

## COMMUNITY INTEGRATION AND ADAPTIVE MANAGEMENT AT EL PILAR

Anabel Ford, Melanie C. Santiago Smith, and John M. Morris

*Many developing countries establish parks and protected areas as a means of addressing environmental effects of growing populations and diminishing environmental resource. The surrounding communities can view these areas as opportunities to gain benefits or as obstacles restricting traditional agricultural practices. Effective resource management needs community involvement, the input of experts and the commitment of government officials. These partners, working in collaboration, allow more flexible management and provide opportunity for all partners to engage in decision-making related to the management objectives. The objective of this paper is to demonstrate how the El Pilar Archaeological Reserve for Maya Flora and Fauna promotes the integration of these partners in its unique management plan wherein all interested groups are partners and recognized as important participants in achieving long-term goals.*

### Introduction

Many developing countries face an ongoing battle with growing populations and diminishing environmental resources. In an effort to address this problem, many of these countries have established parks and protected areas. The communities around these parks either view the change in land status as an opportunity to gain benefits from the tourism it attracts or as an obstacle for reducing their traditional land use practices.

Protected areas management has centered on conservation and preservation of cultural and natural resources enforcing, strict laws against those who do not comply with established regulations. Communities, however, when included in benefits through tourism, sustainable land use, and promotion of their traditional lifestyles are likely to place value on these resources.

Protected areas management needs community involvement they also need the input of experts and government officials. These three partners working in collaboration allow for more flexible management whereby all situations are analyzed as opportunities for all partners to

engage in decision making as they occur, and implementation and monitoring objectives are modified to meet collective management goals.

The objective of this paper is to demonstrate how the El Pilar Archaeological Reserve for Maya Flora and Fauna (Figure 1) has managed to integrate all these partners into its unique management plan. The El Pilar Program can be seen as an example management design for protected areas where all interest groups not only have a voice, but also, are recognized as the important participants.

### Adaptive Management

Adaptive management of protected areas is designed to maintain flexibility by promoting collaborative reviews to improve resource management strategies (See Holling 1978; 1986; Walters 1986). This is achieved by working within an evolving framework that responds to changing contexts instead of predetermined or established conditions. Characterized as management that monitors policies, actions and conditions as they change and are implemented, results are evaluated and

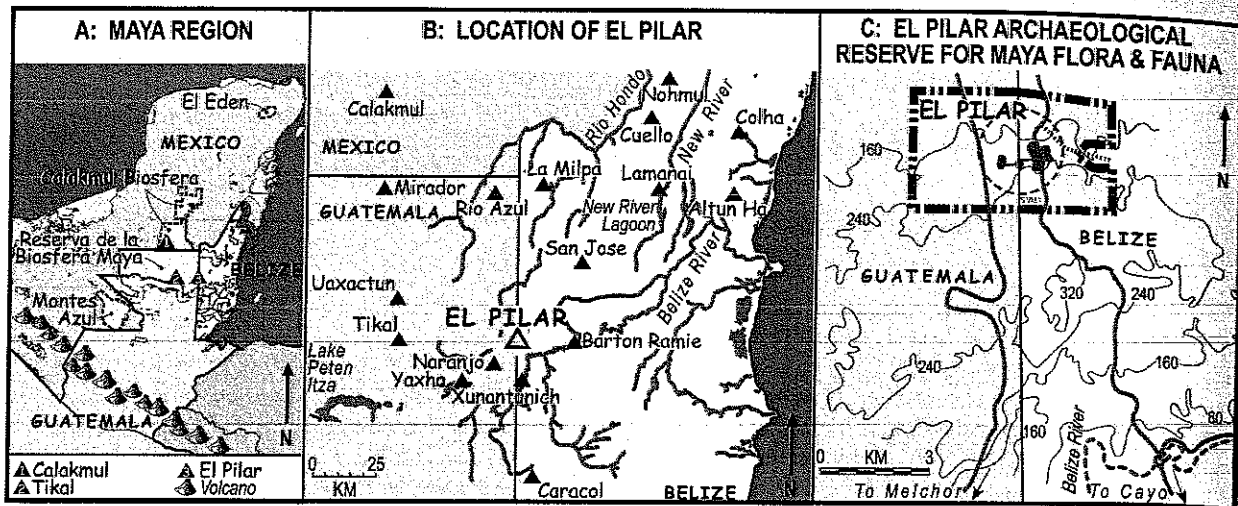


Figure 1. Location of El Pilar at the regional, local and site levels.

modified depending on how the target cultural and natural resource develop. "Adaptive management is an inductive approach, relying on comparative studies that blend ecological theories with observation and with the design of planned interventions in nature and with the understanding of human response processes" (Gunderson, Holling and Light, 1995:491).

An adaptive management system has two elements: 1) a monitoring system to measure key indicators and current status and 2) a response system that enables modifying key indicators (Hilborn & Sibert 1988:115-116). The design of flexibility involves managing for ecological resilience, addressing crises as opportunities. In adaptive management, each management component is founded on ecological assumptions about hypothetical responses and outcomes. The collective evaluation of each component, after an established period of time, promotes adaptation and the consequent implementation of revised sets of policies and actions among the interest groups.

The adaptive management process for protected areas embraces a cycle of four phases: plan, act, monitor, and evaluate. The planning phase relies on clear objectives

and expectations. The action phase requires the field implementation that tests the hypotheses. In monitoring, the expected results are compared with actual responses and outcomes. This permits a cyclic, learning-oriented approach with constant feedback during all stages of management.

The cycle of monitoring and evaluating within protected areas reveals a process of grappling with management problems (Walters 1986:8). It allows participating partners to utilize their knowledge and experiences to facilitate further learning, as they gain understanding of the specifics of the management systems. Conceptually, adaptive management can lead to specifically tailored policy designs that can produce measurable outcomes reflecting conservation goals and priorities.

"Adaptive management will not eliminate conflict, but it will move the debate into a scientific context so that surprises and disappointments can be learned from, as new hypothesis are built." (Olympic National Park Website, page 1) The adaptive management process moves away from "traditional" top-down, authority driven protection approaches of officials towards natural and cultural resource management. The strategy involves a

partnership among those who have the ability to influence the implementation as well as those that are affected by the process. The process engages the participants in support and exposes awareness that outcomes are neither clear-cut nor predictable. For the communities, it offers an outlet to incorporate traditional knowledge of the geography, environment, and ecology to promote the management of the protected resources.

Typical approaches to management, such as preservationist or protectionist, focuses on enforcement or policing efforts, the "*fencing and fining*" style (Honey, 2002:11). These approaches generate resentment on the part of the communities who often feel that there are little or no benefits from either the parks or the visitors it attracts (see Honey 2002). In contrast, adaptive management approach assumes that communities will protect what they value. The adaptive approach calls for a more collaborative relationship with interest groups, particularly within communities.

Adaptive management depends on the direct observation by each interest group -officials, experts, and community- to facilitate the overall management process. For all interest groups, the adaptive management option allows for greater comprehension of traditional practices, where land use and history converge into contemporary lifestyles. These lifestyles shape the existing conflict and consensus, directly influencing the resource management outcomes.

### Community Integration

For any protected area to thrive there should be the inclusion of local community interest groups in the management and decision-making process. This is the premise of adaptive management. Local communities are implicitly responsible for their surrounding resources, so their

integration is critical. This recognition of community responsibility has gained visibility in example management designs for protected areas. The settings include the Adirondacks of upstate New York, Guanacaste National Park, in Costa Rica, Serengeti National Park, Tanzania (Taylor-Ide and Taylor 2002; Honey 2002:220; Janzen 1998). Community integration approaches have varied, yet the outcome can stimulate rural social organizations and their interest in promoting involvement in protected areas. This is especially true when the community sees direct benefits, such as those derived through tourism.

An effective definition of community is defined in the book *Just and Lasting Change* (Taylor-Ide and Taylor, 2002) as "any group that has something in common and the potential for acting together." We tend to see communities as a group who live within a geographic region, but there are other community groups- unions, religious organizations, and ethnic alliances. Essentially, a community is any group of people that collectively organize to interact internally as a cohesive social unit. Community involvement starts as a process of self-initiative, promoting group voice. United groups, not one or several factions, can speak for the whole. Cohesive community groups are hard to get off the ground early in the management process, and certain factions may stay outside at first. But, through adaptive management and partnership strategies, larger participation can grow. (Taylor-Ide and Taylor 2002:19-20)

Management and protection programs have been hindered by struggles between community groups and official policy makers, mostly over who controls the resources and who monitors the implementation. "Decision-making authority, including deciding whether a project should go ahead in the first place,

has generally, been denied [to communities]" (Pleumaron 1994:145).

Efforts to include community in the decision making process often centered on small-scale enterprise and community based tourism operations. Despite the result of these programs, traditional lifestyles are perceived by officials to hamper the protection of resources. Moreover, power relationships and tensions between officials and communities have made it difficult to achieve community commitment, resulting in disappointment and discontent (Brannon & Wells 1992:34).

### **Adaptive Management Partnership**

The central focus of adaptive management is collaboration through partnership and communication, unlike authority driven, top-down approaches. This management strategy acknowledges all interest groups, each contributing from their expertise to meet the management goals and objectives. Partnerships are fundamental to integrate community interest groups, providing room for discussions.

Three main interest groups make up the foundation of a solid collaborative partnership: the community, the officials, and the experts. With an active three-way partnership based on mutual respect, a balanced combination of inputs allows flexibility in management (Taylor-Ide and Taylor, 2002:240). Communities are internally focused. Their external relationships are with officials and experts. Nevertheless, officials and experts may wear multiple hats, and can be part of the community as well.

Internal community cooperation frames the context for the identification of needs and interests. Once identified, the needs and interest will reveal strengths and weakness within the community. This will lead to an understanding and achievement of the desired benefits and a means to

recognize opportunities for collaboration in the management of protected areas.

The main partner and external collaborator is the official. Officials are most often politicians or administrators who represent government authority. They can also affiliate to interest groups such as businesses, non-governmental organizations, religious agencies, and civic groups. Official authority comes from the outside. They are the link between the communities and the policy makers when it comes to protected areas. These officials are important partners in creating an environment for stimulating consensus. Their influence can extend to decision-making, budget supervision, policy design, administrative regulations, and hiring of professional and local support.

The third partner is the expert. Experts involved in the adaptive management process fill several essential roles that neither community nor officials can bring to the partnership. Their involvement may be voluntary or contracted. Their most important contribution is the infusion of external scientific, social, financial, and administrative knowledge and skill. Familiarity with broad issues, allows experts to set forth comparative technical and disciplinary examples to achieve management goals. Experts bring experience and vision of potentials, opportunities, and circumstances that promote success. This input is fundamental to streamline alternatives and innovations from outside. Experts can also help foster cooperation by linking community groups and government officials around management concerns. At the same time, experts bring a wide network of partners with academic, governmental, and private institutions; large and small businesses; international donor agencies, and professional associations.

Donors are a transient type of expert that plays a significant role for the partnership. Donors offer financial

incentives, essential for the implementation and completion of proposed programs. The financial or technical resources they contribute, however, can encourage dependency instead of development or autonomy. This is why they should not be considered a permanent partner (Taylor-Ide & Taylor, 2002:240).

An effective adaptive partnership among communities, officials, and experts should include collaborative assessment of goals and evaluation of programs. Inclusive, regular meetings among partners provide the roundtable to assess and evaluate activities. Clear meeting agendas, focused on issues, will help to prevent factionalism. They also serve as opportunity for establishing the annual cycle and renewed work plans (Taylor-Ide and Taylor 2002: 295).

Each partner in this collaboration brings their subjective view to the table. Therefore, effort to gather objective data will enable partners and communities in particular, to evaluate their changing circumstances and their integration in the management design (Taylor-Ide and Taylor, 2002:295-296). Officials and experts provide ongoing facilitation and technical assistance to community groups and to shape the comprehensive agenda. Periodic workshops provide the communities with the structure and capacity for adaptation. The stewardship role that the communities develop in this process is essential if conservation goals are to be achieved.

### The El Pilar Model

The Maya forest is among the most biodiverse tropical places on earth and at the same time, it is among the most endangered (Mittermeier et al. 2000). This resource is a conservation priority at the regional level. Populations are growing at a fast pace, projecting a doubling in 20 years. This alarming demographic projection combined with exploitive land use calls for alliance

between culture and nature to balance the changes.

The Maya forest will not be effectively managed until communities are incorporated in conservation efforts. At El Pilar, the communities have shown that they can play an important role as guardians of the forest. The community group, Amigos de El Pilar (AdEP), clearly sees a role in relationship to the protected area of El Pilar, particularly as beneficiaries from tourism. They recognize government officials as the protected area authority- in Belize, the Institute of Archaeology and in Guatemala, CONAP. The external expertise comes from two main sources. A vital force is the BRASS/El Pilar Program (University of California-Santa Barbara) that carries out the scientific agenda. The non-government organization (NGO) Help for Progress (HfP) based in Belmopan, Belize acts the community development component. These partners have made tremendous advances in relation to the protection of El Pilar (Figure 2).

When AdEP is considered an active partner, they act as advocates, promoting their interests in the context of the greater management objectives. They bring the Maya forest traditions raising their appreciation of the forest as a garden. Historically, members of the community used the El Pilar area for hunting, logging, *chicle* harvesting and other non-timber extraction, as well as *milpa* farming.

Asking these communities to see El Pilar in a new light has been a challenge. Rising to the challenge, the BRASS/El Pilar Program has utilized a rich network of individuals and organizations ranging from grassroots community groups and communities leader, to government officials, scientific experts and committed non-governmental organizations (NGO) in Belize and Guatemala. The program's notable mantra for El Pilar, "Taking the





**Figure 2.** Consensus building with the Mesa Redonda El Pilar.  
The core group of the MR II at Rum Point Belize (top) and the MR III at Remate Guatemala.

Challenge" is particularly relevant for the community development component. This unique archeological and nature reserve on the Belize/Guatemala frontier has compelled the adjacent community to reconsider their connection to the El Pilar area. (Ford, Bunton, et al. 1999: 21)

One of the mayor goals set forth by BRASS/El Pilar since the early 1990's was to determine practical means of integrating the surrounding communities into the administrative planning process of El Pilar: One resource in two countries. (See [www.marc.ucsb.edu](http://www.marc.ucsb.edu)) Both Belize and Guatemala, recognizing the multiple values of El Pilar, established and delimited, in 1998, a contiguous protected area around the cultural and natural resources of El Pilar.

A strategy was launched to identify a management design that could be best spearheaded by the community. Funding was sought to start the process by obtaining a basic understanding of the needs of the villages with respect to El Pilar. One of the first major assignments that BRASS/El Pilar undertook was a community assessment project in collaboration with the University of Florida. Two of the main goals were to facilitate local participation in planning, activities for community development, and integration in the management plan for the El Pilar Archaeological Reserve for Maya Flora and Fauna (EPAR). Through this initial project, AdEP as an organization was strengthened and their priorities defined: to develop alternative livelihoods by participating in the development of EPAR.

The UF/El Pilar Community Project (see Veach 1998) unfolded an explicit philosophy of participation promoting empowerment. The project relied on local definition of needs and interest, beginning with an assessment of local groups. Based on the findings, a two-day workshop was held to analyze the potential benefits and challenges of tourism. This investigation and

planning process of tourism-related opportunities builds on local traditions such as the forest garden and traditional art that could be locally viable. (Wernecke, Ford, et al. 1998:23)

Amigos de El Pilar has participated in the promotion of the El Pilar Archaeological Reserve as a step towards community integration and adaptive management. The priority to develop community enterprises in tourism and forest gardening are designed to increase the villagers' economic stake in the reserve. The leadership role villagers are assuming and the self-determination they are gaining in the adaptive management process is the foundation upon which the future success of the El Pilar model depends.

To activate the critical three-way partnership, the Mesa Redonda El Pilar planning process took center stage. Emerging in the process of adaptive management for El Pilar, the Mesa Redonda El Pilar participants came from many distinct fields and professions contributing their time, knowledge, funds and experiences (see Figure 2). A clear accord evolved among the three essential partners: the community group Amigos de El Pilar, the government representatives in Belize and Guatemala, and the experts in community development, science, management, and law.

Published as three successive proceedings (1997, 1998, 2000) the Mesa Redonda El Pilar planning process underscored the governments' approval of the community's role in reserve management planning, as well as the role of external experts in the process, including the BRASS/El Pilar Program. Not only was the community partner, AdEP, an effective participant in the Mesa Redonda process, they were critical players with government officials and experts endorsing the drafted management plan for El Pilar in 1998. They

were able to relay the results of the proceedings to the residents of surrounding communities as a unified group. The explicit inclusion of the community in the partnership, the group that has the greatest stakes in the future of the EPAR, enhanced the viability and the credibility of the management planning process. The result of the Mesa Redonda El Pilar process was a comprehensive set of values and guidelines to shape the focus of development at El Pilar.

The innovative management plan for El Pilar recognizes that a critical component for the preservation of cultural and natural resources is the partnership of local communities in management design and implementation. Apart from acknowledging the importance of community support, the Mesa Redonda El Pilar process identified the development of El Pilar as an archaeological reserve that would evolve into a tourism destination. As growth of interest in El Pilar develops and changes, the subsequent Mesa Redonda will help to chart the next adaptations in the management process.

The mayor objectives set forth by the El Pilar management plan are geared towards promoting participation of government and non-governmental organization of Belize and Guatemala in EPAR, creation of a symbol of cooperation between the EPAR and local communities, and the documentation and evaluation of methods of community participation. In order to achieve these objectives, the plan anticipates short-term community participation and collaboration in Belize and Guatemala with the BRASS/El Pilar research and development team, at the same time building communication channels between community and officials of the EPAR. Exchange and mutual respect of the partnership aid in addressing conflicts as they arise (Ford 2002:10).

Medium and long term goals consist of strengthening AdEP membership, participating in conflict management, working on communication between AdEP and officials, documenting education strategies in cultural and natural resources, and the publishing of interpretative material for EPAR such as, El Pilar Community Creek Trail (FCD, 2002), Tzunu'un Forest Garden (Ford & Gerardo 2001), and Trails of El Pilar (Ford & Wernecke 2002). While these goals still remain challenges, all are being addressed (Ford 1998:12).

With this plan, the governments of Belize and Guatemala, Amigos de El Pilar, BRASS/El Pilar, and other key management personnel should be able to anticipate and respond to problems and opportunities rather than react to crisis. The action plan for El Pilar is founded on the necessity of community integration (Horton, 1995). This plan establishes guidelines to facilitate management control and community support of El Pilar Archaeological Reserve for Maya Flora and Fauna (Horton 1995: 6-7).

A critical expert in the partnership is Help for Progress, (HfP). Working in collaboration with several NGO's in Guatemala, they focus on education, economic development, and organizational capacity building. Educational efforts are directed toward incorporating community knowledge regarding Maya heritage, The Maya Forest ecological conservation, and presentation of archaeological sites.

One example of this collaboration is the mayor educational capacity building program. Organized by HfP in collaboration with BRASS/EP it focused on cultural resources in the form of a series of four mobile workshops. The goal of these mobile study tours was to increase AdEP members' knowledge of development options for archeological reserves. AdEP members made trips to nearby ancient Maya sites such as Caracol, Xunantunich, Cahal Pech, and



Tikal. The lessons learned were then brought into a review workshop at El Pilar.

AdEP members also gained vital new knowledge of the context of the Maya archaeology that allowed a working relationship to develop between AdEP and the other partners, including BRASS/El Pilar crew, non government organizations, Melchor community members, and government officials, all who were involved in these events. The exposure provided by educational workshops encouraged community members to see the potentials for direct involvement in economic development at El Pilar (Ford et al. 1999: 22).

Another mayor vehicle for community cooperation has been joint activities of the Fiesta El Pilar promoted by HfP and Guatemalan counterparts (Figure 3). Initiated as an annual event, cultural dance, indigenous foods, and local music was organized by Amigos de El Pilar. Attendance began small and rose to over 2,000. This event has great potential for the future community partnership event.

The growth and evolution of this dynamic relationship lies at the heart of the El Pilar philosophy, resilient and with the potential to educate communities, reform local-level resource management, and inform conservation designs for the Maya Forest (BRASS/EP 2002a). The success of the planning process has revealed new opportunities in tourism for rural communities and enhanced regional relations (BRASS/EP 2002b).

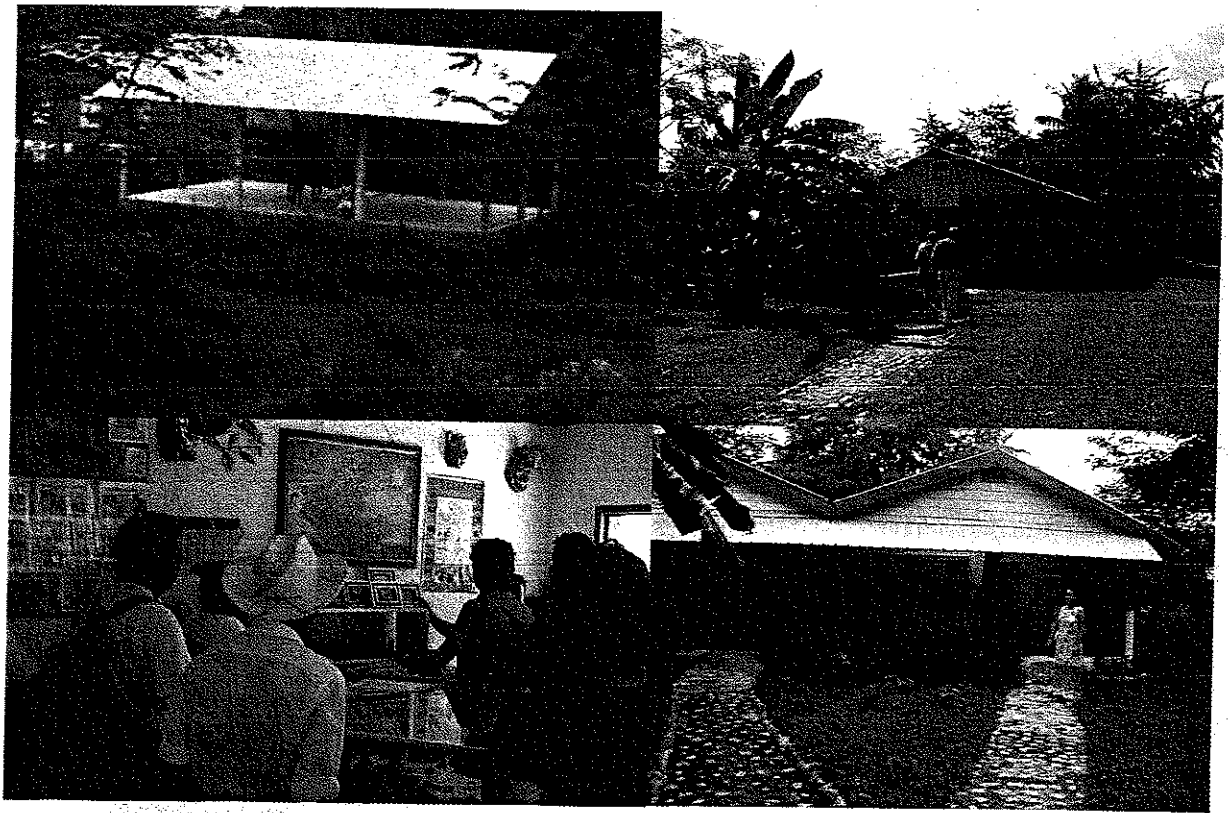
The community integration component of El Pilar is unique. Unlike the archaeological, ecological, and management components, the community involvement in the partnership exposes deep commitment, one of the most challenging and exciting aspects of this groundbreaking work.



Figure 3 :Community collaborators Raleigh International at the Masewal Forest Garden & Reinas El Pilar Lakin and Chikin

### Assessing the Situation at El Pilar

Community development at El Pilar has local, national, regional and international implications. In many ways, El Pilar is leading the way by incorporating community involvement from the beginning. Moreover, it has become increasingly clear that reserve sustainability is impossible without local community support and commitment. Appropriate development will allow the community to define its own goals, take ownership of success and failures, and include all interested groups. By embracing struggle and learning from differences, El Pilar has the potential to become a model for community development that stresses process and adaptation to build longevity (Ford 1999:23).



**Figure 4.** Growth of the Amigos de El Pilar cultural center. From the upper left: the 1995 galeria, the 1998 Be Pukte, the 2000 interior, & the 2003 cultural center and cafe.

Asking any community to embrace a project as unique and grand as El Pilar is bound to encounter difficulty. It is important, however, to acknowledge that struggle is inherent in community development, and that change and new understanding are impossible without debate. The success of local outreach at El Pilar can best be seen in the evolution of the community organization, Amigos de El Pilar (Figure 4). With groups based in both Belize and Guatemala, the Amigos de El Pilar have worked together with the El Pilar Program to build a participatory relationship between the community and the reserve that is mutually beneficial (Ford 1999:22).

Embracing all of the facets and enhancing the strengths of the three-way

partnership is the emerging El Pilar Forest Garden Network. The forest garden concept was designed to awaken interest of cultural preservation and natural history that could be reincorporated into community daily life (Ford, Wernecke et al. 1996). The forest gardeners, like those in the surrounding areas of El Pilar, play an important role in the practice of this traditional form of farming and have been the key players in educating the younger generation and preserving past and present lifestyles. The interdisciplinary work at El Pilar continues to break new ground by making community development a project priority.

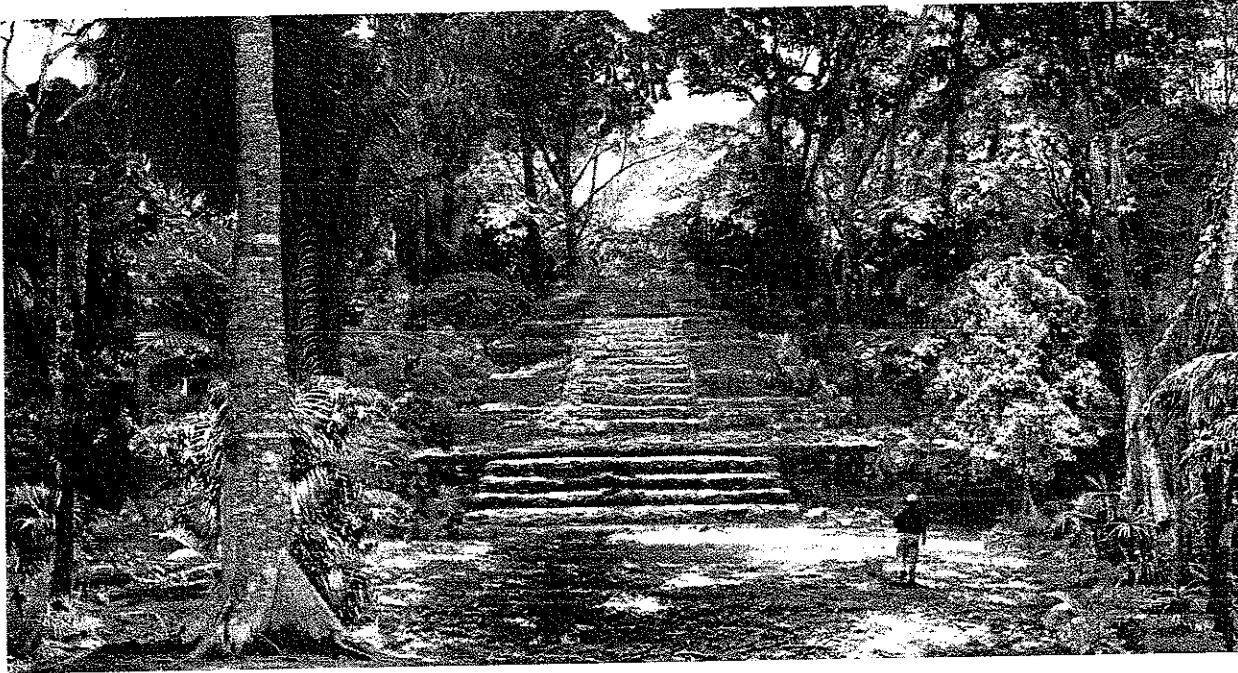


Figure 5. The Future Vision for El Pilar.

## References Cited

Figure 5. The Future Vision for El Pilar.

Amigos de El Pilar website

2002 [www.interconnection.org/elpilar](http://www.interconnection.org/elpilar)

Brannon, Katrina & Michael Wells: 1992, "Planning for People and Parks: Design Dilemmas", *World Development* 20, No. 4, 558.

Ford Anabel, Clark Wernecke, Melissa Grzybowski, Constanza Ocampo:

1996 *The First Steps Towards Revitalizing El Pilar*, BRASS/El Pilar Program, Field Report 1996, CORI/MesoAmerican Research Center, University of California- Santa Barbara

Ford Anabel, Vanessa Bunton, William Poe, et al.

1999 Conservation and Integration at El Pilar, 1999 Field Report, ISBER/MesoAmerican Research Center, University of California- Santa Barbara

Ford Anabel

2002a *Adaptive Management in the Maya Forest: The Contiguous Parks at El Pilar*, BRASS/El Pilar Program, MesoAmerican Research Center, University of California, Santa Barbara

2002b *Community and Nature at El Pilar: A Philosophy of Resilience for the Maya Forest*, BRASS/El Pilar Program

Gunderson Lance, C.S. Holling, and Stephen S. Light: 1995 *Barriers and Bridges to Renewal of Ecosystems and Institutions*.

Hilborn Ray and John Sibert, 1988 *Marine Policy*:115-116.

Holling C.S.:

1978 Overview and Conclusions, In C.S. Holling (Ed.), *Adaptive Environmental Assessment and Management*, Chichister, John Wiley & Sons

1986 The Resilience of Terrestrial Ecosystems: Local Surprise and Global Change. In: W.C. Clark and R.E. Munn (Eds.) *Sustainable Development of the Biosphere*, Cambridge, Cambridge University Press, pp. 292-317

*Community Management at El Pilar*

Honey Martha

- 1995 *Ecotourism and Sustainable Development- who owns paradise?* Island Press, Washington, D.C.

Horton Don P.

- 1996 El Pilar Archaeological Reserve for Maya Flora and Fauna, Strategic Action Plan: A Partnership between BRASS & The Village of Bullet Tree Falls, Waco, Texas

Jansen D

- 1998 Gardenification of Nature, Science Mittermier, R. A., N. Myers, et al. (2002). Hotspots: Earths Biologically Richest and Most Endangered Terrestrial Ecoregions. Mexico, CEMEX

Pleumaron Anita

- 1994 "The Political Economy of Tourism" *The Ecologist* 24, No. 4, July-August, pg 142-145

Taylor-Ide Daniel and Carl E. Taylor

- 2002 *Just and Lasting Change: When Communities Own Their Futures*, John Hopkins University Press, Baltimore, Maryland

Veach Kevin

- 1998 *Final Report for The University of Florida/El Pilar Community Participation Project*, University of Florida International Center, Gainesville, Florida

Walters C.J.

- 1986 *Adaptive Management of Renewable Resources*, New York, Macmillan Publishers

Walters C.J. and Holling, C.S.

- 1990 Large-scale management experiments and learning by doing. *Ecology* 71: 2060-2068

Wernecke D. Clark, Anabel Ford, Vanessa Bunton, William Poe, Nicole Gerardo

- 1998 *A New Way of Examining the Past: The El Pilar Interdisciplinary Model*, 1998 Field Report, ISBER/MesoAmerican Research Center, University of California-Santa Barbara