thing, at least financially speaking.

b. Tourism related jobs

Ecotourism has a potentially great scope of influence for the simple reason that tourist volume keeps on increasing, and respectively so does the amount of interest in tourist related businesses. The seemingly incessant droves of tourists that go to see the "jaguar reserve" reinforces the business-like atmosphere. In Maya Centre every kind of tourist related job is

relevant in this discussion. Ecotourism makes an important connection between Maya Centre and CBWS. It also plays a key role in the village attitude towards land use.

Craft production/sale is the leading eco-tourist trade of the village. According to B.E.S.T.'s Maya Center Community Survey of 1993, 80% of the families financially benefit from the craft business. It would probably be correct to assume that close to 100% of the craft income, coming from passing by tourists, is generated by the craft shop of the Maya Women's Group. It would be equally valid to say that the second craft shop was created with the awareness of the kind of money being generated by the first one. The craft shops are prominent outlets for the women to get involved in ecotourism. If income from crafts contributes 20% to the total income of a family, then the craft trade is hardly going to be discouraged. Also, making crafts entails few opportunities costs, since the women have always done it (to a smaller degree) and they still manage to complete their household duties. Although earning money does provide necessities, it does have the potential to adversely effect attitudes toward farming. In the previous example of Mr. Mopan's situation, why should Mr. Mopan place much of an emphasis upon the milpa when he has not only his job, but also his wife's craft sales to create income which can provide enough for everything they need? It is not necessarily true that a family will disregard their farming land because of jobs, but it does place the importance of milpa in jeopardy. Ernesto once remarked that why would a villager decide to wait for long-term rewards, like crops, when he or she can get easy money, quickly by going into tourist business, like the craft shop?

Aurora Saqui's guest house is a new kind of tourist enterprise. There is definitely a market for housing tourists as they come to visit CBWS or Maya Centre. There is no other guest house in the village or within the immediate vicinity that could compare to the location of Maya Centre, being just 10 km down the access road from CBWS. In light of the creation of this guest house, the Maya Women's Group would like to establish one. B.E.S.T. is offering the Maya Women's Group assistance in obtaining land from Ernesto Saqui, getting funding for the building of the guest house and writing a proposal for grants or loans. B.E.S.T. also has a loan program that may be applicable to the Maya Women's Group. The guest house project may be very similar situation to the craft shop in the near future. Again, it means more income, thus stronger financial well being and "higher standard of living". On the other hand, it is a potential threat to land use.

Presently, it is difficult to make the connection between lack of land use and guiding. Primarily because guiding is limited to few people , is done infrequently and lasts for inconsistent, short periods of time. Yet, as the number of tourists interested in trekking increases, so might the number and interest of guides. If guiding does grow, so will the average income of the village, considering guiding pays well. Thus guiding may be another reinforcing factor of the new market system. Granted, guiding does introduce the tourist to the powerful aesthetic

properties of the Cockscomb Basin. It also promotes "environmental education" on an easy to comprehend, experiential level. Although, despite whatever pluses, prolific guiding may be a separating factor between the farmer and his milpa. As mentioned before, why would a man spend all of the day, most of the week on the milpa, waiting months for results, when he can get more income out of a three day trip up to Victoria's Peak?

The craft shops, the guest house, potential guesthouse and guides all represent the main components of the ecotourist business. First, there is an steadily increasing international interest in the environment of CBWS. Second, there is a steadily, increasing interest in providing attractions for the tourists on the behalf of villagers. Third, and lastly, the most fundamental proponents of the ecotourist business are right behind industrious villagers. Such promoters are BAS, B.E.S.T and many other environmentalists/conservationists. Ecotourism helps preserve natural areas, educate people on the importance of natural areas and provides a living for those involved with the business. In this situation ecotourism helps secure the protected area status of CBWS, teaches tourists about the fragile ecosystem of the Cockscomb Basin and generates money for villagers who participate.

No one can deny the crucial role ecotourism plays in this day and age, when natural areas are being decimated on a steadily increasing pace. The fragile ecosystem of the sub-tropical, wet forests of CBWS need to be cared for in a responsible manner. Environmentalists say that traditional Mayan milpa practiced on slopes in the Cockscomb Basin, is unsustainable. So BAS and other environmental groups urge ecotourism as an alternative. Logically. But, ecotourism's present day effect upon Maya Centre is not as idealistic as the text books proclaim. It is apparent that ecotourism pulls the village away from its traditional connection to the land. Ernesto Saqui once mentioned Traditional Mayan culture places a strong emphasis upon nature and using nature to survive. Thus milpa is a cornerstone in the foundation of Mayan culture. It is ironic that protection of the environment may be going so far as to damage the kind of beliefs that offered fundamental insight into the present, renaissance-like environmental movement. Ecotourism also strengthens the grip of the same capitalistic system around the village that was so basically responsible for much of the environmental degradation of the global biosphere that exists today. It is not that ecotourism and all of its implications are negative, but emphasis must be place upon the importance of farm land and traditional land use in Maya Centre.

c. Commercial Agriculture

Since sugarcane replaced timber as the mainstay of the colonial economy in the 1960s, commercial agriculture has made up the largest component of the nation's economy. Today, agriculture accounts for Bz$229.2 million, or 50% of the GDP. Demographic breakdown of the entities behind this production indicate that of the 9900 rural, land owning households, 7500 own

plots of land less then 50 acres, and would thus be considered small farmers. Their combined holdings account for 120, 000 acres, 73% of which is held by flexible forms of tenure. Subsistence milpa farming and banana plantations are the major agricultural activities in Toledo while citrus and sugarcane dominate in the central and northern districts, respectively. (King, Pratt 61-4)

The Stann Creek District lies in the central region of Belize and is dominated by citrus. The two major citrus companies, Belize Food Products and Citrus Company of Belize are located in Alta Vista, and Pomona, two Stann Creek villages along the Hummingbird Highway. The villagers of Maya Centre grow citrus on their milpa and sell their harvest to the processors for cash. The structure of the Belizean citrus industry and the current trends in the international citrus market have significant implications upon the villagers' livelihood.

Through special trade agreements, Belize's agricultural exports enjoy preferential access to American, European and Caribbean markets. America's Caribbean Basin Initiative (1984) has allowed agricultural exports to enter the U.S. duty free (normally 30%) and in 1990, the program was extended indefinitely. Europe's Lome Convention provided sixty Third World nations with limited access for low tariff imports, but this arrangement is due for revision this year. Within the Caribbean, CARICOM grants Belize, the largest citrus producing member, a guarantee that it will not have to compete with non-member nations. These agreements, while provided guaranteed markets and thus income for Belize, have also insulated its agricultural sector from efficiency-encouraging competition. Lack of capital for industrial infrastructure, opportunities for economies of scale, and relatively high labor wages have impaired Belize's efforts to produce exports at competitive prices. For instance, King estimates that the two major citrus processing plants operates at only 59% of their potential capacity. These inefficiencies have limited repercussions while Belize has guaranteed access to preferential markets, but the finalization of the NAFTA agreement portends an era of increasing free trade which threatens to end this preferential access.(Barry 45-7)

The citrus industry is among these threatened agricultural activities. Competition, especially from Brazil and Mexico, in the global citrus market would severely hurt Belize's comparative advantage and sales potential. Throughout the 1980s and early '90s, citrus growing in Belize increased exponentially in reaction to protected market agreements and tripling global citrus prices. By 1990, more than 40, 000 acres were dedicated to this lucrative crop. Many small farmers jumped on the bandwagon since the relatively low maintenance "lazy-man's crop" promised a high rate of return. They make up 70% of the 400 Belizean citrus growers. (1990) Unfortunately, since citrus prices peaked at $12/ bag in 1990, prices have fallen steadily to just over $4/ bag today. Falling demand for orange concentrate in the U.S. and the Caribbean accounts for much of this depreciation and has given Belizean growers a taste of what increasing free trade may have on their livelihoods in the future. The small citrus farmers are particularly

susceptible to market trends because not only do they have the most expendable enterprises from the government's and bank's points of view, but they are also dependent upon the big processing companies for chemical inputs. The role of Maya Centre farmers in the citrus industry is thus very tenuous. (Barry 57-9)

Currently, 96% of Belize's citrus production is exported as frozen juice concentrate. The two processing plants provide processing for 40% of the exports and also account for more than half of the acreage under citrus cultivation.(King, Pratt 34-6) The large landowners clear land for citrus with bulldozers, but the farmers of Maya Centre do not own mechanized equipment and usually clear the land with machetes. Tractors can be contracted from the two big companies for $25/hour. Once the farmer plants the trees, they take five years to bear fruit and harvests can continue for up to 40-50 years. Only when a farmer's grove is producing fruit can he apply for membership in the Citrus Growers' Association (CGA). The CGA membership is dominated by small farmers; 390 of the 475 member growers own less than twenty acres. The 30 large growers, including the two processing companies have disproportionate control over the industry as they collectively cultivate 22, 750 acres, or 79.5% of the total. Additionally, the large growers dominate the managing committee of the CGA, the token "small man's representative" owning considerably more land than the average small Stann Creek grower. (Barry 58; King, Pratt 36)

The interests and goals of the CGA do not reflect those of the Maya Centre farmers, who are subjected to the agreements and systems which severely affect their profit margins. In order to sell their fruit to the processing companies, farmers must produce citrus of a certain grade determined by the companies. In order to achieve these size, color, etc. requirements, farmers must use fertilizers and pesticides. They purchase their chemicals from the processing companies for $30/ bag of fertilizer and $80/gallon of pesticide. The citrus trees require about one 100 lb. bag/acre two -three times a year and one gallon/acre of the pesticides. The CGA provides pamphlets to guide the farmers' chemical application, since misuse and overuse is common. (A. Pop personal interview)

The actually selling process is also controlled by the companies. When a farmer thinks his fruit is ready to be harvested, he must send ten fruit samples to the factory in Pomona, paying for the transport. Once the companies approves the quality and ripeness of the samples, the farmer picks and bags all the fruit. He then must order a tractor from the factory to come pick up his load, for which he pays $.25-$1.00/ bag. A few days later he can take a bus into Dangriga, over twenty miles away, to pick up his pay check, currently a little over $4/bag. (Pop personal interview)

The current structure of the citrus industry places the Maya Centre families in a very compromised position. The are subject to company rates for their inputs and the same company's prices for their products. Russell Garcia, the Minister of Agriculture, recognizes the implication

of this arrangement for the small farmers and discourages citrus plantations of less than twenty acres from entering the field. The small farmer can not insulate themselves against price trends and demand fluctuations and should rely on more self-sufficient crops, such as daily foods and vegetables. For additional income, Garcia advises Maya Centre farmers to grow organic cacao for the growing European natural chocolate market. He reasons that the farmers would not have to purchase expensive chemical inputs and that the plants start producing mature stems with flower in a year and a half and can continue for more than forty years. A cacao cooperative based in Toledo could handle the marketing arrangements and the growers would not be subject to as much internationally competition in this small niche. (Garcia personal interview)

Since Hershey closed the doors to its money-losing cacao company in the early part of this decade, cacao must be exported for processing. In conversations with other cocoa farmers, the industry does not seem to hold so much promise. The cost of exporting raw materials for processing is not cost effective. International prices are presently too low to even warrant harvesting. Granted, this is the case for the non organic market, but the same farmers are skeptical of the viability of growing cacao with no pesticides given the significant insect problems and mold-inducing wet climate which attacks the plants. The farmers of Maya Centre are currently growing limited numbers of cacao plants for home use and reported that they were not very successful. (Pop and Cullerton personal interviews)

Given the discouraging forecast for the commercial agriculture potential for the Maya Centre farmers, it seems like it would be prudent to concentrate more on subsistence crops. Farmers seem to be able to produce enough corn and beans for home use, though vegetables and rice still have to be purchased. There is no real market for beans and corn in Dangriga, but the farmers somehow manage to sell their extra harvest. An extended drainage system in the Farmland and better marketing arrangements could probably improve the productivity of this venture and help to make the farmers more self-sufficient in vegetables and rice. In general, commercial farming is not a reliable source of future income for Maya Centre.

3. CULTURAL REACTIONS TO CBWS, CHANGING ECONOMIC BASE AND MARKET ECONOMY

The manner in which a society responds to a stimulus is rarely uni-dimensional. Usually, the society will respond in a number of ways, across different levels of fundamental structures of the community. The structure of a society is composed of culture, politics, economics, natural resources , etc. Thus a society will exhibit cultural reactions, political reactions, economic reactions and natural resource reactions in response to a stimulating factor. From the interaction of Maya Centre's traditional Mayan culture and CBWS' conservation the market system arises as a potent, disruptive stimulus.

Culture is the most basic and influential part of Maya Centre. Culture has the ability to affect politics, economics and natural resources. Culture is the underlying factor of all aspects of life in Maya Centre. Culture forms beliefs, traditions and general attitudes of the villagers. So, when the Mopan Mayan culture of Maya Centre was affected by the new market system, every aspect and characteristic of the village was duly affected. There have been are three prominent reactions within village culture. Village attitudes of environmental awareness have been influenced. There has been influence upon and by religion, which plays a fundamental role in the establishment of community values. The introduction of money as a basic necessity is a recently acquired concept. For instance, some villagers are being affected by the lifestyles of tourists.

a. Attitudes towards the environment

Traditionally, the Maya have a strong sense of environmental awareness. The ancient Maya long since established sustainable means of survival. Sustainable survival consisted of sound agricultural methods, responsible use of natural resources and wildlife, and a religion that offered supportive beliefs for their actions.

The Mayan farmer always favored the slopes to the plains. Slopes offered the crucial drainage needed in the soils of the sub-tropical and tropical forests. The average land tilled by the Maya was, and still is, made up of impermeable clayish soil. With the high average rain fall, lowland plains got waterlogged easily, especially with no type of natural drainage system. The hills were favored because slopes provided natural drainage, which allowed them to grow staples like corn and beans. First, a one-two acre plot of land was cleared of bush and burned. Then the planting commenced. Soil erosion was kept to a minimum by the inter-planting of fruit bearing trees, like plantain. The root systems of the trees held together the soil. Corn was planted among the plantain trees. After harvesting the corn, beans were planted to renourish the soil with the valuable nutrients lost from growing the corn. When the beans were harvested, a second crop of corn was begun. While at the same time, another plot of land was being cleaned. When the second crop of corn was harvested, the plantain trees were cut down and the plot left fallow for three-five years. Then the cycle commenced again in the second plot. Five plots, one-two acres each, would last a man and his family a lifetime. At the height of Mayan civilization, there were one million plus people farming most of the land in Belize, sustainably. (E. Saqui personal interview)

Similarly, natural resources and wildlife were used in a sustainable manner. The forests was depended upon for all of the necessities for survival. The bush provided shelter, clothing, tools, medicines and game. Trees like mahogany, negrosta and santa maria provided the lumber needed to make the walls of their homes. Calhun and bay palms provided thatch for roofs. The strong fibers of gippy gapa, may have been used for thread in clothing. Large, broad leaves and

bamboo were used as tools in various ways. A plethora of medicinal plants, like jackass bitters and quinine, maintained the health of villages. Game, such as gibnut, peccary and quash, was available for hunting. The importance of these types of natural resources gave the forests a respected status as the provider of life-necessities. Consistently with religious beliefs, the natural resources and agriculture lands were given high regard

b. Religion

In traditional Maya religion, there were various gods in the universe. The gods represented all of the natural surroundings on Earth. There was a god of the sky, of the sun, of the forests, etc. Gods and spirits manifested all parts of the natural environment of the Maya. When the farmer wanted to create a milpa, he had first to cut down some forest. Before taking down a section of the woods, he would have to make a "pomesia," an offering to the god of the forest. If the offering was not made, the god may curse the man and his family with illness. As the corn was being planted, the farmers had to make offerings for a bountiful yield. The fruitfulness of the harvest would be in jeopardy if the god of agriculture was not appeased. Thus, farmers respectfully manifested their beliefs in the methods they used to work their the land they. Care was taken not to waste the precious gifts of nature.

The tree was sacred to the Maya. Trees were considered to be no less important than other humans. The sap that flowed through their vascular systems was viewed similarly to the blood that ran through the human veins. Trees and humans were just different kinds of precious organisms that held equal worth. When tree was to be cut for timber or for the clearing for milpa, one needed to ask permission. Trees cut in reckless abandon marked the disrespect of humans for the tree god and the responsible humans then faced the consequences.

Animals had spirits representing them, called "owners." When an animal was to be killed, it had to be given proper acknowledgment. A wari killed to feed a family was thanked for its flesh. The owners of the animals were appeased in this gratitude. If animals were killed unnecessarily, owners became dismayed and vented their anger on the hunters. Thus, respect was offered for all of the forest animals, regardless of their practical worth.

Traditional Mayan religion was holistic. What actions humans take towards the land, trees or animals was reciprocated in some form. The ancient Maya were deeply instilled with respect towards nature. Nature, through the manifestations of supernatural entities, was all providing. The natural environment around them had inherent worth. This worth existed in nature regardless of how useful it was for human needs. Every component of the forest had some spiritual force that lived through it. That supernatural entity, the owner, was there in the jaguar, whether or a not a person knew a jaguar existed in actuality. Any jaguar that crossed their path was been spiritually endowed. So, individuals were very respectful of any jaguar they

encountered. It is apparent that many beliefs of the current environmental movement stem from beliefs of cultures like the Maya. For some of the villagers of Maya Centre, it is easy to make the connection from their traditional beliefs to the conservation efforts of CBWS. For others this attitude has deteriorated. The change of traditional environmental views is partially due to the presence of Christianity. (E. and A. Saqui personal interviews)

Since the beginning of Maya Centre, Christian religions have been a part of village life. There are two Christian religions: Catholicism and Baptism. Each church has 50% of the village as members. Although the Catholic faith is not dominant in the village, the school is Catholic. The Baptists consider Catholicism to be a somewhat lax faith that requires little involvement. Thus Catholicism is not a very intrusive force in traditional day-to-day life. On the other hand, Baptism demands its adherents to follow tenets which rejects many traditional Mayan practices. There is only one church leader in the village and he is Baptist. The Baptist faith requires much attention and adherence. Therefore, Baptism plays a large role in the attitudes of villagers. Baptism is very different from traditional Mayan religion, and it has changed some village views of nature.

An interview with the Baptist minister of Maya Centre, Margarito Bolon, revealed some of the fundamental views of the Baptist faith. We asked Mr. Bolon about the Baptist version of the character of nature (humans and human artifacts excluded). In response, Mr. Bolon referred back to the Old Testament, the Garden of Eden. He described how Adam was thrust out of the Garden because of his sin. The Garden represented nature, so Adam was to live apart from nature and to fear it from then on. It was then Adam's task to tame nature, control it and harness its energy, the natural resources. Evidently, this view of the human's relationship with nature is quite different from that of the traditional Mayan religion's: man living outside the circle as dominator versus Man living within the circle as an integral participant.

According to Mr. Bolon there is no relevant place for traditional Mayan mythology and religious beliefs in the Baptist faith. He said that he does not care if the people of his congregation learn about the myths, because they now know that the traditional myths and beliefs do not help them. If it is true that the Baptists of Maya Centre, constituting half the village population, do not see any significance in the ways of the traditional Maya, then it would seem apparent that much of the village is moving away from the previously engrained notions of the respect for nature. How can a nature-fearing farmer be asked to consider the intrinsic worth of the calhun palm that must be cleared away to make clear space for the planting of corn?

Christianity, especially Baptism, seems to be moving villagers away from their connections to the land. Although it does not dissuading villagers from farming, Christianity is separating villagers from there traditional cultural value for the land. In doing so, Christianity is making it easier of villagers to move away from sustainable milpa farming, because little

significance is now placed upon the worth of the land. Mr. Bolon stressed the free-will that humans have. This free-will allows villagers to make confident decisions for themselves. Not only does this idea of free-will make it easier for villagers to switch faiths, but makes the transition into the new market system smoother. For instance, if a Baptist chooses to pay less attention to his farm and more to guiding, then that is perfectly acceptable and no guilt should be felt.

Tourism is flourishing in Maya Centre. In a Christianizing village the industry is sure to expand, with less emphasis placed on the necessity of land for direct subsistence. In a traditional Mayan village where the emphasis placed upon the importance of land for subsistence is maintained, the tourist industry would not replace subsistence farming or destroy the integrity of the natural environment. In the case of Maya Centre there seems to be a mixture of the two.

More people are getting involved with the tourist trade, while fewer are continuing with subsistence agriculture. With the new market system firmly established, individuals are realizing the monetary worth of the natural environment. The realization of the monetary worth of the forest, from tourism is a new concept. There are a few possible cultural reactions.

Once devout Baptist villagers see the importance of preserved forests of CBWS as a profit generating opportunity, they may alter their antagonistic views towards nature instilled by their faith. According to Mr. Bolon a nature fearing Baptist may gain respect the value of nature, however it will be respect for the practical worth of the trees and wildlife to humans, not their inherent/intrinsic worth unto themselves. On the other hand, the devout Baptist may recognize the innate worth of the forest as the underlying factor which is drawing ecotourist business. Perhaps, this association will bring Baptists back to a framework similar to that of traditional Mayan religion.

Traditional villagers who decide to engage in the tourist business may begin to realize that there is a powerful monetary value to CBWS. They may see this value as more significant than traditional values. They may begin to think that the tourist trade is more satisfying than merely subsisting from the milpa. They may decide to go fully into the tourist trade, leaving the milpa. If they still held the traditional beliefs, they may choose to do both tourism and milpa. Then again if they were disgusted with the new market system , they may completely reject the tourist industry.

Ecotourism may prove to be a double edged blade. Either slicing a niche in the industry or slicing a niche in the traditional ways. Actually, the sword of ecotourism is thrusting itself into Maya Centre, offering a taste of both sides of the steel. How tourism affects culture is very important. Culture is the underlying force behind all aspects of the village. If the new market system cultivates widespread interest in the tourist industry, then traditional views of using land may falter. Thus tourism may cause villagers not to care about subsistence land. This would

have severe political and economical repercussions. Maybe villagers will allow big citrus owners to get hold of Maya Farmland Layout. Or the village may give up their efforts in trying to obtain better farm land from the government. Thus the village will be completely, totally dependent upon market capitalism as a means of survival.

On the other hand, ecotourism may educate the villagers about conservation. For many of the villagers who have forgotten traditional, ecologically sound attitudes, ecotourism may re-introduce them to the significance of the conservation tactics of CBWS. Those who recognize the significance of the income generating quality of CBWS, may learn to appreciate modern environmental awareness. Thus, the new market system may help CBWS in its conservationist and environmental education missions. Presently, the village is somewhere in the middle, with the new market system/ecotourism on one side and traditional ways on the other. Each side levies its own influences upon culture and ultimately land use.

c. The Desire For Money

One certain effect of ecotourism's upon Maya Centre is the injection of money. For the first time in the short history of the village, members of the community can easily acquire cash. Before the tourist business was even a remote idea, farming families were generating small incomes from the sale of excess subsistence crops and citrus. With the existence of CBWS, the tourist trade has evolved. Tourist business offer access to quick incomes. This new kind of income in conjunction with village infrastructure developments has created an atmosphere for the enjoyment of some of recreational activities that families in the States take for granted.

Electricity is something we just assume as a given. That is what we assume as being a standard in the Sates or in Belmopan, but only recently did this power come into being in Maya Centre. With the advent of electricity in July of 1994, every home in Maya Centre was able to be electrified, provided the families purchased the required wiring. (There have been other important, recent infrastructure developments, like the water system and roads, but they are not as pervasive as the presence of electricity in this discussion about the cultural affects of the new market system and CBWS.) This infrastructure development is necessary to support modern, technological home facilities.

Now the average family in Maya Centre can have many of the things that makes for a technologically developed household. Again, let us return to the previous case of the imaginary Mopan family for the sequel- **"Mopan Family II, Where's The Remote?"**. Before Mr. Mopan lost his job, his family was in the lap of luxury. They benefited from income produced from the CBWS job, crafts and the farm/citrus. They were a well-to-do family in Maya Centre. Knowing that electricity was just around the corner, Mr. Mopan had the house installed with all of the necessary wiring and with a few outlets around the house. When electricity came in July, Mr.

Mopan purchased a TV, VCR and a refrigerator. His family adopt these luxuries with ease. In fact, they took a liking to these new features.

Children in the family would watch TV or a movie when time permitted, usually in the evening after supper. Mrs. Mopan would watch the entertainment system intermittently throughout the day, in between household chores and making crafts. Mr. Mopan got used to relaxing in front of the T.V. for about an hour or so after returning from work.

The refrigerator probably created a more significant change. It was an important asset. The freezer of the unit allowed them to make ice and to store meat bought from the market for long periods of time. Vegetable picked from the garden or milpa, or purchased from the market, could last days inside of the crisper drawers. Any food leftover from any of the meals could be placed in the refrigerator for eating at a later time.

The Mopan family was engaging in some of the typical activities that a modern American does. The Mopans also had some of the other things family producing an average income in the States has. Expensive, non-traditional foods, like exotic vegetables, were bought and put in the refrigerator for freshness. Mr. Mopan and his wife supplied the children with nice clothes. Bought them a few non-traditional belongings, like sneakers, baseball caps and t-shirts. If one person in the family was fond of some belonging a passing by tourist had, he or she may be able to purchase it. With money, almost anything was theirs for the asking.

The technologically developed Mopan family is representative of some real-life families in Maya Centre. Ernesto said that as incomes have grown from crafts and citrus, ". . . now everybody wants their T.V.s and VCRs. . . " Possessions like TVs and refrigerators do not necessarily adversely affect traditional lifestyles. But technology does encourage families to favor and depend upon the system that provides money to purchase it. Technological possessions can not be easily obtained from subsistence farming; tourist related jobs can potential provide such possessions. The differences between milpa work and tourist work may lead people of the village to migrate towards tourist jobs and businesses. This fact, could place the art of farming and need for milpa land in dire straits. Why would someone who desires the lifestyle of the average middle class Belizean going to rely on farming as the major source of income?

The combination of money and tourism could make a tourist trap out of Maya Centre in the not-so-distant future. A quick glance at a place like San Pedro will reveal a community either devoid of traditional culture. If Maya Centre was to go down that path, land use would hardly be an issue. There would be no need for subsistence land where few people adhere to traditional ways. The new market system creates ecotourist businesses. Ecotourist businesses create money. Money allows individuals to buy things. The possessions can persuade the individual to favor the new techno-culture over the traditional culture. The change of culture means alteration or

absence of traditional practices. One such potentially threatened traditional practice is land use, including milpa, hunting and sustainable use of natural resources. This is not meant to be a fatalist perspective. Involvement in the new market system does not necessarily mean a total loss of traditional culture, although, trends in Maya Centre point in this direction.

The actions and decisions which are currently being made in this issue are just the beginning. What is done and about the cultural implications upon land use of Maya Centre's/CBWS' new market system, will have a profound impact upon the future generations of Maya Centre. Those parties involved right now are establishing the context in which future villagers will live. What happens now will have a great impact upon the attitudes and lifestyles of future generations. Therefore, it is important to analyze the factors that will influence the state of the future generations.

3. THREATS TO CBWS

The issues presented by the relationship between Maya Centre and CBWS threaten not only the village's well being, as we have discussed above, but also the security of the Sanctuary. CBWS is not an island, neither physically nor politically, and is very much affected by the activities of the surrounding villages and the Belizean society. The conflicting land use interests create situations which pose threats to the health of CBWS, as an ecosystem and as a politically entity.

A Physical Threats

1. Citrus Growers

The rising citrus prices in the '80s increased the acreage under cultivation by 1400 acres, only 400 of which was previously deemed suitable for plantations. The expansion into hilly lands and clay soils pose great environmental threats including soil erosion, drainage problems and chemical contamination.(Barry 133)

In efforts to squeeze every last orange or grapefruit out of their land, growers, have cleared land and planted trees right up to riverbeds. " Long term erosion attributable to citrus estates is likely to be more localized, where forests have been cleared down to river-banks, or during periods of flooding. The potential erosive impact of the latter has been increased by the practice of bulldozing trees into drainage channels." (King, Pratt 91) There have not been enough studies done on the impacts of soil erosion to determine the full implications on stream ecology, but visible effects are evident. In addition to the far reaching ecological effects of the plantations, significant flora and fauna habitat is lost, specifically along alluvial floodplains. The failure of planters to leave a buffer zone along rivers particularly threatens the favored habitat of the

endangered Black Howler Monkeys and Baird's Tapir. CBWS is surrounded by many citrus plantations and the clearing practices are evident. Increased flooding is evident as one drives over the bridges along the southern highway, spanning waterways choked with bulldozed trees. Efforts to limit fruit lost to pests threatened the population of several bird species, including parrots and woodpeckers. (King, Pratt 91) Growers were asking for the support of the GOB to begin efforts, such as shooting or poisoning, to pacify the yellow tails, which were damaging citrus crops. The BAS stepped in and protested, agreeing to research deterrence alternatives.

Fertilizers and pesticides are often applied irresponsibly. Using backpack and aerial sprayers, chemicals are disseminated beyond the boundaries of the plantations. Excessive and messy applications pose threats to nearby, plants, animals and humans alike. Contamination of rivers affects all three. CBWS seeks to protect the ecosystem within its borders, but the damage incurred by nearby plantations is beyond the managers' control.

2. Speculators/Developers

Land surrounding CBWS has become a hot commodity among speculators. In anticipation of new tourist enterprises raising the value of their holdings, the speculators cling to their land waiting for developers to start bidding. Most of the land currently remains in relatively pristine condition and actually provides good buffering for the Sanctuary. But future development poses many threats to the health of the regional ecosystem. In addition to the habitat lost directly through the clearing and building on land, increased tourist enterprises will put more pressure on the thinly populated area. Tourist enterprises would attract more tourists who would bring air-polluting vehicles, increased needs for consumer goods and infrastructure to deliver them, more feet to erode trails, additional waste needing disposal, etc. The development of a more significant tourism industry is really inevitable. In fact, it is encouraged. Income is needed to ensure CBWS' security as a self-sufficient entity and a promoter of national economic development. Unfortunately, the speculators/developers are not forced to adhere to any legal responsibility of building ecologically sensitive eco-enterprises, though it would certainly seem to be in their long term interest to do so. The BAS can encourage neighbors to be sensitive of the fragile ecosystems with which they are dealing, but efforts thus far have not been successful.

3. Villagers

Despite the presence of legal boundaries that separate CBWS from the outside, some villagers choose to cross the lines into the protected areas that lie within. The individuals who engage in activities contrary to the rules of CBWS are generally trying to practice past, traditional ways. Two such illegal activities may and/or do occur: milpa and hunting.

As mentioned in the "Background"" section, individuals presently residing in Maya Centre, lived in Quam Bank. Quam Bank, now the location of CBWS head-quarters, holds some of the most arable soil in the Cockscomb Basin. This and some other soil of CBWS are fertile and promote healthy milpas. According to the operational plan of CBWS, "There are possible 'milpas' located within the CBWS near its south eastern access point..." (14) The operational plan states that accurate information on illegal milpa farming is difficult to obtain, because boundaries are not demarcated. Maybe that is why "illegal" milpas exist in the first place. It is apparent that no illegal milpas are being carried out by villagers of Maya Centre.

The operational plan points out that, "There is growing evidence that indicates that hunters traveling up the Sittee River often penetrate the CBWS in search of game and fish...At the CBWS' southern access point, Red Bank, hunting is also almost certain to be occurring." (14) Hunting and fishing traditionally provide common courses in daily meals. There is no evidence that villagers of Maya Centre pursue hunting on CBWS grounds.

According to Ernesto Saqui the popular excuse for illegal hunting is the fact that the hunters do not realize they are on CBWS territory. Demarcating boundaries have been established along the borders separating CBWS and some villages, including Maya Centre. Ernesto mentioned that is crucial to teach the hunters about the boundaries. It is vital that the hunters understand the purpose of the demarcating boundaries, which ironically resemble spacious hunting trails.

4. GOB

The GOB controls the Crown lands on CBWS borders. The criteria they use in allocating and zoning this land will have critical impacts on the natural environment of the region. Presently, the Ministry of Natural Resources is designing a Special Development Area plan for the land south of CBWS and Maya Centre, but eventually, some kind of zoning plan will be implemented in the Maya Centre region, as well. The GOB receives a lot of pressure from individuals and companies to open the Crown land for citrus plantations, milpas and hunting. Large scale development, agricultural or otherwise, would have effects well into the Sanctuary land, as described above.

B. Political Threats

1. GOB Responding to Development Pressure

The efforts of the GOB to integrate conservation with economic development are challenged when the needs for one do no promote the other. Pressure for income from sources other than ecotourism usually present challenges to conservation. An example of this conflict

occurred just a few months ago when the Minister of Works, was rumored to have proposed an idea to dereserve half of CBWS in response to pleas for land from villages and citrus growers. Current legislation allows easy shifts in land classifications (this will be discussed further below) so this pressure from citizens poses dangerous threats. The GOB is eagerly trying to secure its economic independence and establish a stable niche in the international political economy. Huge tracts of land locked up in nature reserves is often not on the top of the priorities agenda towards this goal. Thus, ironically, one of CBWS' most potent threats comes from its creator and steward.

3. Inadequate Legislation

The present state of CBWS is under the constant threat from some statutes in legislature. Specifically from section 3, sub-section (2) of part II of the National Parks System Act. The passages of this sub-section describe two powers of the Minister of Natural Resources. These two allowances, pose a substantial threat to the purpose and existence of CBWS.

According to Section 3, (2) part (a) the Minister may opt to change the practices of CBWS.

(2) The Minister may by order published in the *Gazette* declare that from a specified date -

(a) the limits of an y national park, nature reserve, wildlife sanctuary or natural monument shall be altered or varied. . .

Some of the "limits" of CBWS are stated in section 6, which prohibit, in any protected natural area, any person to:

(a) permanently or temporarily reside in or build any structure of whatever nature whether as a shelter or otherwise;
(b) damage, destroy or remove from its place therein any species of flora;
(c) hunt any species of wildlife;
(d) remove any antiquity, cave formation, coral or other object of cultural or natural value;
(e) quarry, dig or construct roads or trails;
(f) deface or destroy any natural or cultural features or any signs and facilities provided for public use and enjoyment;
(g) introduce organic or chemical pollutants into any water;
(h) clear land for cultivation;
(i) graze domestic livestock;
(j) carry firearms, spears, traps or other means for hunting or fishing;
(k) introduce exotic species of flora and fauna;
(l) catch fish by any means whatsoever;
(m) do any other act which may be prohibited by any order made by the Minister from time to time.

Minister from time to time.

Thus, the Minister can at will allow extraction of any plant that is of cultural value to the people of Maya Centre, such as medicinal plants. The Minister can allow a private land owner to cultivate vast tracts of fertile CBWS land for citrus. Also, he may allow the citrus grower to dump petro-chemical fertilizers and pesticides into the Sitee Branch which runs through CBWS. The Minister can also allow villagers of Maya Centre to graze cattle or sheep in CBWS, or to hunt and fish species of wildlife, valuable for subsistence or for financial income. Any allowance of deforestation, means possible disruption of jaguar habitat. Any allowance of hunting could seal the fate of the recently re-introduced howler monkeys.

Although the "limits" of CBWS are not thought of as a threat in the future, some wildlife sanctuaries do fall victim to the magic wand of the Minister of Natural Resources. For instance, Crooked Tree Wildlife Sanctuary recently became the new subject of the Minister's dominion. An article in The Belize Times, 13/11/1994, describes Eduardo Juan's (Minister of Natural Resources) inevitable plans for constructing two buildings on a wetlands section of the wildlife sanctuary. Section 3, (2) part (a) designates Mr. Juan's ability to "alter" the "limits" of any wildlife sanctuary. Thus he has used this ability to change the prohibition of section 6, (a) - not being allowed to build any kind of structure/building on wildlife sanctuary lands. The abilities of the Minister are phenomenal in their scope, especially witnessed in part (b).

The most drastic decision the Minister can jeopardize the existence of CBWS. This power is dictated in part (b) of section 3, (2)

> ...any national park, nature reserve, wildlife sanctuary or natural monument or part thereof shall cease to be a national park, nature reserve, wildlife sanctuary or natural monument.

In effect the Minister can de-reserve CBWS, or pieces of it, with a few strokes of the pen. Simply, wake up in the morning after having an idealistic dream about the possible business enterprises that could be established in the area of CBWS, and sign away its protected status. Opening up the borders of the 102, 000 plus acreage of CBWS could allow for serious disruptions of its natural state. Villagers of Maya Centre would be allowed to do milpa, hunt and extract natural resources. Big citrus companies could be granted permission to cultivate thousands upon thousands of acres, as such is their practice. The habitat and lives of all of the threatened and/or endangered animals would be in jeopardy. The howler monkeys that now inhabit the forests of the Cockscomb Basin could once again become extinct in the area.

An example of the Minister's potential ability to de-reserve a protected, natural area is seen in the Toledo district. Rumors flooded the country of a Malaysian company wanting to log 400,000 acres of both in the Toledo District. Supposedly, some individual in the Ministry of Natural Resources or Forestry Department signed the paper allowing the Malaysian company to,

as reported by The Belize Times to, "'lease out' almost half of the Toledo District for timber extraction ..." Although just a rumor, it has been verified by almost every governmental and NGO official who we questioned about the situation. The sketchy rumors do not lend any pinpoint any exact location, but any 400,000 acre parcel in the Toledo District would have to include some natural reserve lands. Therefore the prospect of the situation would signify major de-reservation, if the Mr. Juan gave the official nod. If Mr. Juan played no part, then it would signify major violations of the National Parks Systems Act.

The example of the possible logging by the Malaysian company reveals the immense power of not only the Minister, but of other officials in the Ministry of Natural Resources. In situations like the one above, the rules of the National Parks System Act may have little authority. Even the rules under section 3, (2) allow the government enough authority to follow through with actions like the one above. Crooked Tree Wildlife Sanctuary is a good example of an area that was affected by the Minister's powers. The powers invested in the Minister under section 3, (2) present a large loophole in the environmental policy of Belize. It poses severe threats to CBWS. For instance, according to Omany Salas, manager of parks for BAS, BAS was semi-reluctant to invest lots of time and money into CBWS considering its protected status could be altered or banished any time. It is difficult to see how any major improvements can be attempted to aid the land issue relationships between CBWS and Maya Centre under the current legislation status.

3. Relationship between BAS and GOB

The informal nature of the agreement between BAS and GOB also poses a threat to CBWS' security as a political entity. In the CBWS Operational Plan, the authors indicate this tenuous agreement as one of the main management limitations:

> Guarantees from government to BAS concerning staff security, infrastructure and continuation of developed conservation policies in the event of government assumption of CBWS management (and management of other protected areas) should be obtained. A formal protected area agreement should also be obtained (mutually agreed upon by both the GOB and BAS) that would state the mandate period and GOB input in protected area financing, and make stipulations for protected area entry and user fees and their expenditure. The lack of such a formal agreement should be a matter of concern. (Salas 19)

Obviously BAS can not effectively manage protected areas if it does not have a complete understanding of the responsibilities of its position, the resources to which has access to achieve its goals or the duration of its post. Ineffective management threatens CBWS since there are so many citrus growers anxious to see its failure.

4. Government Ministries

GOB Ministries often have conflicting missions. Even when Ministries seem to have complementary goals, such as promotion of commercial agriculture, they often implement conflicting programs. While the Ministry of Economic Development continues to hail citrus as Belize's niche in the international economy (Arzu lecture at BJC), the Ministry of Agriculture is discouraging further citrus planting. (Garcia personal interview) Similar problems exist in the land use issue surrounding Maya Centre and CBWS. The promotion of tourism certainly does not necessarily coincide with the protection of the natural environment or the maintenance of indigenous culture. The fact that the Ministry of Tourism and the Environment is a single entity may help to increase awareness when addressing such delicate issues, but it is vital that the dual loyalties are recognized as such. Often, there are no compromises. Human development invariably puts pressure on the natural environment. A Ministry designed to promote Tourism can not, by its very nature, assure its allegiance to environmental protection. Ministries must be created specifically to address conservation and indigenous villages. Currently, these issues are represented by bureaus with larger departments (Forestry and Human Development) which are primarily geared towards entirely different goals

V. SOLUTIONS

With respect to all the issues which have been discussed in the previous sections, many potential solutions exist. Most of the solutions below come from the minds of the authors of this paper (Although it is apparent that most have been previously contemplated by Ernesto Saqui and the village council of Maya Centre). Solutions coming from others will be duly noted. However, the proposed solutions are not short-term answers. Each and every proposition must be considered a long-term solution. Due to lack of funds and legislation, we found it nearly impossible to find fast, responsive solutions. Despite, their seemingly impractical nature within a short time frame, the following solutions have long term possibilities. Before the specific implications of the issues can be addressed. a socio-economic-political atmosphere conducive to change must be secured. Passage of time seems to be the only solution for this process.

The suggested which follow are directed towards the Village Council of Maya Centre, BAS, GOB and other NGOs. It is evident which party each solution targets. The following list of solutions is grouped into four categories: (1) Maya Centre--agriculture/land use; (2) Maya Centre-- ecotourism; (3) Physical threats to CBWS; and (4) Political ramifications/political threats to CBWS.

(1) Maya Centre--Agriculture/Land Use:

1. Implement use of dolomite as fertilizer, instead of environmentally harmful chemicals. (Minister of Agriculture)
2. Implement composting of household waste for fertilizing purposes.
3. Put pressure on Minister of Works for drainage canals in Maya Centre Farmland layout. (Ernesto Saqui)
4. Revitalize Traditional Mayan farming methods.
5. Create a trust for a village milpa co-op, sustainable technology, money to lobby for legislation amending and any activity that is for the betterment of the village as a whole.
6. Teach children in school about traditional Mayan agriculture and its significance.
7. Teach children in school about the importance, practical and spiritual, of forest resources, i.e. medicinal plants.
8. Teach children in school and adults through community awareness, about ecological concerns of farming, hunting and natural resource use, i.e.. environmental education, ecosystem awareness, etc.
9. Educate those who hunt about the importance of maintaining species diversity and species populations.
10. Create a comprehensive study on marketable, non-timber forest products that exist within Maya Centre territory, or possible Maya Centre territory.
11. Establish village awareness about aspects of nature that compose traditional Mayan culture.

(2) Maya Centre–Ecotourism:

1. Carefully monitor trends in village interest in the tourist business.
2. Compare collective village interest in tourist business to the interest in traditional land use.
3. Draw correlations between potential profit-making endeavors (from tourist business) and the encouragement of traditional ways.
4. Determine villagers' opinions about the tourist business and the new market system.
5. Create a comprehensive plan outlining sustainable relationships between the tourist industry and traditional practices (especially concerning land use).
6. Suggest voluntary donations to village land trust.
7. Establish mandatory "donations" to village land trust, i.e. village taxes
8. Establish an entrance fee to CBWS for all tourists. (Ernesto Saqui)
9. Distribute pamphlets to tourists discussing environmental awareness and the relationship between Maya Centre and CBWS.
10. Offer "open house" discussions about all of the implications of the Maya Centre/CBWS relationship (land use vs. conservation, etc.) for tourists and villagers up at CBWS headquarters and in guest house(s).

11. Begin a series of village meetings to create a open forum for discussion about development (tourism and otherwise) within the village. This may relieve some of the latent resentment elicited by the injection of money into the village and the resulting competition. Cooperatives efforts could also be facilitated by such meetings.

12. Design a specific plan for cooperatives business projects before they are undertaken. Include specific information about what will be expected from each member in terms of time and money, what percentage of profit he/she can expect, and set up a system of flexible inputs and returns- so if a member can only dedicate a certain amount of time/month, he/she is still eligible for a portion of the profits.

(3) Physical threats to CBWS:

1. Teach environmental education and CBWS conservation principles to children in school and adults, through community workshops.
2. Make villagers aware of the demarcation borders of CBWS. (Ernesto Saqui)
3. Occasionally patrol borders. Lookout for hunters, trespassers and citrus development. Employ suspected violators as patrollers; giving them some responsibility may discourage their own illicit activities.
4. Strictly enforce laws and rules stated in the National Parks System Act.

(4) Political Ramifications/Political Threats to CBWS:

1. Lobby GOB for the amending of section 3, (2) in National Parks System Act.
2. Re-evaluate the EPA, Wildlife Protection Act and National Parks System Act.
3. Get land from GOB, for Maya Centre (land use- milpa, NTFP's, etc.) through Land Acquisition Act.
4. Get land from GOB, for CBWS (as buffer zone for the northern and eastern borders) through lease, purchase or land acquisition.
5. Insist of GOB Assessment of land use by private land owners. Determine social and environmental impacts of their activities and find out the development plans of speculators.
6. Create an inter-ministry commission with representatives from different ministries to coordinate the management of the CBWS region (and regions surrounding other Protected Areas).

VI. CONCLUSION

In this paper, we have presented a descriptive image of the relationship between CBWS' conservation and Maya Centre's land use. We have included background of the four major parties, analyzed their interests in land use, described the main issues arising from these

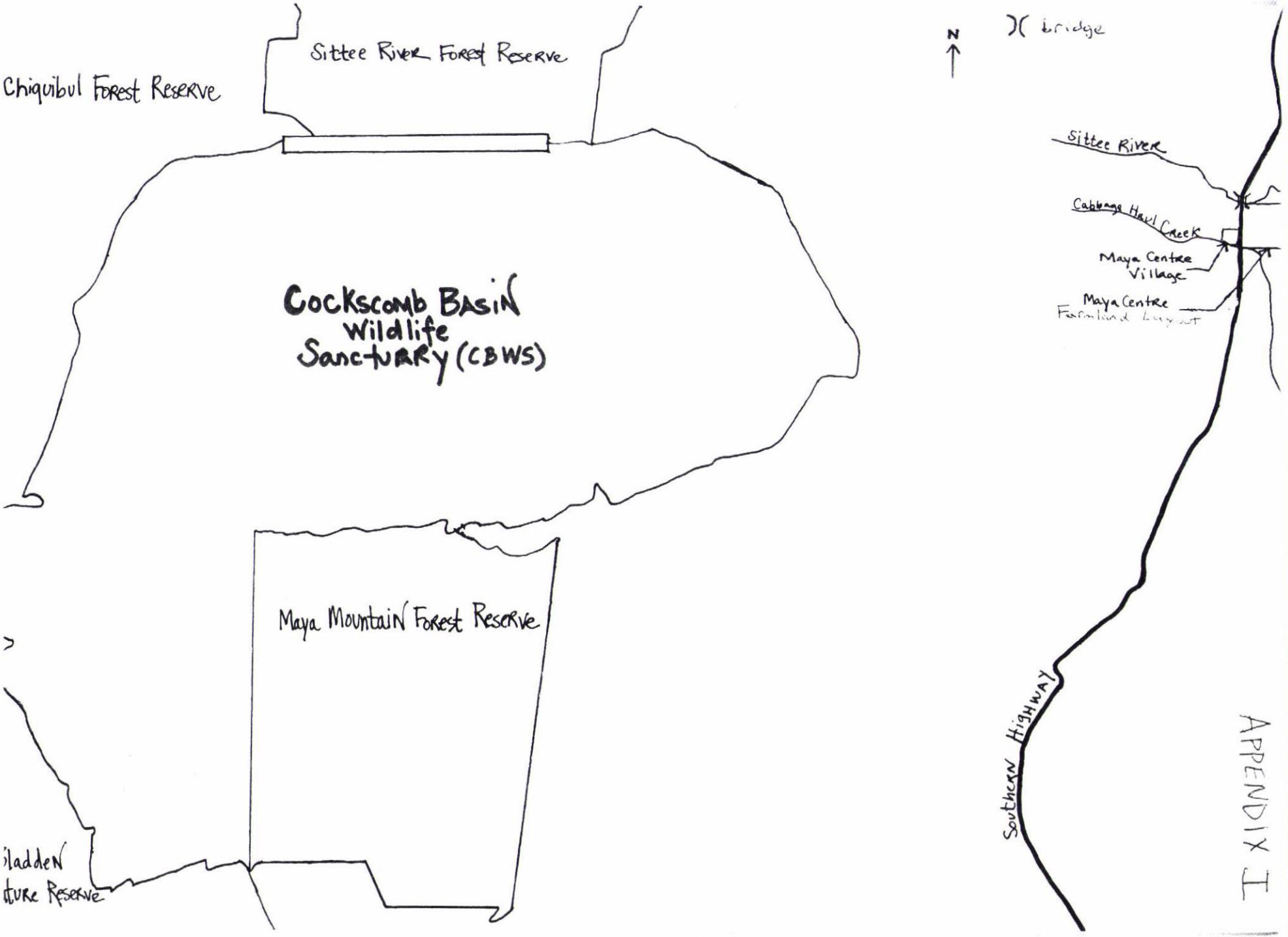
conflicting interests, and presented suggestions for long-term solutions. Initially, we sought to discover why it is difficult to formulate a symbiotic relationship between the two forces of conservation and indigenous land use, which theoretically seem to have so much in common. Our study has revealed that within a vacuum, the two forces would probably coexist easily, but within a realm teeming with politics, economics and religion, compromise is elusive. The Western Judeo-Christian paradigm and the capitalist market system (which it engendered) present insurmountable obstacles to the goals of environmental conservation and maintenance of indigenous culture. Although the two entities of CBWS and Maya Centre seem to share common enemies, their lack of political influence prevents them from effectively working together. Both are low on politicians' and businessmen's agendas and struggle to retain the little power they can.

The divisive nature of relating religious persuasions in Maya Centre allows for poor community togetherness. The religious atmosphere of Maya Centre is split into two halves. Fifty percent is Catholic and fifty percent is Baptist. According to Ernesto Saqui, it is impossible for the village to come together as a whole on certain decisions because of this difference. A Catholic or Baptist will not opt for a community activity that will jeopardize the strength of his/her respective faith. Maya Centre can not hope to play an influential role in any decision making process if it can not express itself communally. Religion becomes a further influential component in terms of tradition. Traditional Mayan religion is held by some villagers, but is not openly practiced (in general). Traditional Mayan religion is expressed through land use and daily activities, such as superstitions about bathing in streams after sundown. Land use and certain daily activities represent the foundation of Mayan culture in Maya Centre. As discussed previously, traditional practices are becoming endangered. Christianity is one erosive factor. Economics is the other degrading aspect.

On one level, the movement of Maya Centre into the market economy would seem to be a liberating trend, allowing them access to a wider range of consumer goods and more diverse job opportunities. Similarly, the integration of Belize into the international market economy appears to be beneficial in terms of the GOB's efforts to improve the domestic economy and standard of living. Both entities gain choices and opportunities, but they also gain a dependency on an amoral monstrosity which has no vested interest in their well-being. " Adam Smith himself emphasized in his Theory of Moral Sentiments that the market is a system so dangerous that it presupposes the moral force of shared community values as its necessary constraining context. The market does not economize on moral capital; it depletes it." (Daly 140) Once Maya Centre and Belize extend beyond their natural communities and commit themselves to this system, there is no turning back. Partaking in free market trade removes one's freedom not to trade. As Daly notes about Third World countries, ". . . following the pressure of the market and the advice of the economists, they have given up their relative self-sufficiency, have specialized and entrusted

themselves to the magic of the market. Their economies are based on the export of one or two commodities. They must export to survive, for they can no longer feed themselves, and they can not pay for food imports without exporting." (229) This analysis holds true for the village of Maya Centre. The temptation for villagers to rely on their citrus crops, wage jobs and tourist enterprises threatens not only their traditional culture, but also their basic livelihood. The conservation movement should recognize the fragile position of indigenous culture and add the maintenance of this culture onto its agenda. After all, losing the practices and spirituality of this ancient environmental movement would be as detrimental as the environmental destruction which the contemporary movement is attempting to halt.

The relationship of CBWS and Maya Centre can be analyzed through the dissection of the issues or from a larger perspective. Similar to a piece of machinery, the relationship is composed of many interrelating components. If there was a problem with that machine, the mechanic would not solely analyze the part that seems to be faulty. It is necessary to view the problem from a holistic perspective. There are conflicts within the relationship between CBWS and Maya Centre. We recommend further study of these issues to come up with very specific recommendations. This paper provides a productive, holistic analysis of a problematic situation.

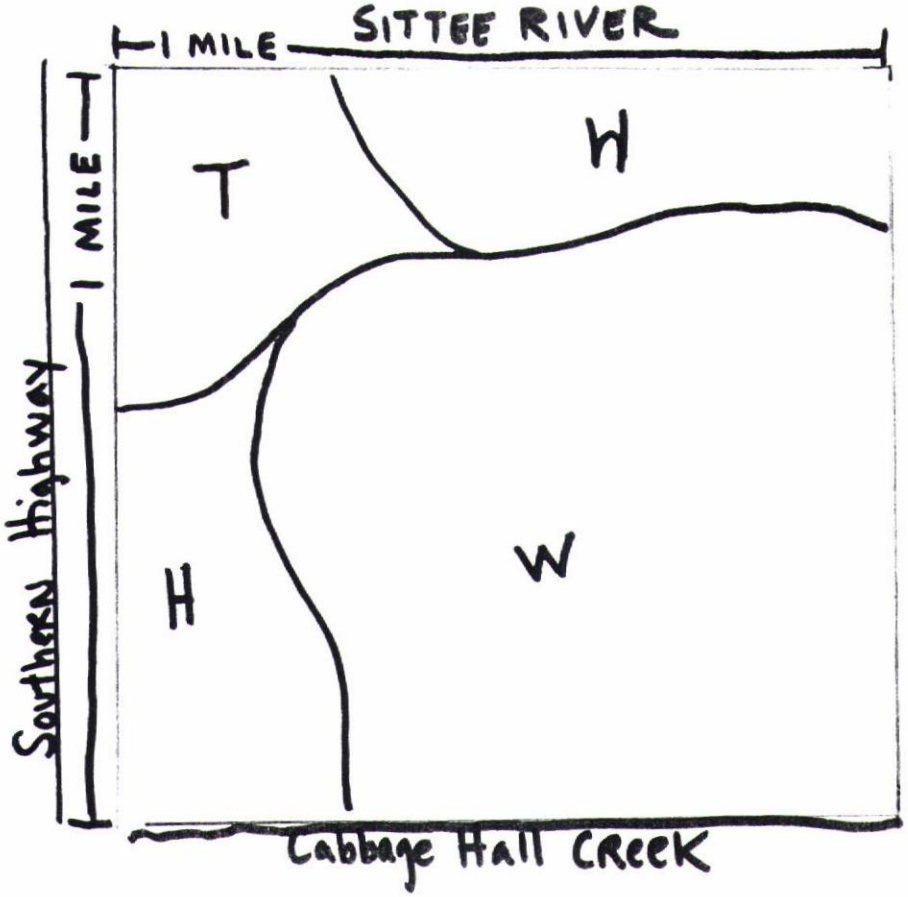

Chiquibul Forest Reserve
Sittee River Forest Reserve
Cocksomb Basin Wildlife Sanctuary (CBWS)
Maya Mountain Forest Reserve
iladden
ture Reserve
N
Bridge
Sittee River
Cabbage Haul Creek
Maya Centre Village
Maya Centre
Southern Highway

APPENDIX I


)(- bridge
-- private land owner boundary
N
Sittee River
Sittee River Estate
(Mr. Yancy)
L.T.A Bowman
Ltd.
Southern Highway
Maya Centre Farmland
Layout
(1 mile²)
Maya Centre
Village
(50 acres)
Cabbage Haul Creek

APPENDIX II

MAYA CENTRE FARMLAND LAYOUT

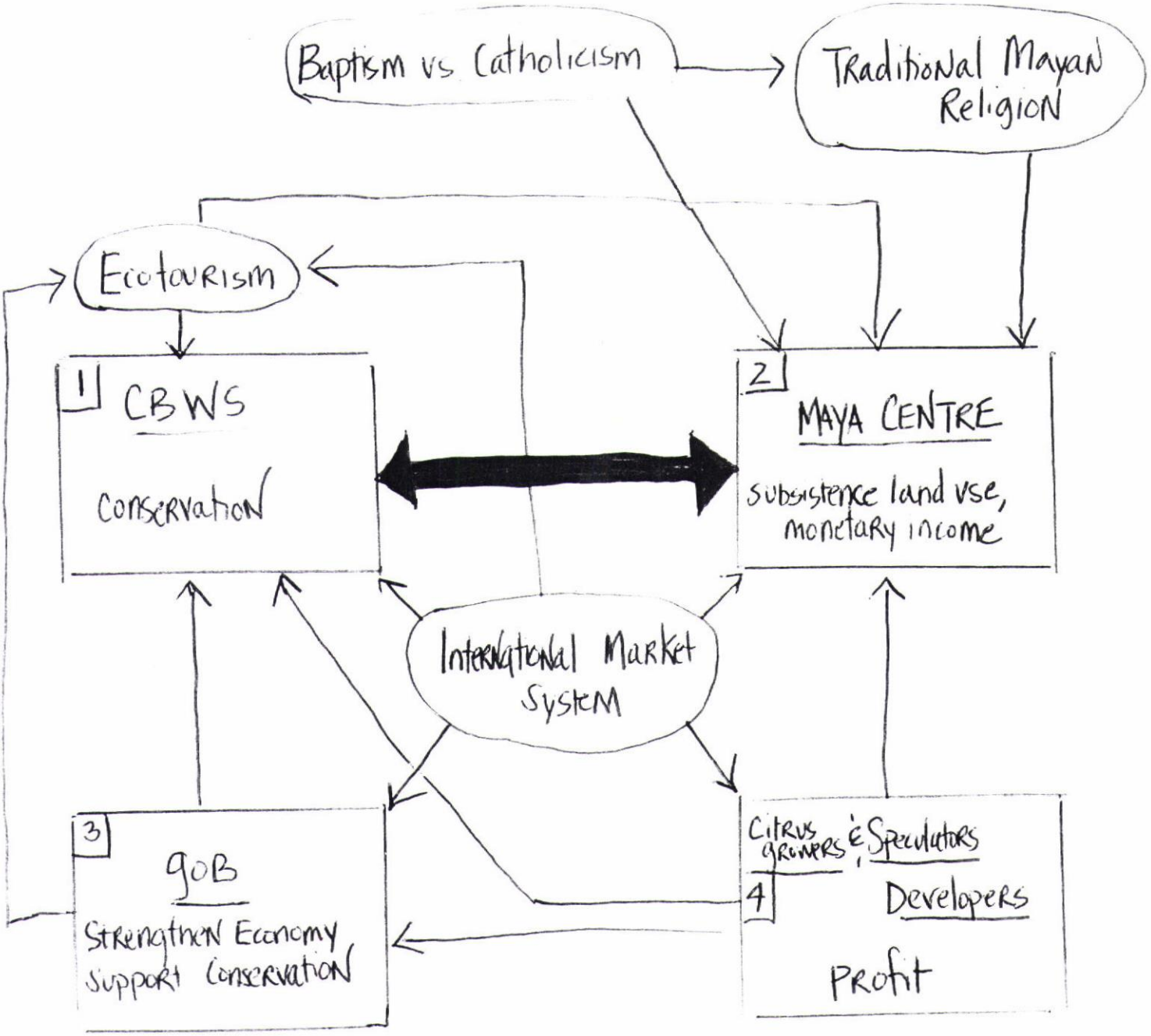


h = high flood plain bench
T = terrace
W = alluvial wash

Modal Altitude : 15 M
Local Relief : < 20 M

Drainage Density: Very Low
Vegetation: evergreen
semi-evergreen
seasonal broadleaf forest

Land Resource Assessment of S.C. District
taken from: Bulletin No. 19; R.B. King, I.C. Ballie, et al.



4 MAJOR PARTIES, THEIR INTERESTS IN LAND USE & THE OUTSIDE FORCES AFFECTING THEM

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PERSONAL INTERVIEWS

Date	Interviewee	Place
multiple	Ernesto Saqui	Maya Centre
multiple	Aurora Saqui	Maya Centre
2/11	Osmany Salas	BAS, Belize City
6/11	Rutina Bolon	Maya Centre
6/11	Vincent Pau	Maya Centre
6/11	Eugelino Pop	Maya Centre
8/11	Mr. Fergessun	Ministry of Natural Resources, Dangriga
8/11	Terece Rath	Dangriga
9/11	Margeurito Bolon	Maya Centre
9/11	Liberato Saqui	Maya Centre
10/11	Russell Garcia	Ministry of Agriculture, Dangriga
10/11	Ameiliano Pop	Maya Centre
11/11	Antolino Pop	Maya Centre
14/11	Melicia Cardona	Ministry of Natural Resources, Belmopan
17/11	Michelle?	BEST, Belmopan
23/11	Bruce Cullerton	JB's, Cayo