

Adaptive Management and the Community at El Pilar: A Philosophy of Resilience for the Maya Forest

Anabel Ford

Abstract: *Resource management and conservation are palpable themes of the day. Nowhere is this more keenly felt than the Maya forest, one of the world's most biodiverse areas and among the last terrestrial frontiers. Over the next two decades this area's population will double, threatening the integrity of the tropical ecosystems with contemporary development strategies. Curiously, the Maya forest was once home to a major civilization with three to nine times the current population of the region. The forest survives and demonstrates resilience to the impact of human expansion. This paper discusses the El Pilar Program, which argues that there are lessons to be learned from the past. Over the past ten years, the program has forged new ground in testing novel strategies for community participation in the conservation and development of the El Pilar Archaeological Reserve for Maya Flora and Fauna. The program touches major administrative themes of global importance: tourism, natural resources, foreign affairs, and rural development and education. Yet its impacts go further. Working with traditional forest gardeners affects agriculture, rural enterprise, and capacity building. There are few areas untouched by the program's inclusive sweep, and more fields have the potential to contribute to its future.*

The El Pilar Archaeological Reserve for Maya Flora and Fauna is a site that spans the contemporary borders of Belize and Guatemala (fig. 1); it involves a number of partnerships, the most important of which is that with the communities surrounding the site. The primary objectives of the El Pilar Program are research, development of a binational tourist destination of Maya history and environmental education, support of local and community leadership from enterprise development to sustainable growth, and promotion and preservation of the living legacy and history of the Maya and

how the forest became a garden. The El Pilar Program argues there are lessons to be learned from our past, particularly with respect to managing natural resources.

Understanding the Culture of the Maya Forest

The issue of resource conservation has accompanied humankind throughout time. Resource limits have been identified in the archaeological record and recorded in historical documents and are measured exhaustively today. Archaeological research on prehistoric civilizations, including that of the Maya forest, has provided an appreciation of past strategies of managing resources.

The magnificent Maya civilization of Mesoamerica was once a flourishing farming society. The Maya prospered over many millennia by using forest-dwelling animals and plants and adapting domesticated crops to their tropical habitat. By doing so, they met their basic needs and managed environmental assets while recognizing environmental limitations.

Today, population increase, deforestation, monoculture farming strategies, and Old World methods of pasture and plow are bringing the Maya forest to yet another threshold. The Maya forest of Mesoamerica is a biodiversity hot spot, ranked second of twenty-five endangered regions by Conservation International (Mittermeier, Myers, and Mittermeier 2000), and current projections for the region are ominous. The population is predicted to double over the next twenty years, further straining resources. Yet this region was home to the ancient Maya civilization, whose population was three to nine times the current level, a civilization that has left clues that hold great potential for developing a strategy to manage the complex habitats of today's forest.

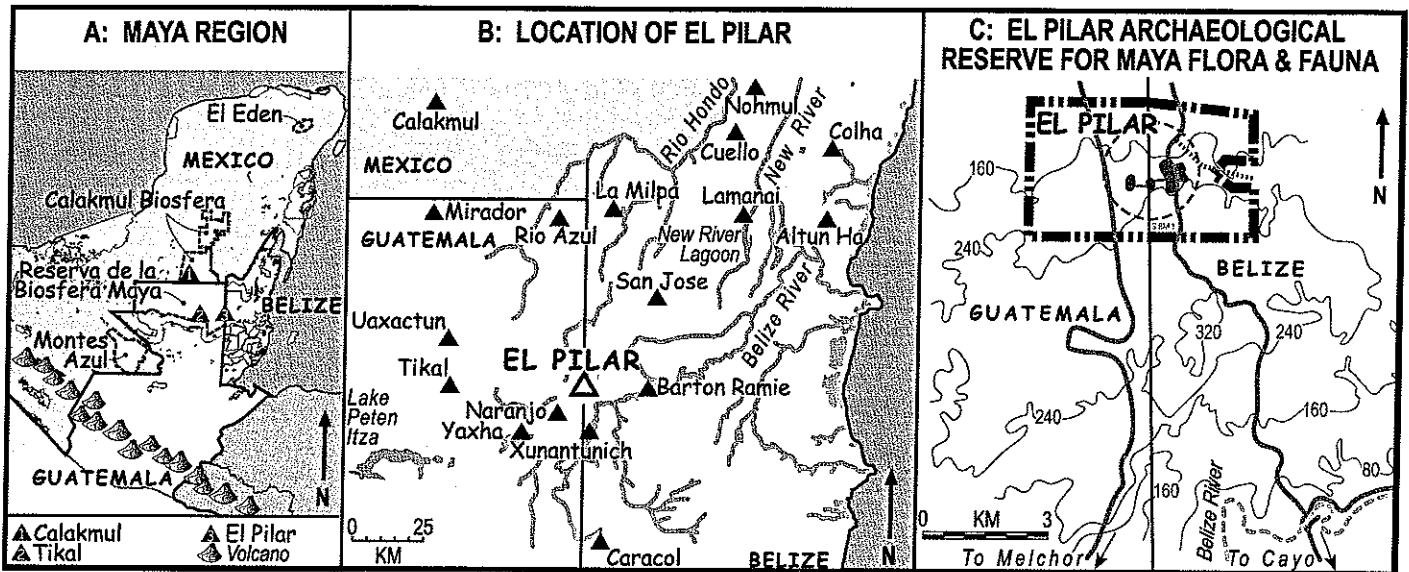


FIGURE 1 Regional, local, and site-specific scales of El Pilar.
Courtesy of BRASS/El Pilar Program

The Maya Forest as a Garden

The composition of the Maya forest today is reminiscent of the Maya people's complex relationship with nature. More than 24,000 types of plants have been identified in the region, 5,000 of which are endemic. This diversity combined with evaluations of species similarity suggest a homogeneous composition wherein widely spaced areas share 53 to 71 percent of the plant species (Campbell et al. 1995). This is dramatically different from the Amazon, where study plots rarely have more than 10 percent of species in common (Balée and Campbell 1998; Campbell 1989, 1994, 1998). The Maya forest's great diversity and general homogeneity are combined with a high economic component, with up to 90 percent of the plants listed as useful (Campbell, Walker, et al. 1995; Campbell, Ford, et al. in press). This suggests that human systems played an important role in the development and maintenance of the Maya forest (Atran 1990, 1993; Moran 1993).

Linguistic terms in the Mayan language speak to traditional knowledge of the forest and describe a continuum of its economic qualities (Barrera Vásquez 1995). *Kanan K'ax* describes a "well cared for" forest, evoking the concept of management, yet the verb *kanan* signifies both "care for" and

"learn" in the Yucatecan Mayan language family, a recognition of the changing dynamics of an adaptive cycle in ecology. *Ka'kab K'ax* indicates a forest with good agricultural soil quality, reflecting a subtle appreciation of the environment (Atran 1993; Atran et al. 1999). If human interventions selectively graded the species' composition of the Maya forest to favor economic needs over four millennia, how might an understanding of this relationship shape conservation efforts today?

The first step is to study the rise of the Maya civilization in light of the traditional farmers of the forest today. An analog of forest structure itself (Senayake 2003), traditional polycultivation in the tropics minimizes instability and degradation and integrates labor techniques that maximize production (Bray 1994; Gomez Pompa 1990; Gomez Pompa and Kus 1998; Mollison 1988). The result is a mosaic land use strategy tailored to local economic needs: the Maya forest as garden (Nigh 1995, 1997). Heterogeneous and biodiverse, tropical forest gardens constituted the strength of the Maya community in the past, as they do today (Tzul 2001), by relying on the traditional knowledge of local farming households. The El Pilar Program is working alongside communities to explore and promote the traditional forest garden as an alternative to extensive land-use strategies.

Community Participation and the Development of the El Pilar Archaeological Reserve for Maya Flora and Fauna

Deep forest jungle sequestered the vestiges of Maya city monuments and houses after their demise around A.D. 900, until the 1830s when curious Western explorers entered the region (Stephens 1969). Since then, the area has drawn scholars who have been conducting research that fills university library bookshelves. Regional leaders, schools, and organizations in the Maya forest have come to recognize the educational vacuum that exists with regard to their own area and history. The El Pilar Program focuses on this void and is encouraging local communities to use, protect, and understand how they contribute to the Maya forest's evolution (Ford and Miller 1994, 1997; Wernecke 2000–2001; cf. Fagan 2003) as well as participate in and learn from the archaeological research at El Pilar.

The El Pilar Vision Unfolds: Community Involvement

In 1992 the Belize Department of Archaeology spearheaded the initial investigations at El Pilar. With the government's support, in 1993 the El Pilar Program commenced a full-scale investigation (see Appendix 1). Insights gained from detailed surveying, mapping, and extensive excavations over ten seasons have established the foundation for an innovative approach to participatory conservation and development efforts in the Maya forest (Ford 1998; Ford and Montes 1999; Ford and Wernecke 2001; Girardin 1999).

As work at the site gained momentum, local community members in Belize expressed interest in the research and investigations at El Pilar. In 1993, with the El Pilar Program's assistance, the local villagers established Amigos de El Pilar (AdEP). AdEP identified its mission: foster community partnerships in the creation and management of El Pilar, develop new livelihood opportunities, promote sustainable income generation geared to the growing ecotourism industry, and promote education on the preservation of natural and cultural resources (see www.interconnection.org/elpilar).

Since its inception AdEP has made significant strides. Working with national and international leaders, AdEP participated in the creation of protected area boundaries in 1995, and applauded the official designation as the El Pilar Archaeological Reserve for Maya Flora and Fauna (EPAR) in Belize and Guatemala in 1998. This new legal status would have significant influence over the future of El Pilar and the community and was vital in expanding local involvement and support.

With Ford Foundation funds, regional program advocates were formally incorporated as the El Pilar Program (Appendix 1). In Belize, Anselmo Castañeda, a natural resource conservationist, focuses on local and regional environmental issues. In Guatemala, José Antonio Montes, an international lawyer, concentrates on legal and political processes. Castañeda's interest in ecological sustainability and Montes's appreciation of international law transformed the team into the binational program it is today. This new dynamic infused AdEP with new internal organizational ability and external visibility. The El Pilar Program helped to develop a website for El Pilar in 1997 that highlights the community's collaborative efforts and provides updates of research and management activities.

As the community's relationship with the El Pilar Program matures, AdEP is focusing its activities on its mission and becoming independent (Awe 2000a, 2000b). Not only does AdEP have its own vision of how its relationship with El Pilar should develop, it is gaining the capacity to translate its vision into tangible results. As an income-generating strategy related to environment and tourism, AdEP developed the Masewal Forest Garden Trail in 1999. This 1.5-kilometer visitor trail, which highlights ornamental and medicinal plants as well as the nursery, was created with the assistance of Raleigh International volunteers (fig. 2).

Through their own spirit and dedication and grants and support from the network of the El Pilar Program, AdEP opened the Be Pukte Cultural Center in 1998 (fig. 3), a forum for AdEP's meetings and a place to feature handcrafted items, publications, and information on El Pilar. The center has evolved to host community activities related to education, ceremonies, presentations, and meetings, as well as cultural events and natural resource training.

Education in the Maya Forest

Educational outreach is an important way to build both a foundation of community support and a leadership base for AdEP. The El Pilar Program, now fully composed of community, research, and management entities (see Appendix 2), coordinates a variety of field and community endeavors and has made it a priority to develop local environmental and conservation education curricula.

Community education got under way during the early years with meetings and workshops in which various aspects of conservation and development were addressed. In 1995 three workshops were arranged to train the local community



FIGURE 2 Community collaborators Raleigh International at the Masewal Forest Garden and Reinas El Pilar Lakin and Chikin. Courtesy of BRASS/El Pilar Program

in resource development and management. To familiarize AdEP with other archaeological sites, a series of mobile workshops, or *talleres*, were organized. Participants visited six major archaeological sites in the Mundo Maya (Maya World, a transnational concept encompassing Mexico, Guatemala, El Salvador, Belize, and Honduras) in 1999–2000 to evaluate community and reserve strategies and development options.

Through a series of workshops between the government and AdEP, innovative education programs at the university level have also begun.

Managing One Resource in Two Countries

One of the challenges facing the El Pilar Program is its binational character. Local education has increased El Pilar's visibility within the community and acted as a catalyst for AdEP to begin building a presence at the regional, national, and international levels. In 1995 AdEP President Marcos Garcia discussed the group's interests with key officials in ministry and department offices in the Belize capital of Belmopan. In 1996 Garcia represented the community at a binational government-sponsored workshop, Encuentro El Pilar. As part of this first region-wide workshop focused on El Pilar, participants had the opportunity to visit El Pilar and see its potential. They identified goals aimed at the formal protection of El Pilar in both Belize and Guatemala.

The collaboration of communities, nongovernmental organizations (NGOs), and students has borne results. In 1998 AdEP joined with a Belizean NGO, Help for Progress, to develop a successful partnership between Belize and Guatemala, as well as the improvement of conservation endeavors at El Pilar (www.helpforprogress.org).

By 1998 protective reserves had been established around El Pilar in both countries. During successive international roundtable workshops (Mesa Redonda I, II, and III; fig. 4), the administration and management of the contiguous reserves was established. A permanent organization on the Guatemalan side, Amigos de El Pilar, Melchor, was officially registered in 2000 to set the institutional framework for true cross-border management.

To further the spirit of the cross-border alliance, a cooperative association was established between AdEP-Belize and AdEP-Guatemala to undertake full organizational responsibility for the Fiesta El Pilar. Under their administration, new ideas are being incorporated into the fiesta. In 2001, for example, two Reinas El Pilar were selected to pose as El

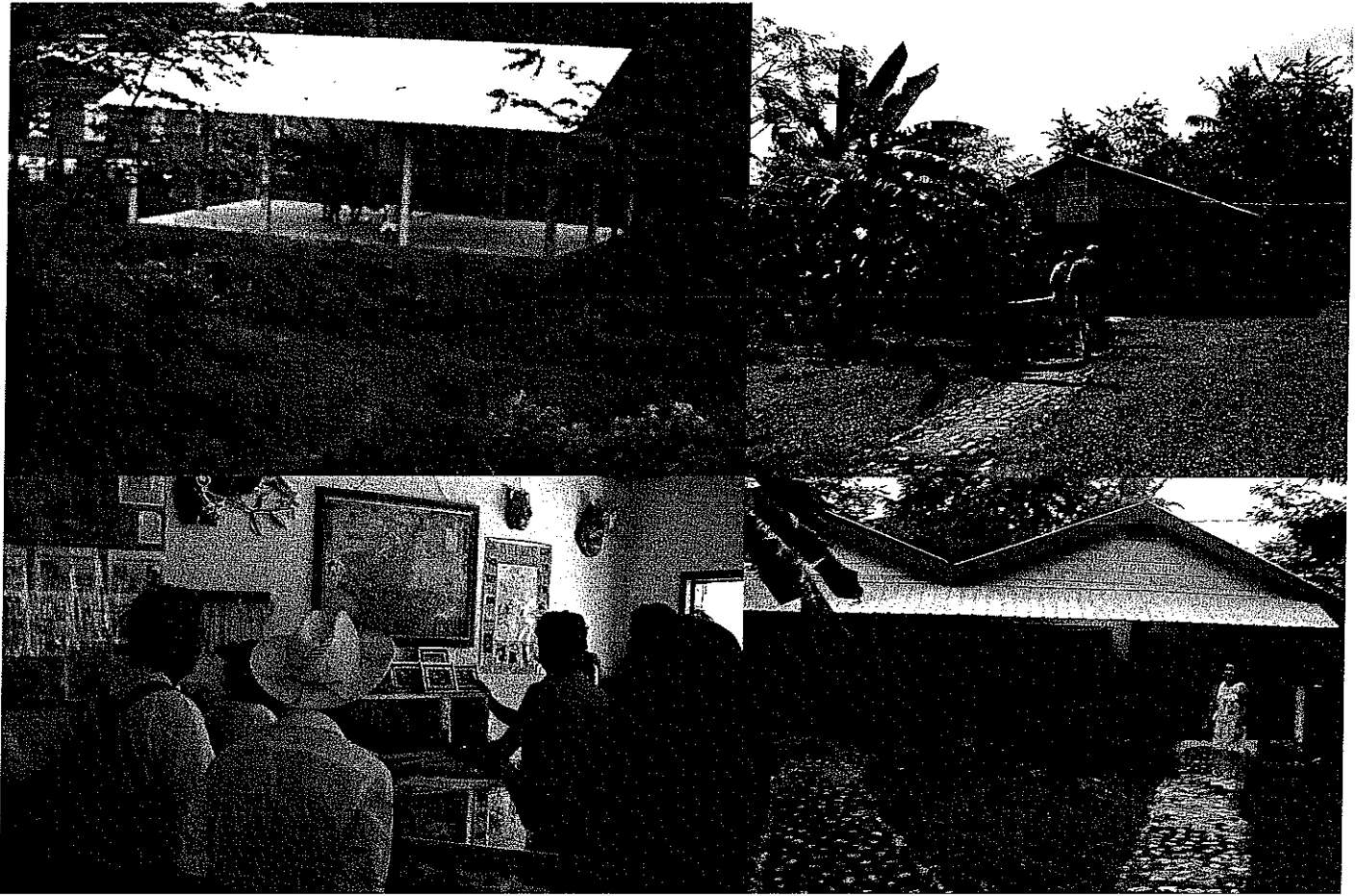


FIGURE 3 Growth of the Amigos de El Pilar cultural center. The 1995 galeria (top left), the 1998 Be Pukte (top right), the 2000 interior (bottom left), and the 2003 Cultural Center and Café (bottom right). Courtesy of BRASS/El Pilar Program

Pilar Chikin and Lakin (see fig. 2), or West and East, symbolically dissolving political boundaries (Awe 2000a, 2000b). As of 2002, members of AdEP refer to themselves as “AdEP Lakin” and “AdEP Chikin,” further transcending boundaries and affirming new alliances.

The Way Forward

There is reason to look forward to greater opportunities. Major international agencies have invested resources in the El Pilar process (Ford 2001). As the visibility of El Pilar increases, new interests and opportunities are emerging, and regional and international agencies are now looking to increase their stake in El Pilar.

Demonstrating and advocating the conservation-tourism model is only the beginning of a larger process. Rethinking traditional and even progressive strategies aimed at providing local communities with entrepreneurial skills will need to be addressed in the ongoing project of sustainable and profitable ecotourism development. Although well established, the institutional framework of the El Pilar vision is still fragile. As investments are made and risks are appreciated, the unity between AdEP and the local community creates opportunities for El Pilar. Each new external link that is forged reinforces AdEP’s internal organizational structure. The process is deliberate, however, and needs attention if AdEP is to keep pace with faster marketing schedules.

FIGURE 4 Consensus building with the Mesa Redonda El Pilar. The core group of MRII in 1998 at Rum Point Belize (*top*) and MRIII at Remate Guatemala (*bottom*). Courtesy of BRASS/El Pilar Program



Reflections

The achievements and progress that have been made at El Pilar since its beginnings in 1992 are the result of an ever-expanding network of collaborators. Supported by annual funding efforts, the El Pilar Program has established an eclectic base (see Taylor-Ide and Taylor 2002).

The El Pilar vision is not static. As EPAR and its surrounding communities evolve, there will be adjustments; as more people visit the site each year, the vision grows. A commitment lies at the core of the El Pilar Program—the commitment to uphold the integrity of the cultural and natural

resources it was formed to protect. To be genuine, that commitment needs to be wholly embraced by the local community, towns, and cities. Participation is what makes the El Pilar Reserve for Maya Flora and Fauna dynamic, infusing it with the ability to educate, reform, and transform.

Acknowledgments

The work at El Pilar owes much to the people of the Maya forest and the governments of Belize and Guatemala who had the foresight to explore an innovative development scheme. They

have explicitly given the El Pilar Program the privilege to demonstrate the many different ways to view the ancient Maya monuments. Imagining the Maya forest as one region, appreciating El Pilar as one site, and collaborating with cheerful skepticism—these have provided a new dimension to include El Pilar among the novel destinations of the Mundo Maya. Our work is dedicated to all who know that they are part of this story and to all who will be.

Appendix 1. A History of El Pilar

- 1972 El Pilar recorded by the Department of Archaeology (DoA) Government of Belize
- 1984 Belize River Archaeological Settlement Survey (BRASS) initial mapping of the site
- 1993 DoA conservation at El Pilar with BRASS project
- 1994 Help for Progress NGO begins participation with Amigos de El Pilar
- 1995 Official boundaries of El Pilar established in Belize
Model Maya House created at Tzunu'un; El Pilar listed on World Monument Watch
Master map of site core completed, including Pilar Poniente, Guatemala
- 1997 El Pilar certified as a *monumento cultural* (cultural monument) in Guatemala
- 1998 El Pilar developed as a contiguous reserve in Belize and Guatemala
- 2000 Rolex Award for Enterprise-Cultural Heritage recognition for El Pilar vision
- 2001 Publication of *El Pilar Trail Guide*
Both AdEP groups sign Declaration of El Pilar International Community Participation
- 2002 8th annual Fiesta El Pilar held, organized by AdEP Chikin and Lakin
- 2003 Collaboration with Counterpart International, Washington, D.C.
- 2003 National Institute of Culture and History Belize begins collaboration with AdEP Lakin
Consejo Nacional de Areas Protegidas endorses the master plan for El Pilar

Appendix 2. Collaborative Team Organization

El Pilar Program

University of California, Santa Barbara, Main Office: Anabel Ford,
Director

Exploring Solutions Past: Nonprofit organization based in California
(www.espmaya.org)

Counterpart International: Megan Havrda

Belize Advocate: Anselmo Casteñeda, Regional Environment

Guatemala Advocate: José Antonio Montes, International Law

Community Participation

Amigos de El Pilar: Lakin/Chikin (Belize/Guatemala)

Community Accompaniment

NGO Program Partners: Community and Conservation Management

Help for Progress/Belize: Elias Awe, Rick August

Canan K'aax and Naturakeza para la Vida/Guatemala: Ramon Zetina,
Suamy Aguilar

References

- Atran, S. 1990. *Cognitive Foundations of Natural History*. New York: Cambridge University Press.
- . 1993. Itza Maya tropical agro-forestry. *Current Anthropology* 34 (5):633–700.
- Atran, S., D. Medin, N. Ross, E. Lynch, J. Coley, E. Ek'Ukan, and V. Vapnarsky. 1999. Folkecology and commons management in the Maya lowlands. Paper presented at the Proceedings of the National Academy of Sciences of the United States of America.
- Awe, E. A. 2000a. *Regional Community Action and the El Pilar Archaeological Reserve for Maya Flora and Fauna*. Belmopan: Help for Progress, Belize.
- . 2000b. *Trans-Boundary Initiative for Cooperative (Joint) Management of El Pilar Archaeological Reserve for Maya Flora and Fauna and the Promotion of Community Based Ecotourism and the Development of Sustainable Agricultural and Forestry Practice in Belize*. Belmopan: Help for Progress, Belize.
- Balée, W., and D. G. Campbell. 1998. Evidence for the successional status of liana forest (Xingu River Basin, Amazonian Brazil). *Biotropica* 22 (1):36–47.
- Barrera Vásquez, A. 1995. *Diccionario Maya*. 3d ed. México, D.F.: Editorial Porrúa.
- Bray, F. 1994. Agriculture for developing nations. *Scientific American* 271 (1):18–25.
- Campbell, D. G. 1989. The quantitative inventory of tropical forests. In *Floristic in Tropical Countries*, ed. D. G. C. H. D. Hammond, 523–33. New York: New York Botanical Garden.
- . 1994. Scale and patterns of community structure in Amazonian forests. Paper presented at "Large-Scale Ecology and Conservation Biology: 35th Symposium of the British Ecological Society with the Society for Conservation Biology," University of Southampton.
- . 1998. Signature of the classic Maya on the tropical forests of Belize. Paper presented at the American Anthropological Association, Philadelphia.

- Campbell, D. G., A. Ford, K. S. Lowell, J. Walker, J. K. Lake, C. Ocampo-Raeder, A. Townesmith, and M. Balick. In press. *The Feral Forests of the Eastern Petén: Time and Complexity in the Neotropical Lowlands*, ed. C. Erickson and W. Balée. New York: Columbia University Press.
- Campbell, D. G., J. Walker, V. Castillo, J. Lake, C. Ocampo-Raeder, and S. Smith. 1995. The signature of the classic Maya empire on Belizean tropical forests. Paper presented at the American Association for the Advancement of Science, Atlanta.
- El Pilar Program. 2003. www.marc.ucsb.edu.
- Exploring Solutions Past. 2003. www.espmaya.org.
- Fagan, B. 2003. A responsibility for the past: Integrating conservation and archaeology. *Conservation* 18 (1): 4–10.
- Ford, A., ed. 1998. *The Future of El Pilar: The Integrated Research and Development Plan for the El Pilar Archaeological Reserve for Maya Flora and Fauna, Belize-Guatemala*. Washington, D.C.: Bureau of Oceans and International Environmental and Scientific Affairs.
- . 2001. El Pilar: Gateway between Belize and Guatemala. *Washington Report on the Hemisphere* 21 (1–2):4–5.
- Ford, A., and C. Miller. 1994. Arqueología de acción en la selva: Creación de la Reserva Arqueológica de El Pilar, Guatemala-Belice. *Utzib* 1 (7):19–21.
- . 1997. *Creación de la Reserva Arqueológica El Pilar en Guatemala y Belice*. Guatemala: Museo Nacional de Arqueología e Etnología, Guatemala.
- Ford, A., and J. A. Montes. 1999. Environment, land use, and sustainability: Implementation of the El Pilar Archaeological Reserve for Maya Flora and Fauna, Belize-Guatemala. *Mesoamérica* 37 (June):31–50.
- Ford, A., and D. C. Wernecke. 2001. *Trails of El Pilar: A Comprehensive Guide to the El Pilar Archaeological Reserve for Maya Flora and Fauna*. Santa Barbara, Calif.: Exploring Solutions Past: Maya Forest Alliance.
- Girardin, A. 1999. *The El Pilar Archaeological Mapping Project: A Geographic Information Systems Objective*. Le Mans: École Supérieure des Géomètres et Topographes.
- Gomez Pompa, A. 1990. Maya sustainability project annual report to the MacArthur Foundation. University of California, Riverside. Submitted to Summary Report.
- Gomez Pompa, A., and A. Kus. 1998. Taming the wilderness myth; environmental policy and education are currently based on Western beliefs about nature rather than on reality. *BioScience* 42 (4):271–79.
- Mittermeier, R. A., N. Myers, and C. Goettsh Mittermeier. 2000. *Hotspots: Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions*. México, D.F.: CEMEX.
- Mollison, B. C. 1988. *Permaculture: A Designer's Manual*. Tyalgum, Australia: Tagari Publications.
- Moran, E. F. 1993. *Through Amazonian Eyes: The Human Ecology of Amazonian Populations*. Iowa City: University of Iowa Press.
- Nigh, R. 1995. Animal agriculture and the reforestation of degraded tropical rainforests. *Culture and Agriculture* (Bulletin of the Culture and Agriculture Group, American Anthropological Association) 51–52 (Spring–Summer):2–6.
- . 1997. Organic agriculture and globalization: A Maya associative corporation in Chiapas, Mexico. *Human Organization* 56 (4):427–36.
- Senayake, R. 2003. *Analog Forestry*. www.forestgarden.org/franalog.htm.
- Stephens, J. L. 1969. *Incidents of Travel in Central America, Chiapas and Yucatan II*. 2 vols. New York: Dover Publications.
- Taylor-Ide, D., and C. E. Taylor. 2002. *Just and Lasting Change: When Communities Own Their Futures*. Baltimore: Johns Hopkins University Press in association with Future Generations.
- Tzul, A. 2001. First meeting of farming communities in the Maya forest for the design of an agroforestry model—El Pilar: Retrieving old traditions. Unpublished manuscript. Help for Progress, Belize.
- Wernecke, C. 2000–2001. El Pilar: A Maya rainforest refuge. *Explorers Journal* (Winter):22–25.