

Mesa Redonda 1997

Introduction: Research and Development at El Pilar

by Anabel Ford, Ph.D

Background

The seeds of the El Pilar Program are in the settlement patterns of the ancient Maya - those first agricultural pioneers of the Maya forest. The value of the lessons of the ancient Maya became clear at a research planning meeting sponsored by the Programme for Belize; there scientists working in the New World tropics examined the potential research themes,. Human influences past and present featured prominently. Maintaining occasional contact, I explained to Archie Carr III the interests that were developing around the initial El Pilar archaeological project and how I wanted to include the community at the outset. In May 1994, Carr included me at a USAID meeting in Guatemala. There I presented my initial progress with the community organization, Amigos de El Pilar. At that time, I also met with the head of Prehispanic Monuments at IDAEH. This was the birth of the notion of a contiguous park around El Pilar. June 1994 , Miguel Orrego of IDAEH and José Sanchez of CONAP mapped a major complex of El Pilar called Pilar Poniente. Miguel Orrego joined the El Pilar Program in 1995 and CCAD sponsored the first binational meeting of technical staff of Belize and Guatemala in 1996.

The 1997 El Pilar Round Table, sponsored by the Ford Foundation, brought together for the first time a number of specialists and stakeholders that had - to a greater or lesser extent - been involved with the El Pilar vision. The round table was conceived to bring specialists from a wide range of fields to identify the possibilities and address the uncertainties of the novel plan. All were familiar with the region, most knew the site, and some had met one another. No one, however, had been together to discuss, debate and hammer out the details of the El Pilar plan. With combined participation from research and development areas, a consensus on the general goals was reached that fully acknowledge troubling land tenure issues, economic development problems, differences between Belize and Guatemala, and divergent perceptions of archaeology. The results presented here represent the structural, technical and legal basis for charting the research and development of a contiguous El Pilar Archaeological Reserve. The conservation concept for El Pilar, designed to be coordinated through participating Non-Government Organizations (NGOs), will create a novel eco-tourist destination by featuring ancient community life of the Maya, provide adjacent villagers with alternative development opportunities, and conserve irreplaceable cultural as well as vanishing natural resources of our world heritage.

Goals and Purposes

Our current knowledge of the Maya forest comes from diverse yet related disciplines. These cross-cut research and development arenas and create a nexus for interdisciplinary enterprise and collaboration. Areas with great potential include:

- Research Anthropology, Ecology, Agriculture & Conservation
- Development: Community Development, Ecotourism, Reserve Management, & Institutional Framework

Today, the ancient Maya center of El Pilar stretches from Belize to Guatemala. Endeavoring to build on the wealth of archaeological experience in Mexico and Guatemala, combined with the growing regional ecotourism agenda of Mundo Maya, Belize has spearheaded the move to bring El Pilar under governmental protection as a new tour destination. The goal of this innovative program is to build a research and development strategy for El Pilar that has ramifications for the Maya area as a whole. This uniquely collaborative program for El Pilar provides the opportunity for professionals from distinct backgrounds to perceive conservation in a way that integrates the natural and cultural aspects of both research and development. Collaboration among participants from the USA, Mexico, Belize, and Guatemala is designed to develop basic standards that spotlight the ancient Maya center of El Pilar in the context of the contemporary Maya forest. Drawing on collective insights of investigation, interpretation, conservation, and presentation, this focus on the El Pilar Archaeological Reserve for Maya Flora and Fauna Belize-Guatemala will inspire the revival of El Pilar as a monument to the past, an opportunity for the present, and a testament for the future. The goal is to promote a model cultural and natural resource conservation program that includes an ecotourist destination, and features ancient community life of the Maya and provides adjacent villagers with sustainable alternatives and realistic opportunities to help bring them into the 21 century.

The History Behind El Pilar: Ancient Maya and Contemporary Research

by Anabel Ford, Ph.D & Clark Wernecke, Ph.D

Lowland Maya Cultural History

The Maya did not suddenly disappear from the lowlands as many authors and scriptwriters would have it. Today there are 3-4 million Maya, speaking many distinct Mayan languages descended from the same family of languages spoken by the ancient Maya. The descendants of the ancient Maya live across the same region they always occupied — modern Mexico, Guatemala, Belize, and parts of Salvador and Honduras. The mystery is not where they are, but why they abandoned the trappings of

their advanced civilization in the Central Maya Lowlands.

The Maya, like all native inhabitants of the Americas, originally migrated into the region via the Bering Straits when Siberia and Alaska formed a land bridge. The initial occupation of the New World is part of the continuing story of growing population. Asiatic peoples pushed their way into North America, spreading through Central and South America. In nuclear Mesoamerica, from the Valley of Mexico south into modern Salvador and Honduras, these foraging people concentrated in highland areas and about 4,000 bc reached such great numbers in some locations, that they began domesticating plants to supplement other food sources. At this time there was little or no occupation in the Maya Lowlands.

Settlements of incipient Maya emerge late in the tropical lowland Maya forest. Around 2,000 bc farmers are evident but, archaeologically-speaking, they were nearly invisible until around 1,000 bc. These Maya settlers started in a simple way but evolved into a flamboyant society that peaked in the second half of the first millennium between the years ad 250-900. After the tenth century, the great cities of the Central Maya Lowlands were mostly abandoned.

Archaeologists have divided the cultural sequence of the lowland Maya into periods that reflect the general developments. The chronology of the Maya is straightforward. Archaic foragers roamed the area in the earliest times, but it all really started in the Preclassic when people settled down and began to practice agriculture. The civilization flourished in the Classic Period when the majority of the largest temples and palaces were built. This whole civilizational process was transformed in the Postclassic. The transformation follows the so-called mysterious Classic Maya Collapse. Summarized in the following table is the essence of this time line.

C h r o n o l o g y

Archaic	Before 2000 BC	Initial Foragers
Early Preclassic	2000 BC - 1000 BC	Pioneer Farming Settlements
Middle Preclassic	1000 BC - 300 BC	Expansion Across Lowlands
Late Preclassic	300 BC - 240 AD	N. Belize Centers Reach Height
Early Classic	250 AD - 600 AD	Power Shifts to the Interior
Mid Classic	600 AD - 900 AD	Height of Maya Civilization
Terminal Classic	900 AD - 1000 AD	Collapse of the Classic Maya
Early Postclassic	1000 AD - 1250 AD	Re-focus of Populations
Late Postclassic	1250 AD - 1521 AD	Competition among Centers
Spanish Invasion	after 1521 AD	Disease and Depopulation

THE PRECLASSIC (±2000 bc - ad 250)

The Preclassic, also known in greater Mesoamerica as the Formative, has been divided

into three logical time periods, the Early, Middle, and Late. The earliest Maya came into the Maya forest as farmers before 2,000 bc, but did not appear in the archaeological record for nearly a millennium.

The Early Preclassic Period marks the beginnings of agriculture. The earliest evidence for burning and the cultivation of maize dates before 2000 bc in the Peten of Guatemala. Lake core sediments record the beginnings of human manipulation of the environment. These sediments show periodic — probably annual — burning, and the increase in grasses are indicative of human intrusions. However, corresponding archaeological sites are hard to pin down. Ceramics and household architecture are associated with this phase, now defined as roughly 2000 - 1000 bc. Much of what we know about life during this period comes from beyond the bounds of the Maya area. Early Maya evidence is found at the site of Cuello, in northern Belize. Dating of this site is still controversial, yet ceramics from Cuello are likely earlier than those previously known from the area. Late breaking news from recent research in the Belize River area suggests this early period may be pushed back even more.

Early agriculturalists from northern Belize began to grow maize, fruits, cacao, and a selection of root crops. Yet only part of their diet was supplied by these domesticated products. There was still dependence on the bounty of the lands and waters. Hunting, fishing, and plant foraging provided an important part of the diet for the first Maya; a pattern that would persist in different ways throughout prehistory. Social organization was simple; a family-centered life prevailed in those times.

The Middle Preclassic dates to the interval between 1000 bc and 300 bc. Settlements of the Middle Preclassic Period were numerous enough to be recognized archaeologically across most of the Maya area. This was the time that the Maya moved from the coast up the river valleys, ultimately penetrating the interior. House sites were wide spread, communities were small, and there was little in the way of public architecture. The more significant communities of the Middle Preclassic were found peripheral to the interior heartland of the Maya. The heartland was virtually the last to be occupied, yet was the area that developed so prominently later in the Classic Period.

Coincident with the larger populations and settlements comes the definitive evidence of public architecture. Again, northern Belize is featured at this time and sites such as Cuello, Cerros, Nohmul, and Lamanai show major building activity. As more investigation progresses, we are finding occupation and construction in the Belize River Valley area, where scattered houses have been recorded on extensive surveys and public platforms have been identified in intensive excavations at local centers such as Cahal Pech and Pacbitún. Recently, buildings have been found that date to the Middle Preclassic deep in the tunnel excavations at El Pilar. This ushers in the foundation of ancient El Pilar.

From 300 bc to ad 250 the lowland Maya population continued to grow and expand, resulting in greater competition for land. This led to increased Maya settlement density, larger communities, and the development of more intensive resource management

strategies. Maya civilization began to evolve more complex and elaborate mechanisms for coordinating, organizing, and feeding the growing populations. This is revealed in their settlement distribution, architectural elaboration, and agricultural methods. Among the important institutions documented in this period was the establishment of the bureaucratic trappings of rulership in the form of Maya kingship. This institution would shape the social history of the lowlands on through the Postclassic Period.

The Late Preclassic Period was one when occupation in the interior around Tikal was at its inception. At the same time the interior centers such as Tikal were being founded, the centers of northern Belize, particularly Nohmul, Lamanai, and Cerros, were at their peaks, commanding the loyalty of large domains of well established settlements. El Pilar, only 50 km from Tikal, was firmly rooted by this time. Major public constructions of platforms and pyramids, found throughout different sectors of the site, date from this period.

THE CLASSIC (ad 250 - 1000)

The Classic Period is defined by the appearance and use of dated monuments, or stela. The wide-spread use of dated stelae occurred toward the end of the third century ad. Stelae and altars recorded the political, social, and religious history of the Maya using the Long Count, a calendrical system based on multiples of a 360-day year with an origin point of 3114 bc. The seven centuries of the Classic Period exhibited tremendous civilizational developments that were fueled by the steady increase in population. The cores of the massive ruins that we see today—monumental stone-vaulted buildings and huge temple pyramids—were founded in this period.

The Classic is often divided into two periods, the Early and the Late, separated by the "hiatus." The hiatus was a time when there was a marked decrease in building and the setting of dated monuments, particularly at Tikal. Recent studies have pointed to this as a phenomenon peculiar to the interior of the Central Maya Lowlands, probably brought on by Tikal's involvement in a series of destructive offensive and defensive military exploits. These conflicts were based on shifting alliances among the reigning regional power centers of the era. A few examples include Calakmul, Naranjo, Caracol, and Tikal. This interlude is variously recorded at these important centers, but ultimately the problems reflected by the hiatus were surmounted, making way for an acceleration of the civilizational processes in the Late Classic.

All major centers of the region experienced major growth in the Late Classic Period, especially El Pilar. This growth must have been rooted in the sustainable management of the region's valuable resources found throughout the rolling ridge lands. For more than three millennia, the Maya were able to support and maintain their society's growth by forging a dynamic alliance with their environment. This alliance was a balancing act that, for 15 centuries, supported the development of the Maya civilization across 40,000 sq km or 15,440 sq miles of space.

Toward the end of the Classic, the elaborate civilization of the Maya began to undergo

changes. Notably, there was an increase in conflict, probably due to competition over scarce resources, culminating in a drastic reduction in population. This is most dramatically reflected in the complete disregard for site maintenance. After this time, there was no new construction at lowland monumental centers. Residential settlements were not so abruptly deserted, but they too were at last abandoned. The great Classic centers in the central lowlands collapsed first — Tikal was deserted in the ninth century. Building activity was prolonged at many eastern centers right to the end of the Terminal Classic as recorded at El Pilar. Around El Pilar, however, occupation even extended into the Postclassic. This was the time when the once magnificent rooms, such as the Zotz Na of El Pilar, were apparently converted to exotic dump sites for flutes and figurines, as mere reflections of the center's past glory.

THE POSTCLASSIC (ad 1000 - 1521)

The end of the Terminal Classic Period has been viewed as the final blow for the Maya civilization, and the Postclassic has traditionally been described as a militaristic, decadent, and degenerate phase in Maya history. But more enlightened views would see that the militarism was indicative of a tendency toward secularism and the resultant downplaying of the ceremonial rituals that dominated the Classic Period. Moreover, many of our interpretations of the Postclassic were projected from ethnohistoric accounts of the Spanish intrusions in the region, hardly an unbiased source. Little attention has been directed toward understanding the Postclassic through archaeology, although recent research on the period, particularly at Santa Rita in northern Belize, suggests continuity from the Classic Period.

The focus of cultural development moved from the Central Maya Lowlands to the northern Yucatan Peninsula, where the Spanish first contacted the Maya culture. There was continuous, albeit distinct, occupation from the Classic through the Postclassic periods. Not only did the people of Lamanai continue to build and trade with their neighbors, but they also continued to live around the center until around 1675. The Spanish founded a mission at Lamanai in 1570 and another at Tipu/Negroman in the Upper Belize River Valley. These were abandoned by the Spanish during a revolt of the Maya in the 1630s. It was not until 1696 that the Spanish conquered the last of the independent Maya city-states, the Itza of Tayasal in the Petén, the descendants of the ancient Maya realm. The Central Maya Lowlands, which today include most of Belize and the Petén of Guatemala, are still home to Maya who can trace their ancestry back into prehistory as attested by the patronyms of local villagers: Bacab, Balam, Canchan, Cocom, Hobb, Mai, Panti, Pech, Pott, Shish, Teck and Tzul, to name a few.

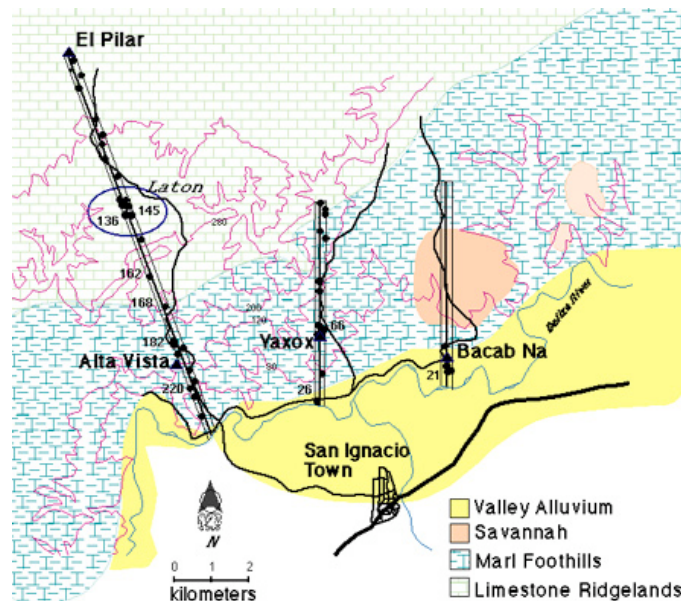
The Origins of Research at El Pilar

After the enthusiastic introduction to the region in 1982 by Jaime Awe, then of the Department of Archaeology, Anabel Ford of the University of California, Santa Barbara was given permission to initiate the Belize River Archaeological Settlement Survey (BRASS) in the upper Belize River area north of San Ignacio, Cayo.

Advocating efforts to appreciate the full range of Maya society — both the monumental and the mundane — the BRASS project was designed to examine the cultural ecology of the Belize River area. This involved using environmental and geographic information for the area as a backdrop for the archaeological settlement survey. The project collected data that identified where the ancient Maya lived, when they lived there, and what they were doing across the landscape. The results of the study have allowed us to assess the distribution of house sites and communities on the one hand, and their context and relationship to natural environment on the other.

The first field seasons involved the mapping of all identifiable cultural remains within three 250 m wide transects, one ten km and two five km long. Excavations were conducted at residential sites within the identified resource zones of the valley, foothills, and ridge lands and revealed a variety of archaeological sites, from isolated field huts to large elite household compounds, not to mention monumental civic-ceremonial centers. Their locations were predictable: few and scattered houses were associated with poor agricultural soils in rugged or swampy terrain more characteristic of the foothills while dense settlements, including imposing elite patio groups, were found in the rolling fertile ridge lands concentrated in the vicinity of the major center of El Pilar.

While most houses displayed evidence of the basic household activities of farming, storage, cooking, and serving, a few exhibited distinctions that spoke to other, more specialized occupations. Several, particularly in the poorer zones of the area, were involved in making the common stone tool, called the "chopper," that would have served as the ancient Maya machete for everything from opening palm nuts to chopping firewood.



*THE BELIZE RIVER ARCHAEOLOGICAL SETTLEMENT SURVEY STUDY AREA WITH
TRANSECTS INDICATED*

Rare in all the Maya area was the discovery of an obsidian—volcanic glass—production site in the ancient ridge land settlement cluster we named Latón, about 2.8 miles or 4.5 km south of El Pilar. An elite house at Latón is the first identifiable obsidian blade production site found in the Central Maya Lowlands. The site yielded a concentrated stash of thirty-nine exhausted prismatic cores behind one house wall and production waste in another stash of over 30,000 pieces of obsidian translating into densities as high as 1.7 million obsidian, pieces per m³. From trace element tests conducted at the University of Missouri, we know that this obsidian was imported into the Belize River area from the volcanic highlands of Guatemala from Chayal and Ixtepeque, over 300 km or 200 straight line miles.

Communities of the fertile Belize River Valley were made up of moderately sized homes widely spaced from one another, and contained everything that a household would need to enjoy life in those ancient times. The residents were able to afford a certain amount of luxuries which are most often associated with only the elite in other areas. Such unusual privileges must have been conferred by those in control of valley dwellers. Since the valley alluvial soils are among the best in the Maya Lowlands, but form only a small proportion of the local area, let alone the region as a whole, it is probable that they were producing what today we call "cash crops." In fact, at the time of the first Spanish explorations in Belize, the populations of the Belize River Valley were producing cacao (chocolate).



AN EXAMPLE OF A VALLEY RESIDENCE

Like other ancient Mesoamericans, the Maya likely used cacao as a form of early currency, "money" that literally grew on trees. These trees had to be carefully tended, managed, and protected; something a single family could not afford to do on its own if household subsistence was an issue. The production of valued crops such as cacao, and also cotton or tobacco, required extra investments that would have sanctioned special luxuries. The valley Maya may have received luxury goods in exchange for faithful production of chocolate. Luxuries of the Maya included blades made of obsidian (like those produced at Latón), beads fashioned from marine shells, and highly prized green stone, such as jade or jadeite, and other exotic materials. This arrangement fostered a dependent relationship between specialized farming communities such as those of the valley and the elite aristocratic administration at El Pilar. The administration would have

guaranteed redistribution of basic foodstuffs produced in the ridge lands in return for cash-cropping.

Not all were so fortunate. Other Maya lived in the marginal zones found mainly in the foothills rising up from the valley. People of these zones could not depend solely on agricultural pursuits. The dispersed families which were relegated to these areas, augmented their farming tasks with manufacturing and independently trading of stone tools, pottery, and other simple and basic household products to satisfy their daily food needs. Consequently, they could not afford many things beyond the bare necessities of life; hence, few valuables were found at these ancient houses. Such households relied on the central administration to maintain a stable exchange environment so that their household industries would net the foods so fundamental to their existence.



FLINTKNAPPERS OF THE FOOTHILLS

While the settlements of the valley and foothills of the Belize River area were administered from afar, communities of the ridge lands such as Latón were under the more direct scrutiny of the local Maya hierarchy whose apex was located nearby at El Pilar. The ridge lands have the greatest proportion of good agricultural soils and make up the cornucopia of the region. Some 85% of the area's settlement was concentrated in these ridge lands that form only 35% of the areas' resources. Here, in the ridge lands, we discovered the great diversity of occupations and ways of life of Maya society. They were composed of both rural and central civic areas. There were elite "haves," who controlled and governed, and peasant "have-nots," who toiled and bore the obligations associated with sustaining the civilization. At the community centers, elites managed everything from the local farmers to the broader political agenda, manipulated loyalties of lesser elite within their grasp, and negotiated with peers of other centers. This undoubtedly included far-flung trade relations; we know that many valuables recovered at Lowland Maya sites were made of material not found locally. Typical materials include obsidian from the volcanic zones of Guatemala and Mexico and jadeite from the Montagua Valley in Guatemala.

As glamorous as the elite Maya were, the majority of Maya were farmers who provided

food for the populace. Some, as in the foothills, manufactured basic household items that were exchanged for food. Still others provided direct services to the elite, and in return, were supported and patronized by them. The most diverse of these people were found at the major centers of the region. El Pilar served as the focal center for these local households as well as the wider communities throughout the Belize River area.

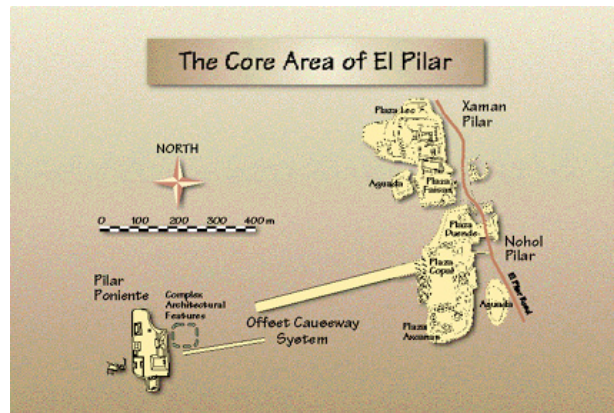
The mosaic of good agricultural land spread the ancient Maya across the landscape in large and small communities as well as hamlets and homesteads. Settlements in the ridge lands around El Pilar show this hierarchy of community size and composition related directly to the amount of available farm lands.

The fertile lands are abundant in the surrounding rolling hills and ridges of the Maya forest. Small areas of fertile land supported minor centers, such as Chorro, to the east. Pockets of land, such as those of Latón, had administrative temples associated with elite residences. Other dispersed and isolated spots of good farm lands would have only field huts within or adjacent to them. All sizable areas of good agricultural land had comparable densities of settlement, approximately one house per acre. The larger the area of fertile lands, the larger the community, and the largest community in the area was El Pilar.

El Pilar Site Background

El Pilar is located 10 m north of the western Belizean town of San Ignacio, between Belize and Guatemala. The ridge land escarpment where El Pilar is prominently situated extends from Guatemala's Peten into Belize, north of the Belize River Valley. Coming up from the valley on the Pilar Road, you ascend this major escarpment more than 900 ft, or some 340 m.

The area has long carried the name of El Pilar and while the origin of this name is obscure, the numerous natural sources of water speak to the old Spanish word for watering basin or pila, whose collective would be designated in Spanish as El Pilar. Two local streams have their origins at El Pilar, one to the east, which we call El Pilar Creek, and one on the west referred to generally as El Manantial (the Spring). About 1.2 miles or 2.3 km east is Chorro, a lovely, delicate waterfall. Not far from the waterfall is a minor center we named Chorro, after the falls. The abundance of water in the vicinity of El Pilar is rare in the Maya area; the venerable ancient city of Tikal had no natural water sources at all. The population there relied on constructed reservoirs or aguadas. The center of El Pilar is situated at the edge of the interior ridge lands that begins east of Tikal. At the point where El Pilar is perched, the ridges overlook the eastern flat lands that run to the Caribbean Sea. This situation provides a natural outlet for water and in part explains its abundance there.



The center was recorded by Belize's Department of Archaeology in the 1970s by Joseph Palacio and the late Harriot Topsey, but its full extent was then unknown. Recorded as a triangle on the Department maps, Jaime Awe saw that El Pilar was in the area of the BRASS surveys, and, in 1983, encouraged Anabel Ford to visit the site with him. From this brief tour it was clear that El Pilar was large, and a preliminary map was made of the major architecture in 1984 as part of the BRASS project. In 1986, also as part of the survey phase, preliminary excavation and rescue work was pursued at the site. The first full-scale investigation of El Pilar was finally begun in 1993 as a result of support and encouragement from Daniel Silva, at that time the area's government representative for Cayo.

El Pilar has more than twenty-five identified plazas in an area of approximately 100 acres (40 hectares), ranking it equal with major centers of the lowland Maya region. It is the largest center in the Belize River area, more than three times the size of other well-known centers such as Baking Pot or Xunantunich. The site as it is presently known is divided into three primary sectors: Xaman (North) Pilar, Nohol (South) Pilar, and Pilar Poniente (West). The eastern and western sections are connected by an offset causeway system extending between two large public plazas. The western section, including Pilar Poniente, is in the Petén of Guatemala.

The Maya used a fine and durable limestone extracted from local quarries around El Pilar, and preservation is exceptional. Beautifully plastered masonry rooms, imposing corbel vaults, and monumental stairways have been identified in illegal looters' trenches and controlled archaeological excavations conducted in the initial stages of study. A preliminary chronology, based on ceramic comparisons, has revealed that monumental constructions at El Pilar began in the Middle Preclassic and continued with major remodeling completed in the Terminal Classic. Occupation extended into the Early Postclassic. This long sequence spans more than 15 centuries and testifies to a continuous, methodical, and sustainable development in the area.

Planning the El Pilar Archaeological Reserve

Through consensus, five major areas of integrated research and development at El Pilar

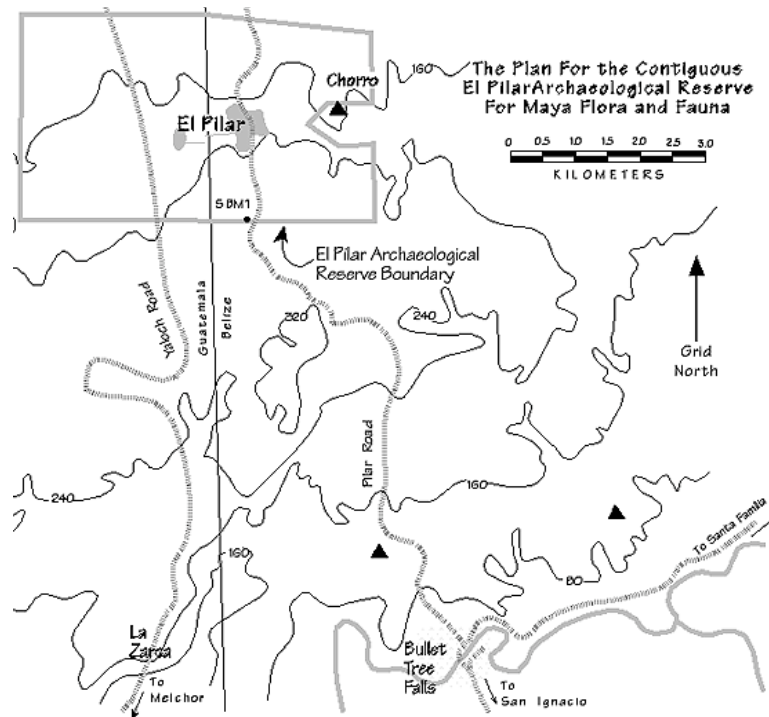
have been defined. Archaeological research drives the program; the reserve surrounds an ancient Maya center, the Maya forest is a relic of ancient Maya selection, the conservation strategy for cultural and natural resources pivots on archaeological research, and the sustainable polycultivation model of household gardening relates to interpretations of the ancient Maya community template. Moreover, objectives of the contiguous friendship park tie directly to the location of the archaeological monuments of El Pilar: the ancient Maya causeway that is destined to play a role in a contemporary problem.

Resource management and conservation are global concerns but local and regional economic development plays an essential role. Further, stewardship is a community issue, and without local participation, the future of El Pilar would be bleak. Government participation in Belize and Guatemala has been initiated, local community involvement has been established with adjacent villages and with the private tourism sector, and the regional ecotourism market has a growing involvement in the new El Pilar destination. These community development links are critical to the long-term conservation goals of the program.

The ecological component is integrated into the archaeological research in terms of the environment. Investigations of forest structure, economic plants, zoological adaptations, and the interactions of cultural domains of humans and the natural domains of the environment are critical bases for interpreting the long-term adaptive strategies of the ancient Maya. Such interpretations form the basis of the forest garden polycultivation design that must have been the main source of subsistence for inhabitants of the ancient Maya forest and which can provide alternative sustainable strategies for contemporary inhabitants as well.

The El Pilar Program is dependent on broad scale cooperation among community stakeholders, national governments, and international agencies. The integrated management of the shared resources impacts development of the friendship park and the implementation of the overall management plan. These areas involve both governmental and community participation to enact the ultimate design.

As the cornerstone of the program, the archaeology at El Pilar links both the research and development components. Economic improvement and issues of management and administration are tied to the tourism aspects of the reserve focused on the ancient Maya. Governmental support for reserve management, while seeking revenues from tourism, is also related to resource conservation concerns among the international community. The relationships between the varied components of the program are mediated through an ecological approach to sustainability as interpreted from the past, as understood in the present, and as projected for the future. The details of the research and development components are specified in the following sections.



Archaeology at El Pilar: Research and Conservation Objectives

by Anabel Ford, Ph.D and Melissa Grzybowski

Overall Objectives

1. To understand the ancient Maya center of El Pilar in its regional context.
2. To understand the ancient chronology and development of El Pilar.
3. To understand the role El Pilar played in the Belize River Area.
4. To intervene with a clear research, conservation and maintenance design.
5. To interpret the archaeology of El Pilar in a clear and accessible manner.

The archaeology of El Pilar is driven by a general research design aimed at understanding the evolution of complex societies and civilizations. El Pilar is the largest known center in the upper Belize River area and clearly played a major role in local political evolution and regional organization of the ancient Maya civilization. Current presentations of Maya development suggests that centers emerged to organize and integrate growing local populations. Interpretations of the political organization presents a view of growing independent hierarchies focused on a center or cluster of centers that coordinated resources locally and interacted across areas within the region. Regionally formed, yet shifting, alliances evolved over time and across space. El Pilar fits into this economic and political landscape and the research will address these dimensions.

The El Pilar Program conservation facet is designed to ensure the best protection and

maintenance of the archaeology. To this end, it is a prime concern that excavations take place with conservation aims stated in the plan. The education agenda will reflect the responsibility of all investigators to ensure that research is presented and published in a clear and accessible manner. It is important that the findings from El Pilar be used to educate the public as well as scholars.

Short Term Objectives

1. Determine archaeological conservation style.
2. Design a training program for teaching techniques of Maya masonry.
3. Conserve the excavation exposures at Plaza Jobo.
4. Rescue and gather data from Plaza Lec.
5. Complete excavation and consolidation of the residence of Tzunu'un
6. Continue to gather evidence for the forest garden.
7. Continue the settlement survey of El Pilar.

It is imperative to select a method and style of conservation that will maintain the archaeological integrity of the monumental and residential structures at El Pilar. Excavations will be conducted with research questions in mind. Conservation will proceed on the basis of the local conditions, recognizing that environmental stability is essential for building conservation. Exposures of architecture and the stabilization and consolidation efforts will depend on specific surroundings. Interpretations of ancient architecture will be founded on research and the style will evoke imagination, that is, there will be no reconstruction. Careful exposures will be conserved with the latest techniques, leaving portions unexposed to maintain ambient stability, to provide for a low maintenance regime, and for future discoveries in archaeology and conservation. The style will be one where exploration and discovery is developed, in the view of the 18th century explorers of the Maya world: exposures of beautiful architecture beneath the luxuriant forest canopy. The development of a revisionist style for presentation of monuments, in collaboration with top conservationists in Mesoamerica, will place El Pilar at the avant garde; there will be nothing like it among the destinations of Mundo Maya.

Conservation of monuments at El Pilar is an investment in the future of our world's heritage, consequently, it is important to train local people in strategies that foster their investment in the long-term maintenance of the structures. Further, the design of appropriate conservation techniques must consider research into qualities of construction and state of building conservation. Given these parameters, and weighing environmental conditions, each individual building will be evaluated on its own terms. Examples of architectural exposures, thus, will be varied across the site. This would not only help preserve the integrity of El Pilar, but establish new completely and entirely unique standards for other archaeological projects in the Maya forest region, making El Pilar exemplary in this field.

Long Term Objectives

1. Develop a formal training program for local archaeological masons.
2. Survey and investigate all the archaeological remains at El Pilar.
3. Seek funding for the visitors center, facilities, and amenities.
4. Promote publicity to increase the visibility of El Pilar.
5. Advocate community participation in Belize and Guatemala.
6. Develop guidelines and standards for research and conservation at the site.
7. Maintain a catalog of all publications of El Pilar research.
8. Seek funds for research facilities at the site.
9. Identify an El Pilar archaeological motif for community arts and crafts.
10. Establish contiguous park protecting the cultural and natural resources around El Pilar.

Community Development and El Pilar: Building a Future from the Past

by Anabel Ford, Ph.D

Introduction

Community development for El Pilar is complex, involving local desires for a better life and global concerns for environmental quality. In recognizing potentially competing objectives, the El Pilar Program unites these goals by linking the cultural and natural resource conservation of El Pilar to the regional development agenda. Amigos de El Pilar, a community-based organization composed of local villagers and situated in Bullet Tree Falls, has formed around the Program as partner and beneficiary of development plans. Such local community organizations represent the ultimate stewards of El Pilar.

Cultural Continuity in the Maya Forest

During the past two decades there have been dramatic environmental changes as a result of expanding agricultural pioneers. These changes are related to population growth, the consequence of which has been environmental degradation. The extensive agricultural techniques of these pioneers focus on monocropping maize without consideration of the long-term implications of this system. At the height of the Maya civilization, important cities, like El Pilar, were surrounded with elaborate, intensive, polycultivation fields and gardens. This strategy emulated the natural forest structure and included multi-layered forest-gardens of sun and shade enveloping housing compounds dispersed within hills and ridges of the region. These ancient settlement and household patterns are diametrically opposed to contemporary habits, yet formed the cornerstone of ancient Maya civilization and culture.

The ancient Maya used the same lands that are preferred for extensive farming today. Their system, however, was intensive with shortened fallow periods, increased field

labor, eclectic combination of crops, and managed regeneration that evolved as an alliance with the forest. There was a clear association between primary agricultural lands and the regional Maya hierarchy: the greater the proportion of good lands, the denser the settlement and the larger the cities. These past patterns provide the outline for viable living in the Maya forest. With archaeological investigation of ancient Maya residences and their reconstruction, using the local construction techniques, a dynamic picture of the Maya household will be portrayed.

Archaeological exposure of the residential component of El Pilar will begin to evoke the reality of Maya centers as forest-garden cities for the local community as well as for touring visitors. To accomplish these goals, we must understand the diversity of house construction, maintenance activities inside and outside houses, and forest-gardening strategies around houses.

Interpretations of the archaeological data will depend on villagers who participate in recreating house structures using renewable forest resources, assembling the household items with local forest materials, and designing the household activities interpreted from the archaeological data. This collaborative approach fully recognizes the values of local wisdom by incorporating it into the planning stages and featuring it at the example Maya house. Through these activities and their maintenance, the Program will help shape the cultural ties of archaeological research to contemporary village life.

Today, village housing ranges from pole-and-thatch and wattle-and-daub to clapboard and concrete block. Inside kitchens, one can find everything from stone hearths to gas ranges. Outside, storage structures hold dried corn ready for grinding and kitchen middens contain remnants of previous meals. These patterns of living have their origins in the Maya forest. While there are notable differences in contemporary household life, many cultural traits persist and are a source of continuity that villagers bring to the quest of reconstructing ancient Maya life. Their participation in the interpretations of household life at El Pilar will directly link them to the reserve.

The Polycultural Maya Forest-Garden

This strategy for polycultivation is based mimicking the natural environmental structure and diversity to promote sustainability. The Maya forest-garden design is based on the ancient Maya template. The design strategy will develop a mix of economic plants that depend on available labor inputs, rather than scarce capital, to provide a diverse subsistence base as well as potential cash crops. Included in this scheme will be nitrogen fixing legumes, such as acacia and beans, and phosphate generating palms, such as corozo or cohune, that together regenerate soils depleted by grains, notably maize.

Beginning a small-scale household plan, the strategy will focus on basic investments to bring the lands of El Pilar into a new land management regime. Based on research and the community knowledge of cultigens and with the resources and support of the Department of Agriculture and Central Farm Agricultural College, with the experience of the Guatemala NGO Centro Maya, the roster of resources will evolve to be worked into a

dynamic planting design. This design, at once, will provide an ecotourist attraction and an alternative subsistence strategy for bringing the community into the new century.

Designing a Development Plan for Villages Adjacent to El Pilar

The Problem

by Bridget Cullerton

COMMUNITY DEVELOPMENT NEEDS

To improve the quality of life of the people of the riverside villages and surrounding communities by encouraging self-sufficiency.

Issues to Address:

- Low economic level in communities
- Limited business opportunities
- Limited health services
- Primary level education limited
- No marketing outlets for small producers of arts, crafts, foods
- Need for alternative
 - A. little or no access to credit
 - B. little or no opportunities for training in entrepreneurship
 - C. need for business skill training

The Solution

by Laura Hernández Pinto and Juan Carlos Fernández Alcántara

English version by Carol Miller and Anabel Ford

STRATEGY

The relationship between development, conservation, and tourism has great potential as a sustainable alternative for villagers of the Maya forest. Today, villagers are distributed along the road to El Pilar within the greater Belize River Valley. Access to the ancient

Maya center of El Pilar is through the village, presenting the potential for economic benefits through the growth of tourism as well as in the promotion of the cultural and natural resources of the area.

DEVELOPMENT

An overall design for village development can be accomplished by defining the village and surrounding landscape in the context of a master design plan. The plan will incorporate input from the multidisciplinary group of investigators in archaeology, ecology, agriculture and conservation at El Pilar. In this manner the landscape architectural design can be a critical link that synthesizes and reflects both the interests of the community and the concerns of the investigators. The results will outline a development strategy for the local community to help direct their actions towards the potential benefits. Such a design will be coordinated with community organizations.

The evolution of a landscape design for the village will interactively determine the optimal locations for the thematic developments. Themes will focus on the regional and local issues from the community perspective and will center around a community cultural center for traditional crafts market, cultural presentations and educational workshops:

Crafts Market

- Woodworking
- Decorations
- Household items
- Embroidery and clothing, etc.

Cultural Presentations

- Dances and rituals
- Native dress
- Musical instruments

Educational Workshops

1. Community history and legends
2. Identification and uses of medicinal plants
3. Forest gardening and its traditions
4. Recovery of the Maya language

THE PROJECT

The cultural center with a crafts market, cultural presentations, and educational events will creatively integrate the environments of the area. Given the ecotourism links to the Maya center of El Pilar, this cultural center must articulate clearly with the ultimate destination of El Pilar Archaeological Reserve.

The design of this attraction must invite the visitor to the village as a feature of the tour along the way to El Pilar. With this first stop, the visitor will participate in the development of the community and the community will be encouraged to develop new attractions.

Memories from the Past for a Promising Future:

The View from the Village

English version by Heriberto Cocom and Carol Miller

The following transcripts come from the summary presentations at the Mesa Redonda El Pilar in Mexico City. The speeches of the Amigos de El Pilar cover the problems and, to some extent, offer direction for solutions as seen from the point of view of a villager. Both speakers have hopes for a better future and acknowledge the trajectory of change and its impact on the current state of conservation in the Maya forest between Belize and Guatemala. These summaries provide another convergent perspective between the community development and basic research components of the program.

PRESENTATION OF MARCOS GARCIA

President ~ Amigos de El Pilar

Mr. Cocom has a living place much more different than others that are in the heart of the village. Around his house he has a large place surrounded by fruit trees, right Don Cocom? The difference with respect to others is that it is a bigger place and has more plants and trees on the land.

The problem that we can observe in the center of the village is that the houses are too close to one another. Because of this, we do not find many trees. This is why Amigos de El Pilar has told us we can find a method for dealing with this problem.

Another of our problems that we are confronting is that the people of the village do not have a clear idea on what ecotourism is all about or that the people do not know what it means. What I think the problem that we have to develop so that we could promote our village and capture more income from tourism, show them the beauty of our nature, traditions.

But first of all we, the villagers, need to be trained so that the impact of ecotourism will be positive and not negative. This is one of the alternatives that we think should work in conjunction with Amigos de El Pilar, reaffirming that we have a future with ecotourism. But I still ask myself, what can we do to solve this problem?

PRESENTATION OF HERIBERTO COCOM

Consejero ~ Amigos de El Pilar

It has been about 100 years, Bullet Tree Falls was a small village with approximately some 50 people, including the children. I am only 27 years, pardon, I say 57 years, but according to the story of our Maya ancestors, the ones that came and built the village of Bullet Tree Falls were from the Mexican and Guatemalan zone. In a short time it converted into an English colony, controlled by the English coming here, being a zone of high bush — jungle - not exploited. Now this I want to say, that it was not yet cut down by our farmers. The reason was because the population was small. At this time they started to cut or fall the high bush, little by little, until they reached the higher mountains above Bullet Tree Falls, close to El Pilar some 7 and a half miles north. Now it only exists in low bush, like secondary bush.

It has been some 24 years, I did not have the vision to have an idea that on this time I was going to be a man that was going to present something that now we are wanting to make good. I obtained a piece of land which is approximately 15 acres. I live in the zone of this place at the banks of the river. I have approximately 1 acre of land where I live, like my companion Marcos Garcia has said, and it is already covered with fruit trees, hardwood trees and other local types of trees, and then I have an agricultural lot that is approximately 1 kilometer from where I live going up Paslow Falls road.

It has been about 25 years, like I have said. I started, like everyone else, to fall the bush. The first years I cleared the 15 acres of land. But then, an idea came to me. And I said, I am destroying my lands, I say the little animals, birds and four-legged animals, something like that, they are getting scared, running away. And I got a great sadness. So I then selected a part of the land to let it grow as jungle. And now in these days I am seeing that it is all worth the effort, even if it is surrounded with low bush. I have a piece that is becoming a jungle and I see that from time to time the birds, Toucan, others, I see them coming from the high jungles of Guatemala to my piece of land, willing to stop at this little parcel of 15 acres. Also other animals come to the same zone, that is on this piece of land. I feel myself happy - proud - because I see them, they make my heart feel happy - rejoice - because of their noise, the fluttering and songs of the birds.

Well, it has been not too long ago, like about two weeks, since I had a deer, it was already big, his horns were small. It was very tame. It would not even run, but I couldn't catch him. He would stand still when I see him and wouldn't run away. He would just watch you because he was accustomed to being by the ranch. It was his road, he passed and passed and went to drink water in the river. Well two weeks ago I was not here, I was out for a time, for otherwise a hunter got in with his dog wouldn't have gotten on the land

nor would I have let them carry a gun, but there they were, and BOOM! he shot my deer. If I was there, not even DEAD would he take it out.

So, it must have been about two years ago, or about a year ago, that Anabel and Constanza started their forest garden and invited me to take a look. So I began working around El Pilar. In this area that appears on our map, we now have a part we planted, trees we put in, valuable trees like Santa Maria, Mahogany, for example. We have about 200 plants, another few we brought from what remains of the Belizean jungle. We brought about 20 to this place, and I planted with the idea that in time, when these trees have grown, more birds will come from Guatemala, those birds that live in the high bush there, and they will come and inhabit this place.

Well, I think this is a good beginning, what we are trying to do to renew, that is, recover and replant lost trees that were destroyed by our fathers. I speak so because it is certain I participated in this. But, of course, it wasn't intentional what I did, that is, it was a necessity to find a means of survive.

Yes, we see that Bullet Tree Falls is big - growing; 1,900 inhabitants. There are many students, but maybe the students are not interested in ecotourism, one student wants a profession and other students want other things, and so on. Well that's the world. And then we think that by educating our people, like I have said, we could get lots of things and with the help of organizations in the Maya world.

Well when we say that we await the help in this part, I think that yes we could get the help from very kindly people and with the help of our powerful God. Yes, we are going get what we desire for our community of Bullet Tree Falls and also the future of surrounding communities, as well as the indigenous peoples.

AMIGOS DE EL PILAR LETTER OF THE PRESIDENT

Amigos de El Pilar (AdEP) is a group organized in Bullet Tree Falls by the residents of the riverside community in 1993. The objectives of AdEP are to participate and support in the establishment of the El Pilar Archaeological Reserve for Maya Flora and Fauna. AdEP has a vision for the future and hopes to raise the standard of living through ecotourism by implementing activities that complement the goals of the El Pilar Archaeological Reserve and developing new work opportunities and education on conservation of flora, fauna, and the archaeology of the Maya forest.

To realize these objectives, the founding members took action and formally established Amigos de El Pilar in Belize on the 7 of September 1994. At the moment, the group has 53 members of which 39 are active. The organization now has its own site on community lands with a roofed slab structure where AdEP members meet every two weeks. At these meetings, members discuss plans and desire for more development, more education, and more publicity. Part of these plans are to convert the structure into a Cultural Center,

called Be Pukte (Bullet Tree Road in Mayan) which would be used for education on the importance of biodiversity and sustainable alternatives for living with our environment. Our activities revolve directly around these goals.

Amigos de El Pilar has dreams, visions, and hopes for the future. The group has taken steps to start a forest orchard garden at the group's site, Be Pukte. We are collecting seeds and seedlings donated from within the group. This will be an example for another at El Pilar because in this way the group will be involved in more activities, more promotions, more work, and more education. And the community will be in a position to take advantage of all that El Pilar can offer. The group is very, but very, interested in the El Pilar Archaeological Reserve for Maya Flora and Fauna. Dear reader, we hope that you will help and support us to make these dreams to become a reality and together we can have a better future.

In the name of the group

Marcos Garcia

President, Amigos de El Pilar

A BRIEF CHRONOLOGY OF AMIGOS DE EL PILAR

1992

May/June Daniel Silva, Area Representative, supports community clearing at the plazas of El Pilar

1993

Anabel Ford holds two meetings with the community members presenting idea for community based organization related to plans at El Pilar. June 30, 1993 the name AdEP was decided, members joined, and first officers were elected (President Angel Teck, Vice president Abel Manzanero, Secretary Sandra Manzanero, Treasurer Fred Prost).

1994

Nine general meetings of membership, one executive meeting and one event were held.

Participated in the Fiesta El Pilar (5 May 94)

Received registration certificate as a non-profit organization on 7 Sept 94.

Registration number 2566

1995

Fifteen general meetings of membership and six events were held.

The group elected a new President, Marcos Garcia (26 Feb)

Events included:

Presentation of Teo's Way (19 Mar)

Participation of President Marcos in Mobile TNC workshops (May/June)

BTF Agricultural Fair (27 May)

Fiesta El Pilar (10 June)

Global Roots project (July)

University of West Indies Workshops (Aug/Sept)

Bicycle Race (17 Sept)

1996

Sixteen general meetings of membership and four events were held.

The group elected Prisilla Canchan as Secretary (17 Mar)

Events included:

Presentation of funds to Leukemia victim

President Marcos Garcia Reviews El Pilar Archaeological Reserve from Helicopter, courtesy of 25 Flight, APC

Landscape workshop at Duplooy's

Fiesta El Pilar (8 June)

Global Roots project (July)

1997 to date

Eight general meetings of membership, one event held.

The group elected Janette Manzanero as secretary (8 June)

Landscape workshop with Hernández and Fernández

Fiesta El Pilar (31 May)

Ecology of the Maya Forest and El Pilar

by Archie Carr III

El Pilar is a major Maya archeological site with components located on either side of the Belize-Guatemala frontier. This site presents an opportunity to explore the concept of "multiple use" of the natural resources of the greater Maya Forest in ways that have not yet been attempted. Success in such an endeavor would provide benefits to Mexico, Guatemala and Belize that envelop, countries with direct responsibility for management and conservation of the Maya forest, the largest contiguous tropical forest remaining in Mesoamerica.

As with many of the archeological treasures of the Maya forest, El Pilar is situated within a standing forest. On the Guatemalan side, the surrounding forest is extremely extensive. On the Belizean side, forest cover is limited to the immediate vicinity of the archeological structures themselves, and gives way quickly to an agricultural landscape in all directions east of the north-south oriented frontier of the Petén.

The site itself is protected in both countries. In Belize, El Pilar is a designated Archeological Reserve. The surrounding landscape is mostly government owned, but may be designated as a Special Development Area (SDA) . In Guatemala, El Pilar, like all such sites, is protected as "national patrimony" surrounded by forest within the Maya Biosphere Reserve under the jurisdiction of CONAP. Considering both sides of the frontier at once, it is possible to conceive of the El Pilar site in conventional park management terms as a strictly protected "nuclear zone" surrounded by a "buffer zone" to be used in ways compatible with biodiversity conservation, including research and development.

In recent years, archeological research at El Pilar has begun to illuminate the economics and organization of the ancient Maya culture and society. Although it remains clear that maize was an essential and abundant staple in the diet of the apparently very large, dense populations of people living in the Classic Period, the findings at El Pilar suggest that the landscape of those times was by no means an endless monoculture of corn. It has become increasingly apparent that corn cultivation was balanced with extraction from natural forests and from "managed" forests for food, fibers, building materials and fuel, essential to the lives of the inhabitants of the Maya forest. Interpretation of archaeological surveys of settlements and other artifacts indicates that the Maya had developed sense of "land-

use capability." It becomes an inescapable conclusion that the Maya had evolved a lore or science that took account of soil chemistry and structure, slope, drainage, micro-climate, forest composition and ecological succession. From these insights, the Maya developed complex and strategic uses of the landscape in the past.

Are there lessons to be learned from the ancient Maya that would be helpful to the survival of modern society — whether in the Maya forest, or elsewhere in the world? Did the Maya achieve a balance with nature? To answer the question is to confront a perplexing paradox. Whereas, unlike the deserts of Mesopotamia and other Mediterranean foci of civilization, the Maya forest is today one of the great forests of the Neotropics, but the Maya themselves, the civilization, does not survive.

Leaving that paradox unresolved, it is valid to consider that a sophisticated land use evolved in the ancient Maya forest that was maintained for centuries; and for centuries was able to support one of the highest densities of human populations living in the New World. The proposal suggests that there are lessons to be learned from the ancient Maya—lessons of contemporary utility to life in and around the Maya forest, and, potentially, of both academic and practical importance in understanding the evolution and decline of the Maya civilization.

Research at the Belizean component of El Pilar has already established a living model of a house compound where a Maya family once thrived. With both demonstration and research values, the site will include plots of cultivation of staples like maize, but also, near the dwellings, plants of use, such as herbs, medicines and even ornamentals. On a broader scale, the model aldea or village will include a "forest garden." This term suggests that forests were manipulated on a scale that was much more extensive than the patio or immediate surroundings of a house. The maintenance of forest gardens by the Maya suggests that trees and plants with certain values were "mapped" and preserved for those uses. It suggests that forests were possibly "enriched," to use a contemporary term in forest management. Enrichment may call for the planting of desirable trees, and even deliberately removing less desirable species to give competitive advantage to the valued types. The forest garden implies rotating milpa, or slash and burn agriculture, a practice which results in a mosaic of more and less mature serial stages of forest recovery. Importantly, classical ecology states that the net productivity of young forest is greater than a mature forest. If evidence suggest that the Maya were aware of this principle of energetics, did they manage for it, consciously? Unconsciously?

Given that large domesticated animals are unheard of in the Maya culture, it may be assumed that, beyond the essential crops of maize, beans, and squash, some fraction of the protein requirements of the human population was derived from wildlife. To the degree that this is true then, a form of wildlife management is not implausible as an admixture to the forest management suggested above. Management in this case could mean as little as official recognition of a certain forest or forest type as productive for game, and actively protected for that purpose.

The landscape suggested by current research and conjecture taken from those early

studies is that the Maya forest was never a vast sea of corn and humanity, as one might expect from the alleged magnitude of the human population of the Classic Period (c. 3 million). Instead, the region was probably a mosaic of vegetative cover, ranging from open fields to closed canopy forests. In fact, assuming rotational milpa agriculture, and an abundance of fallow, recovering plots, forests, as opposed to plantations, probably dominated the scene. Such a landscape, combined with the absence of modern weapons, can easily predict the presence, even abundance, of vertebrate wildlife species that today are considered endangered or very vulnerable to extirpation.

At El Pilar, these observations and hypotheses can be tested. Owing to pre-existing management criteria for the land surrounding the archeological sites, large-scale, long-term manipulation schemes can be introduced that will allow immediate benefits to local people (harvests of forest products, for example) and invaluable experimental data.

It is proposed that an area of several thousand hectares on both sides of the frontier become incorporated as an experimental "landscape" for research into sustainable land use in the Maya forest. The area and, especially, the configuration of the proposed research polygon is not given here. Importantly, it would include substantial areas of highly "disturbed" cattle land on the Belizean side, and the rural communities found therein. Communities in Belize and Guatemala would be drawn into the experimental process, becoming integral to it.

At the risk of speculating, the genre of research expected for the area could be called landscape ecology. This would be guided by the findings and predictions of Maya archeology to form a rare interdisciplinary relationship. Initially, it would be necessary to describe the ecology of the designated polygon in some detail. Relationships between major components of the landscapes, such as seed dispersal, pollination patterns, and animal migration, would be defined. With such fundamental baseline data in place, manipulative experiments could begin. These would range from basic timber extraction, as called for in the current Guatemalan forestry concessions, to voluntary modifications to cattle grazing regimens on the Belizean side. With the scientific community present and sensitized to the strengths, weaknesses and aspirations of the local people, it is entirely appropriate to seek at El Pilar a community-scale experimental design.

Meanwhile, at the heart of the polygon would be the protected archeological sites in both countries, and development and interpretation programs are underway or contemplated for them. It is expected that gradually the educational attractions, combined with the growth of traditional archeological research, and research into landscape ecology and land use, would bring increased international prestige to the site of El Pilar. Importantly, it will also bring new and eagerly-sought economic investments into this very impoverished region.

Envisioning the El Pilar Archaeological Reserve: Towards an Integrated Management Plan

by Tina Gurucharri and Don P. Horton

Introduction

The Management Plan Team was responsible for evaluating El Pilar to identify areas that require professional and community involvement. The interdisciplinary team began by establishing goals and critical concerns as a guide for the research and development components, determining key steps necessary to accomplish initiatives. Goals and concerns of the Management Plan Team were developed to help guide the planning process and are identified as follows:

Goals:

1. To consider sustainable management and development strategies for El Pilar and surrounding community.
2. To expand the traditional scope creating a Management Plan that is not just a government instrument, but also a community instrument.
3. To design a Management Plan that can be implemented feasibly and efficiently by two countries.

Critical Concerns:

1. Economic development needs of the area are multidimensional, and tourism should not be the sole focus. Multi-strategy designs are required to address economic development initiatives.
2. Tourism should not negatively affect the community. The Management Plan should include efforts to mitigate any negative impact on local communities resulting from tourism development.
3. The community should participate in determining the type of tourism they would like and what kind of impact is acceptable.
4. The interpretive program should include archaeological and environmental attractions. These aspects are interdependent and should be so presented for the program to be successful.
5. The El Pilar Archaeological Reserve is one resource owned by two countries. The Management Plan should address a co-management strategy.

The El Pilar Vision

The management team recognizes the diverse interests associated with developing the El Pilar Archaeological Reserve as a major cultural and natural tourism destination in Belize and Guatemala. To guide the decision-making process, a written vision statement has been developed to assist in meeting planning demands. The "vision" is a hypothetical statement used to establish standards and goals for the El Pilar Archaeological Reserve and is as follows:

1. The plan represents two sister nations, Belize and Guatemala, working together to manage a single cultural and natural resource.
2. El Pilar will serve as an example of multi-disciplinary efforts to incorporate the

- needs of visitors, villagers, tourism, and research communities.
3. El Pilar will be a community development program that will foster tourism initiatives while sustaining local economic development.
 4. El Pilar management will support sustainable development strategies for surrounding villages.
 5. El Pilar managers will promote cultural and natural conservation.
 6. Social development will be the center focus, guided and presented by the community.
 7. The interpretive program will be comprehensive and represent an understanding of people within the region, both past and present.
 8. Presentation of the education program will be accessible and employ adequate visual and other aids to be useful to those without or with literacy skills.
 9. The Management Plan will represent a unique and holistic approach to planning, interweaving relevant social and environmental issues.
 10. El Pilar archeologists will break away from traditional research strategies by considering critical input from local stakeholders and by highlighting the diverse cultures of the surrounding villages.
 11. The model plan relies on the substantive participation of the community in land use decisions as well as the establishment of development incentives.
 12. The final Management Plan will serve as a model that can be used by other agencies and officials, regionally and beyond, for successful implementation of multi-disciplinary management ambitions.

Management Plan Component

The Management Plan Team understands the diverse research and development themes of the El Pilar "vision." Integrated management of El Pilar as a shared resource is unique and provides an opportunity for the plan to serve as an example in managing research, development, and interpretive programs. This management objective is highly critical to the future of the El Pilar Archaeological Reserve development in the region. The Management Plan should consider community development implications and promote stakeholders participation. The plan should also be a living and legally-binding document used by the governments of Belize and Guatemala and the participating managing agency as an ongoing guide in decisions affecting the reserve. The list of concerns that the Management Plan Team believe should be addressed revolve around the following subjects: culture, archeology, archaeological conservation, natural resources, economy, education, site planning, political and legal issues, research. These are treated individually below.

I Culture

The cultural make-up of the surrounding community is one reason tourists visit the region. Decisions affecting the development of El Pilar take into account of the local communities and support the revitalization of traditional cultural activities, such as arts and crafts. Development issues should be addressed in community meetings where local populations have an appropriate forum to address their concerns. Cultural issues identified by the Management Plan Team include:

1. Use of census studies from Belize and Guatemala to identify basic demographic characteristics of surrounding villages.
2. Conduct diagnostic demographic studies (economic, physical and political) to be used in the planning process.
3. Document the multi-cultural aspects of the communities history (oral, photographically, and written) to help the revival of their history.
4. Identify community place names along the river, roads, and trails.
5. Update historical studies of the local area.
6. Maintain visitor statistics to determine visitation trends.
7. Information at the AdEP community visitor center should include El Pilar (such as a model of the monuments), community history, local medicinal plants and agro-forestry uses, and examples of community arts and crafts.
8. Design an extractive use program for forestry and agricultural resources that will compliment sustainable agriculture methods demonstrated at El Pilar Archaeological Reserve.

II Archaeology

Archaeological monuments at El Pilar will be the primary research instrument and the main attraction for tourism. Development of the archaeology should continue to be guided by the professional archaeologists of the El Pilar Program, under the direction of Dr. Anabel Ford, in collaboration with other professionals who join in the research efforts. The Management Plan Team suggests an archaeological strategy be included in the Management Plan and offers the following for consideration:

1. Develop a plan to determine the nature of the archaeological monuments at El Pilar, an agenda of excavation priorities, and a sequence of relevant conservation criteria.
2. Identify available funds to support excavation (research sources), conservation (national and international sources), and maintenance (government and community sources).
3. Develop a policy for the clearing of vegetation in relation to the monuments.
4. Develop policy for the protecting of cultural resources from the impact of tourism.
5. Explore the possibility of restoring the Maya pyramid and plaza located in Bullet Tree Falls at the AdEP community visitor center. This ancient temple has the opportunity to become the focal point for the community and tourists who travel through Bullet Tree Falls on the way to El Pilar.

III Archaeological Conservation

Archaeological conservation has a direct correlation with long-term operational costs of reserve management. The more ancient architectural structures that are uncovered and stabilized, the greater costs will be to maintain those structures. The concept we want to promote is to expose structures that will lend a benefit to the interpretation of the site and can be maintained at a reasonable cost. The Management Plan should include policies on governing this principle. The Management Plan Team offers the following considerations in this area:

1. Evaluate existing and monitor changing conditions in order to develop an archeological plan of action.
2. Design a strategy for conservation that incorporates exposed and unexposed monuments.
3. Define methodology and approach to determine which structures should be

- exposed and stabilized and which should be covered.
4. Determine the practical maintenance scheme of the architectural and agro-forestry exhibits.
 5. Articulate the maintenance program for the Maya monuments within the forest context.
 6. Design a review process for completed work.

IV Natural Resources

The natural environment is another important resource for research and interpretation which contributes to the entire project. El Pilar has a continuum of natural environments from high stand forest, largely found in the Reserva de la Biosfera Maya (RBM) in Guatemala, to the cleared agricultural and pasture lands, dominant around the El Pilar Archaeological Reserve in Belize. The opportunity for agro-forestry research aimed at how the Maya maintained a sustainable forest in highly populated regions is viable at El Pilar. Project managers should capitalize upon the varied agriculture opportunities offered by the site to maximize research opportunities. The Management Plan Team also realizes that there is a delicate balance between current agricultural methods and sustainable ecology. Appropriate policies must be established that will control these agricultural methods to insure environmental conservation. The Management Plan Team supports this concept and suggests the plan outline research strategy in this area.

Research of the natural environment should include the following:

1. Consider the movements of animals and the amount of land required to sustain the protected plant and animal species.
2. Recognize a buffer zone around the core of El Pilar should be designated to encompass the reserve and surrounding areas as part of the Multi Use Zone of the RBM and as a Special Development Area (SDA) in Belize.
3. Incorporate a policy on forest management for the buffer zone and for forest clearance along the roadway between the villages and El Pilar.
4. Consider the involvement of extension offices from the Belize Department of Agriculture to help with the management of agro-forestry land within and surrounding El Pilar. Have them assist in designing a policy on the use of exotic and native plants and sustainable extraction of forestry or agro-forestry products.
5. Inventory current and historic community use of natural resources, geographic locations, and local names.
6. Document the number of farmers, types of crops, and schedule of crop use and rotation.
7. Develop a community program for the protection and restoration of the natural resources and habitats.
8. Determine a policy for tree clearing at the site with regard to archaeology and public safety.
9. Promote a policy on sustainable hunting in the buffer zone.
10. Monitor the contemporary human/environmental relationships with reference to sustainable practices.
11. Implement on-going assessment of human interventions and influences on the environment to inform policy on level of allowable visitation impact and carrying capacity.

V Economy

Short-term and long-term economic strategies should be prepared with community development in mind. Strategies have the potential to greatly assist local villagers in their community development initiatives and all villages that will benefit from the development of El Pilar should be involved in the decision making process. This community-based approach to economic development and site planning will strengthen local commitment and allow communities to grow at their own pace. Community-based planning will also instill a sense of stewardship and investment of the community in El Pilar. This sense of pride will carry over into other economic development issues guided by local leaders. Ideas that will strengthen the project and assist local villagers are:

1. Development of a marketing study using comparable situations and emphasizing the unique aspects of El Pilar.
2. Use models of monuments as an interpretive exhibit.
3. Develop a cost-benefit study for the reserve and the region. That is, the reserve may not be self-supporting, but its development will have economic benefit at the local and regional levels. These need to be appreciated.
4. Design mechanisms to increase benefits from the Ruta Maya and Mundo Maya tourism programs that can be invested back into archaeological sites.
5. Include security and vigilance in budgets.

VI Education

El Pilar planners realize the importance education will play in the overall program at El Pilar and in community development issues. To facilitate the education efforts, the Management Plan Team recommends that an interpretive manual be developed that will assist reserve rangers, managers, tour guides and other personnel in delivering educational services to visitors and the villages surrounding El Pilar. Through education, El Pilar will be able to promote well trained personnel facilitating a visitor experience that will be lasting. The Management Plan Team recommends the following be considered when preparing the education plan:

1. Design a strategy for the El Pilar educational program which will serve as the foundation for the development of a comprehensive interpretive program.
2. Participate with governmental agencies and non-governmental agencies (NGOs) to educate the local community on the benefits and shortfalls of tourism.
3. Promote the education of reserve administrators, hotel operators, guides, and other service providers to establish the foundation for the development of a comprehensive interpretive program.
4. Encourage community involvement in small-scale tourism related businesses (bed & breakfast, restaurants, transportation, and other public service establishments).
5. Participate in environmental and cultural community education (including community history).
6. Develop a regional pilot training program for politicians and governmental officials through the effective use of the media.

VII Site Planning

Site planning will ultimately prepare the site for visitors. Planning techniques should be environmentally considerate, using local materials whenever possible. The site's characteristics should depict the image portrayed in the interpretive plan for El Pilar and be constructed in an energy efficient manner. Professional site planning will lend to circulation efficiency and the enhancement of the overall character of the site. Through

appropriate design, the El Pilar Archaeological Reserve will be laid out in a manner that places emphasis on conservation of the environment, the principles of human use, as well as park carrying capacity. The Management Plan Team recommends the following be considered:

1. Information gathering should include all relative site analysis information, cataloged in map form either through traditional site analysis methodology or through Geographical Information Systems format. This material should include forest conditions, topography, soils, archaeology and historical information, land use, pedestrian and vehicular traffic patterns, and other information relative to site development.
2. NGOs, such as Belize Enterprise for Sustainable Technology (BEST) and Centro Maya, should help to solicit stakeholder concerns in areas such as land use zoning, development of arts and crafts trades, and community training in the benefits of tourism and professional development.
3. There needs to be a Master Development Plan for visitor facilities (rest rooms, rest pavilions, parking, vendors, trash, and concession locations, etc.).
4. A program for service areas and maintenance facilities must be developed.
5. Appropriate concession sites within the reserve and community need to be provided.
6. Strategies need to be promoted to prevent development along the entry road to the reserve. These should be incorporated into the buffer zone plans.
7. Signage and circulation plan needs to be designed for the reserve.
8. A policy needs to be designed on vehicles in the reserve. Ideally, all vehicles should be located outside of the area except service and research vehicles.
9. Plans should be made to direct through traffic around the conservation area. In the meantime, controlled access may be needed at entrances to the reserve while the road remains as public access.
10. Plan considerations should allow for expansion of facilities such as museum needs, parking, public facilities, administrative and maintenance services.
11. A phasing plan needs to be devised that will consider funding needs for development, facility operations, and maintenance.

VIII Political and Legal Issues

Political and legal components of the Management Plan should concentrate on the relationships of Belize and Guatemala. Since the reserve is recommended to be managed as one resource located between two nations, extra effort will be needed to assure compliance with both countries governing laws and regulations. The Management Plan Team has relied upon the Political/Legal Team to address and determine how to reconcile the differences between the two nations political governance. The following is offered as an overview of the area of need:

1. Co-management of the site needs to be addressed. It is recommended that both governments consider oversight/management by a Non-Governmental Organization (NGO).
2. Concession Policies should be developed for the local community and the reserve. These policies will assist in controlling sustainable development principals.

IX Research

Research is one of the primary reasons for designating El Pilar as a protected area. The

research possibilities are continually evolving, being defined, and modified. The possibility of expanding the research to include agriculture, agro-forestry, botany and other natural sciences is phenomenal. It is encouraged that the research be expanded to more comprehensively include all relevant areas. Recommendations in this area are:

1. Coordinate the permitting process for researchers in Belize and Guatemala through a reciprocal agreement and/or advisory committee.
2. Promote a comprehensive system for collecting, documenting, and archiving research information and make it available through a central location or facility, such as a library.
3. Continue research on Maya agro-forestry.
4. Develop research on the sustainable use of renewable construction materials (e.g. corozo fronds, the subsidy from nature, used as roofing material).

Imagining the Administration of Shared Resources in the Maya Forest

By Thomas T. Ankersen, José Antonio Montes, and Dolores Balderamos Garcia

Introduction

The Mesa Redonda El Pilar was assembled to initiate the development of a management plan for shared cultural and natural resources and to provide the technical basis for developing a proposal for implementation of the plan. The group included archaeologists, conservationists, ecologists, park planning specialists, landscape architects, community leaders, government agency representatives, and attorneys from three countries. The roundtable was divided into working groups that included management and physical planning, cultural and natural resources, community development, and the legal and institutional framework. This report describes the contribution of the legal working group. Commissioner John Morris, of the Department of Archaeology in Belize, and Milton Cabrera, the coordinator the Consejo Nacional de Areas Protegidas (CONAP) in Guatemala also contributed their expertise to the legal working group. Support for legal working group's participation was provided by the Tropical Ecosystem Directorate of the United States Man and Biosphere Program, the Ford Foundation and the John D. and Catherine T. MacArthur Foundation.

Objective

The objective of the roundtable was to advance efforts to the achieve integrated administration for a cultural and natural resource shared by two countries. This objective, its rationale, and the means of achievement were set out in a consensus statement of the roundtable referred to as the Declaration of the El Pilar Roundtable. This Declaration includes the names and institutional affiliations of the declarants and is included in this publication.

Geopolitical Considerations

Joined by an ancient causeway, El Pilar's two primary temple complexes between Cayo, Belize and Petén, Guatemala, provide a symbolism that far exceeds its scale. Although the two countries currently enjoy cordial relations, longstanding territorial disputes have tempered efforts to achieve full bilateral cooperation.

The portion of El Pilar reserved in Belize comprises 808 hectares within Cayo District and north of the village of Bullet Tree Falls. The land surrounding the proposed reserve is used by small agrarian milpa farmers and a rapidly developing tourism economy in nearby San Ignacio. The portion of El Pilar in Guatemala lies within the Multiple Use Zone of the Maya Biosphere Reserve in the Municipality of Melchor, Petén. Only recently discovered, a preliminary effort has been undertaken to map the true extent of the site in Guatemala.

Management Considerations

Archaeologists, conservationists, and anthropologists working at El Pilar are seeking to interpret the site in a unique and innovative manner. The Maya inhabited the forest in numbers estimated to be as great as ten times the present population of the region, presumably extracting resources in a sustainable fashion for centuries until the civilization's eventual decline. Integrating El Pilar into the fabric of the broader community is a stated management objective. Thus, the site's managers are attempting to interpret ancient Maya lifestyle by developing a modern Maya forest garden, based on evidence of ancient Maya polycultivation practices. Local villagers with traditional knowledge are assisting in this effort. Additionally, site researchers seek to transform the interpretive emphasis on monumental architecture in favor of an interpretation that emphasizes the general way of life.

Site developers are also seeking to maintain and restore a remnant of the contemporary Maya forest, the storehouse of tropical biological diversity that survived the ancient civilization. Protected areas within the Maya forest serve as refugia for the flora and fauna that characterize this forest. Recent attention has been focused on the role of these refugia, both large and small, in a greater land use mosaic that can sustain viable populations in the Maya forest today.

Legal Considerations

To prepare for this effort, the attorneys from Belize and Guatemala each drafted extensive background papers on the respective legal and institutional framework for cultural and natural resource management in the two countries. These vary at the most fundamental level.

As a former crown colony, Belize maintains the tradition of the English Common Law. As a former Spanish colony, Guatemala represents the tradition of the Roman Law.

Moreover, the official language of the two countries are English and Spanish respectively. Nonetheless, these distinctions have been blurred in modern times. Most contemporary environmental and natural resource law is code-based, and although English may be the official language of Belize, most Belizeans- particularly in the vicinity of El Pilar - are conversant in the Spanish language. An imaginative approach to law was required.

Institutional Considerations

The mandate of the El Pilar Roundtable to develop a single management plan for a resource shared by two countries presented a unique challenge to the legal working group. The group approached this challenge by seeking a framework that could accommodate the legal and administrative requirements of the separate sovereigns involved. Such a framework would provide for one management plan implemented by two management units, each representing the portion of the resource located within each country.

Interestingly, the physical characteristics of the shared site dovetail conveniently with its administrative realities. That is, in El Pilar - Belize, where the cultural resource presents a management priority, the cultural resource agency enjoys primary jurisdiction. In El Pilar - Guatemala, where the natural resource represents the primary management concern, the natural resource agency enjoys primary jurisdiction. To address management issues common to both units, a coordinating committee comprising the appropriate representatives from the governmental resource agencies, non-governmental entities and community involved in management would be established to ensure coordination and consistency with the agreed management plan by each management unit.

Belize Management Unit:

Archaeology of El Pilar

Belizean resource law provides flexibility in terms of the institutional design for the Belize management unit. Belize also has a strong precedent for the delegation of management authority for protected areas to non-governmental institutions, exemplified by the government's agreement with Belize Audubon Society to manage six national protected areas. However, this has never been done in the case of archaeological reserves. Moreover archaeological reserves, as cultural patrimony, enjoy a special status under Belizean law. Accordingly, based on the analysis provided the Belizean legal expert, the legal working group concluded that the best approach would be to develop a "co-management agreement" between an appropriate NGO and the Department of Archaeology, pursuant to a regulation prepared by the Department. The NGO would assume day to day management responsibility for the site with the Department of Archaeology exercising governmental oversight, providing security and other resources, and participating in a proposed management plan coordinating committee. A representative of the local community would also serve on the proposed committee.

Belizean law does not require the development of a management plan for archaeological sites prior to their establishment. Also, protected area management plans in Belize do not have the force of law due to the absence of a specific regulation to that effect. Nonetheless, the working group agreed that it would be preferable if the El Pilar Management Plan had the imprimatur of law. Appropriate reference to the future adoption of the plan could be provided in the subsidiary regulation issued by the Department of Archaeology to establish the Reserve (In Belize, such regulations are known as "Statutory Instruments," or SI.).

Guatemala Management Unit:

Ecology of El Pilar

In Guatemala, the management unit already enjoys a measure of protected status. The site lies within the Multiple Use Zone of the Maya Biosphere Reserve. Jurisdiction over the Reserve resides in CONAP. Activities proposed within this zone must be consistent with the laws and regulations governing protected areas in Guatemala and with the Master Plan for the Reserve adopted by CONAP. The Master Plan presents a range of options in the Multiple Use Zone including concessions for resource extraction and other activities by communities, commercial interests, and NGOs. However, as an archaeological site, concurrent jurisdiction also resides in IDAEH, the Instituto de Antropología e Historia. A proposal to designate the temple complex as a national monument in Guatemala has recently been submitted to IDAEH.

The working group concluded that the best strategy for management of the Guatemala management unit would be to have an appropriate NGO petition CONAP for a concession to manage the cultural and natural resources as a protected area under the provisions of the protected areas law and its subsidiary regulations, and conclude a similar management agreement with IDAEH. Within CONAP, this process requires an environmental impact study and the approval of a five year management plan and one year operational plan.

Integrated Administration

Despite a considerable literature promoting the concept of binational parks throughout the world, research has revealed no instances where contiguous protected areas reflected truly integrated management across national borders. Thus, achieving the plan for El Pilar can represent a true innovation in contemporary protected areas management. To address management issues common to both management units, the legal working group concluded that a "soft management" coordinating committee should be established.

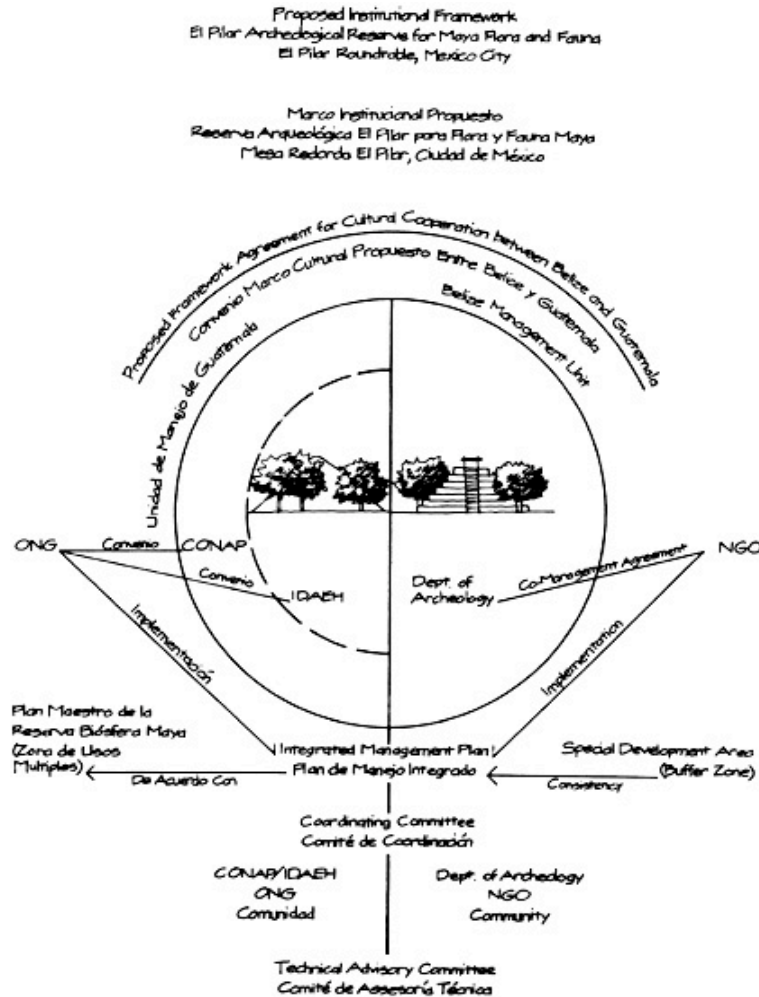
Such a management committee could be comprised of the appropriate representatives from the governmental resource agencies, non-governmental entities and communities from both countries involved in management decision making. The committee would meet regularly to ensure coordination and consistency with the agreed management plan

by each management unit, and make recommendations concerning the plan's implementation. In addition, the working group recommended the establishment of a multidisciplinary technical advisory board composed of individuals with an interest and expertise in the management issue confronting El Pilar. The advisory board would sit in a voluntary capacity to advise on an as-needed basis. This management framework would include formal mechanisms for the resolution of management conflicts at the site.

Summary

The legal working group concluded that the integrated management of the shared cultural and natural resource represented by El Pilar could be achieved within the existing legal framework of Guatemala and Belize. New legislation will not be required nor does bilateral implementation necessarily require a specific international treaty instrument. Instead, integrated management can be achieved by developing one management plan that can be implemented by two management units representing the portions of the reserve within each country. Some diplomatic recognition, such as an exchange of notes, would undoubtedly bolster efforts to achieve integrated management, and could be accomplished within the broader framework of cultural exchange agreement.

There remains significant issues to be resolved relating to the form and nature of the delegations to non-governmental organizations, the forms of international cultural exchange agreements, financial mechanisms, community participation, site security, reciprocal arrangements for cross-border visitation and research, appropriate mechanisms to resolve disputes, etc. Nonetheless, the key determination at this juncture in the planning process is that integrated management of a shared cultural and natural resource is feasible and that an institutional framework can be crafted within which details can be addressed.



The Bottom Line: Funding Areas and Priorities

by Anabel Ford, Ph.D

The El Pilar Program has research and development priorities that stem from the evolving role of collaborative participants. The results of the Mesa Redonda El Pilar provided the foundation for the program's international and multidisciplinary character, still in its inception, yet all components are firmly established. The ideal plan is conceived as a five year program with full funding, bringing the model to fruition with the dawn of the 21st century. While there is tremendous enthusiasm among a growing number of enlightened professionals, funding is still the most precarious aspect of the program's future. The vitality of the program depends on support, and the appeal here is to develop a secure support base that can bring the unique vision for El Pilar to full realization.

The priorities of the program are necessarily focused on the archaeology and how it informs and relates to the other components of the program. Consequently, the major attention initially will be on the archaeology and companion components which can be immediately incorporated into that arena. These include community participation, agriculture, conservation, and tourism. Support for initial phases have come primarily from the development sector and include the Government of Belize, US Agency for International Development, MacArthur Foundation, and Ford Foundation.

As the momentum builds, more and diverse funding sources should emerge as the level of participant involvement across components perceive goals more clearly. In addition, the nature of the program will ultimately require direct participation of the governments where El Pilar is situated. Major sources of international funding come from the World Bank, Inter American Development Bank, the European Union, USAID, to name a few. These organizations have experience in the archaeological arena in Central America. Participation at this level will strengthen the ability to bring the development goals of site conservation, community involvement, and tourism into focus. Government attention will also enhance private sector involvement locally and regionally, thus fueling ecotourism. As the program evolves and is consummated, the chronicle of the success will represent an important replicable conservation model for the developing world.

The development of a five year program has a projected annual budget of \$1,300,000 US and associated infrastructural investment base of \$1,400,000 US.

Envisioning the Future of El Pilar:

A Model for Conservation and Development of Cultural and Natural Resource in the Maya Forest

by Anabel Ford, Ph.D

Introduction

Conservation of cultural and natural resources is one of the most important global long-term goals for the coming century. Yet, efforts to accomplish this have often led to the compromise of important short-term economic needs at regional and local levels. This is clearly evident in the Maya forest region. A model conservation program must balance short-term with long-term objectives to attain a sustainable framework for resource management.

The El Pilar Program has the great potential to evolve an unique conservation design incorporating local community needs, government development agenda, and international environmental concerns. This can be accomplished by a collaborative consortium of individuals whose enthusiasm and experience can be brought to the Maya forest region.

The core of the El Pilar Program is to sustain the complex habitats of the Maya forest and

to preserve the irreplaceable cultural resources of the ancient and contemporary populations of the region. Community involvement in preserving traditions is critical to the success of conservation management. Promoting ecological biodiversity and sustainable economic development will conserve and enhance the contemporary landscape of the Maya forest.

The Archaeological Research Base

Regional settlement distribution, local community subsistence patterns, and individual household organization of the ancient Maya provide material evidence for the evolution of sustainable economies. Archaeological research on the Maya underscore the complexity of interrelationships between cultural systems and environment over time. These patterns and interpretations have implications when we consider the future of the Maya forest and the people there today.

The Belize River Archaeological Settlement Survey (BRASS) has compiled regional settlement data, identified local community patterns and investigated aspects of household organization evident in the archaeological record of the central Maya lowlands. The ancient Maya economic landscape reflects a continuum of land use strategies, from densely settled, intensively used uplands, dispersed and extensively used transitional zones, to unsettled swamps that represent a land use mosaic.

As a representative major civic center, the construction histories of El Pilar's temples, plazas, and palaces will reveal clues to the development of Maya civilization, and the examination of surrounding residential components can expose the nature of the ancient urban economic landscape. Archaeological research will collect these data and provide the basis for a new appreciation of the relevance of the past. Stabilization of the deterioration of the ruins, consolidation of representative buildings and temples, conservation of the preserved architecture, along with the reconstruction of example Maya houses in their forest gardens will be a novel and educational attraction for local, regional, and international visitors, representing one of a kind in the Mundo Maya. The revival of the ancient traditions of El Pilar provide the context for a new perception of Maya prehistory, one that takes into account the complexity and continuities of the Maya forest along with its peoples past and present.

The BRASS/El Pilar Program is rooted in the study of the human/environment relationship. It draws on the foundation of cultural ecology, interpreting evolutionary changes in strategies for survival. The composition of the Maya forest today bears the imprint of ancient human habitation and resource management. The goal of the El Pilar Program is to evaluate continuities and shifts in the evolution of the human/environment relationship through time and across space.

Agricultural Design and the Structure of the Maya Forest

Agricultural technologies evolve to fulfill the food needs of society. Traditional

agriculture is focused on the household. Relying on strategies of polycultivation that emulate the native environmental structure., traditional polycultivation strategies involve an "industrious evolution" of labor investment rather than an industrial revolution based on scarce capital.

The ecological structure of the Maya forest is a relic of the dynamic relationship in which humans played an integral part. This relationship extends back more than four millennia to the initial agricultural pioneers of the Maya forest region, the ancestors of the ancient Maya civilization and the heritage of contemporary Maya farmers. The large contiguous stands of forest are a testimony to the efficacy of ancient Maya practices. While the Classic Maya collapse affected the human populations, today's endangered plants and animals survived only now to be threatened with extinction. Therein lies the ecological lesson that must be perceived to build a sound basis for conservation in the future.

Traditional production systems of the tropics are polycultivational. To mimic the forest structure, polycultivation evolved to minimize instability, prevent degradation and integrate both intensive and extensive labor techniques that maximize production. Heterogeneous and biodiverse, the forest gardens constituted the strength of the Maya community in the past, as well as today, by relying on the traditional knowledge of local farming households. Today, villagers are rapidly abandoning time-proven methods in exchange for introduced technologies. Deep linguistic terms speak to these traditions and describe a continuum of economic qualities of the forest, denoting a long-term human coexistence with the environment. Kanan K'ax describes a "well cared for" forest, evoking a concept of stewardship; K'ax il kab refers to a forest with beehives; and Ka'kab K'ax indicates a forest with good agricultural soil quality.

At El Pilar, the innovative polycultivation design is based on a household plan and includes annuals and perennials interspersed with tree crops, providing an ongoing source of innovation for the community, fostering resource conservation and community development that aligns with, rather than opposes, the natural regenerative processes of the tropical forest. Through farmer participation and networking, shared experience and knowledge will go beyond the boundaries of the reserve, restoring the local landscape to a state of greater biological diversity.

Community Involvement, Investment, and Stewardship

To accomplish the goal of improving living standards and self sufficiency of the regional community of the Maya forest, the immediate and short-term needs of families must be incorporated into the long-term agenda of sustainability. No reserve exists within a vacuum and, in order to survive and thrive, the local population must assume a stewardship role or the ultimate conservation aims may not be achieved.

Cooperative associations have already been established with Amigos de El Pilar, a community-based organization to promote local participation in the reserve. Their goal is to develop cooperative enterprises in tourism and agriculture that increase villagers' economic stakehold in the reserve. The leadership role they are assuming and the self

determination they are gaining in the process, builds a foundation upon which the future success of the El Pilar model depends.

Promoting Ecotourism at El Pilar

The tourism industry has become increasingly focused on traditional communities and cultures as well as the natural environmental wonders. Mesoamerica has become a flourishing travel destination, and the Maya world has evolved as a vital niche for adventure and ecotourists. Links between specialty travel firms in the international arena and regional travel services in the Maya area are essential to the development of this market, and new destinations contribute significantly to its appeal.

The El Pilar Program has set the stage for ecotourism with local guides and hotels, regional publications, and international promotion in media and tour books. Villagers working through Amigos de El Pilar in education and training workshops, lectures and tours with the schools, and through participation in the archaeological research are identifying the value of their stakehold in El Pilar. Further, the program has hosted events, such as the annual Fiesta El Pilar, that draw national and regional attention. Lectures and articles in Belize, Guatemala and Mexico have increased regional knowledge and appreciation of the site. Public relations information has been circulated to international guide books and posted on the World Wide Web* featured in Archaeology Magazine in 1997. Funding from international agencies, such as Central American Commission for Environment and Development (CCAD), Ford Foundation, MacArthur Foundation and US Agency for International Development (USAID) has also elevated the visibility of El Pilar on the global front, providing a springboard for the future.

The Foundation for the El Pilar Model

Park management and planning is fundamental to the reserve's future. Informed designs are based on inventories of the ecological and cultural resources within the protected area. Additionally, identification of stakeholders, incorporation of public interests, articulation of the mission, and a clear set of objectives for sustainable maintenance of the reserve is essential. Finally, the extent of conservation goals, the issues of access and education in the design, and the long-term funding needs must be addressed. The Mesa Redonda El Pilar promoted the foundation for the program.

The objectives of the El Pilar Management Plan incorporate the diverse dimensions of the program. Short-term strategies for community involvement must be pursued. Long-term concerns for conservation of the ancient architecture and the environment will be integrated into the plan. Educational and interpretive designs for the park and surrounding landscape must also be considered. These aspects are critical to establishing the reserve on a lasting base, where the potential of El Pilar as an integrative model includes the concerns and desires for both resource conservation and economic development.

The Management Plan must also take into account the location of El Pilar between El Peten, Guatemala, and Cayo, Belize. This unusual setting impacts the research and development activities of El Pilar. The size of the civic center is presently unknown as the most comprehensive studies have thus far been concentrated in Belize. Despite this, preliminary surveys into the western section of El Pilar, in Guatemala, demonstrate its importance and interviews with the Guatemalan community of La Zarca suggest that there is considerably more monumental architecture to be identified, mapped, and inventoried as part of the greater site core.

The physical situation of El Pilar raises the need for protection both in Belize and Guatemala. Resource management designs for El Pilar need to consider the contiguous sections in Belize and Guatemala as a whole. The natural environment, cultural resources, access for tourism, and adjacent contemporary peoples all need to figure prominently in the master plan and the final product: The El Pilar Archaeological reserve for Maya Flora and Fauna.