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The Enduring Forest Gardens of the Ancient Maya

Maya agroforestry practices have persisted sustainably since the time of prehistoric civilizations.

Anabel Ford

In 1972, I took a road trip from California to Belize and Guatemala, where I found myself mesmerized by the hot rains, flamboyant hammocks, brilliant colors of the forest, and fresh fruits from home gardens. During this trip, I was an undergraduate volunteer for an archaeological project in El Petén, Guatemala. At the time, I was just learning about Mesoamerica and the Maya and did not realize this area would become my life's work.

Within two years, I began graduate school in archaeology at the University of California, Santa Barbara (UCSB), studying ancient settlement patterns in the Maya forest. The exuberant and verdant growth of the Maya forest continued to astonish me long after my first trip had ended. But the people who lived there, the Peteneros, captivated me, particularly the way they were so at ease in the forest.

For thousands of years, the Maya sustained a growing population with expanding civic centers. Their accomplishments in mathematics, astronomy, calendrics, and writing are remarkable. Their civilization emerged more than 3,000 years ago, and their lifeways were unbroken until the Spanish conquest in the 1500s. This spirited culture weathered dramatic political and climatic changes over millennia. Yet when I began my graduate work, the Maya were set up as a mystery: The received wisdom was that their society collapsed and disappeared because of overpopulation and deforestation.

Research today leaves no doubt, however, that although the Maya changed their landscape, the tropical flora and fauna persisted through Spanish colonization. Only now are species becoming endangered. The contradiction of the flourishing culture of the ancient Maya and their destruction of nature became increasingly apparent to me over the next 50 years that I worked on Maya archaeology and became acquainted with the modern Maya.

As I began my graduate archaeological studies in 1974, I was taught the prevailing assumption that Maya agriculture practices were inefficient and wasteful. Further, the thinking went, the relationship of the population with food was at the core of the so-called Maya collapse. The pressing question was whether rainforest agriculture could successfully support the large populations characteristic of civilization. Meanwhile, Danish economist Ester Boserup had proposed in 1965 that population change drives the intensity of agricultural production, in contrast to the enduring theory that English economist Thomas Malthus put forward in 1798 that subsistence limits population growth. I wondered, Could Boserup's thesis on agriculture be a new way to look at the ancient Maya?

Boserup's work presented a direct challenge for Maya archaeology. Little was known about how the everyday Maya had lived, because so much work had focused on their imposing monuments and on the elite. My colleagues and I wanted to know where Maya house sites were located, what their environmental conditions were, and whether they concentrated around city centers. To focus on the residential sectors, wherever they might be, I selected the area between the major Maya centers of Tikal and Yaxhá in El Petén, the heartland of the Classic Maya civilization (250–900 CE).

Because the fieldwork of this project was so remote and demanding, I got to know my local field team personally. Few scholars at the time had such a close view of the lives of the modern Maya. Most graduate students do not undertake an independent, complex field operation, as I did. I know I wouldn't have if I had fully realized the work it would require! But that work led me to a new way of thinking, something I would never regret. (*See "The Enduring Legacy of the Maya," May–June 2022.*) Through a half-century of my investigations, interacting with the land and the Maya who live there today, I have come to understand that they are *Master Forest Gardeners*—and that their practices offer solutions to contemporary environmental crises.

La Brecha Anabela

Although the need to study the daily lives of the ancient Maya was widely recognized in archaeology in the

QUICK TAKE

In the 1970s, the author was one of the first archaeologists to study how and where ancient Maya people lived.

Through her research and her collaborations with local people, Ford has challenged assumptions about the collapse of Maya civilization.

The Maya cultivated the forest as a garden, as do their descendants today. Implementing their methods can help conservation efforts.

Courtesy of the author

Most Maya archaeological sites present ancient monuments and temples on cleared land, not as they once were within the forested landscape. This digital rendering shows how the archaeological site of El Pilar, located on the border of Guatemala and Belize, could look in the future. The author's technique, called Archaeology Under the Canopy, conserves the forest and protects ancient Maya structures under the shade. This rendering depicts the staircase of the eastern temple, EP 7 (*Xik Na* in Mayan) of the main plaza, based on strategic excavations.

1970s, few projects had undertaken the arduous fieldwork. Stepping into that obvious gap, I proposed to explore sites beyond the ceremonial centers to elucidate the nature of Maya land use. I scoured published archaeological maps and excavation data, including those from Uaxactun and Tikal in Guatemala and Barton Ramie in Belize. I appreciated the foundation that these pioneering projects established, yet noted that only the research at Barton Ramie had focused explicitly on residential architecture. No wonder there were questions about how the magnificent civic centers of the ancient Maya had been supported.

Although contested today, the assumption at the time was that the tropics could not have sustained hunter-gatherers, let alone civilizations. Rather, archaeologists in the 1970s thought that mobile populations followed game, presuming that the necessary resources were too dispersed to support these societies. Yet evidence on hominid origins in Africa and major civic centers in the Maya Lowlands speak to the contrary.

This contradiction begged the question: How were the populous Maya city centers supported? I set out to map the Tikal–Yaxhá intersite area and to record data about the environments where the prehistoric Maya lived along a 30-kilometer transect line, locally called a *brecha*.

The project was both physically and logistically challenging. To access and move within remote areas of the Maya forest, I formed a collaborative local team: foreman Adrian Cano, cook Adela Montejo, my husband Michael Glassow (also an archaeologist), students from UCSB, and an able Guatemalan field crew that averaged nine men, including Vicente Hor, the muleteer. For eight months, we worked from local campsites, traversing areas that were unoccupied save for transient forest collectors—*chicleros* collecting chicle for gum and *xateros* collecting palm fronds for floral arrangements. At the time, it was standard to establish projects with stationary bases and supportive infrastructure; a mobile archaeological project like mine was unique.

To cover the variety of terrains found in El Petén, I ensured that the Tikal–Yaxhá transect line crossed uplands and lowlands, interspersed with wetlands. At the time, the prevalent view had been that settlements were concentrated around urban centers, and that the number of settlements would decline with distance from a civic center. I wanted to know whether the Maya had followed this rural-urban-style city structure, or had instead settled where local farming environments could support them. To test whether civic centers or environmental conditions were better predictors of Maya settlement, my project team mapped sample grids on what is to this day identified on local maps as *La Brecha Anabela* (Anabel's Transect). Park managers and patrols have since used La Brecha Anabela to access distant areas of the Tikal National Park.

In late February 1978, our team initiated the transect so that we could pass through the forest with our four mules, establishing bases of operation and looking for signs of ancient Maya habitation. After we set up the baseline between the two centers, we divided the transect into grids, surveyed a sample for Maya settlements, and recorded environmental features. After that, we selected test excavations of the mapped Maya residences.

Within each grid, we inventoried "house mounds," the remains of ancient structures or platforms that supported perishable houses made of

forest materials. Over the course of the field season that ran to September, we found nearly 400 house mounds variably distributed; they were absent from swamps with dense vegetation, and they were concentrated in the well-drained uplands with the towering trees that characterize the Maya forest.

While my attention was on the archaeological work at hand, I took for granted that my capable team would figure out our shelter, find water, confirm trails, and make sure we were properly cared for beyond the rice, beans, and maize that I brought from town every fortnight. Without their skill and knowledge, I would never have been able to accomplish my academic aims. Under Adrian's direction, the local crew identified medicinal plants, fruits, and honey; located ramón trees (*Brosimum alicastrum*) for mule fodder; and assessed the camping tasks.

Although I did not fully appreciate it at the time, the local team was able to meet our needs because they understood the landscape around us. Our sources of water relied on ancient Maya reservoirs, or *aguadas*, managed depressions for water containment. They kept our team well-provisioned and sheltered, using active traditions passed down through generations.

Living with and getting to know modern-day Maya through my fieldwork taught me about their heritage, which provided significant clues to the sustained perseverance of the Maya over millennia. Our project depended vitally on the Maya forest as a "garden," a once-cultivated landscape full of useful plants. It was some years later that I fully comprehended the meaning of *forest as garden* as crucially relevant to the subject of my research. It is not by chance that useful trees predominate the forest today. It is an elusive sign—to colonial and settler eyes, at least—of the resilient legacy of the Maya, who learned through generations to live with and subtly cultivate their forest as gardens.

Courtesy of the author

In February 1978, the author, pictured here, and a local crew of 15 people cut and mapped a 30-kilometer transect through the forest between the known archaeological sites of Tikal and Yaxhá in El Petén, Guatemala, the center of the Classic Maya civilization (250–900 CE). They were looking for house mounds, remains of the places where the everyday people of the ancient Maya lived, and they ended up finding nearly 400. Through this work, the author has challenged the prevailing belief that ancient Maya settlements concentrated around city centers.

Finding El Pilar

Because I was seeing settlement patterns among the ancient Maya that did not fit the conventional narrative, I needed to expand my surveys. I looked to the Belize River area and the site of Barton Ramie, where a Harvard project had worked in the mid-1950s. While that research had focused on sites near the river, my experience in the Tikal–Yaxhá area highlighted that settlements would be concentrated in the well-drained uplands, where no rivers flowed. Archaeologists originally surmised, in line with the common Euro-American perspective, that the ancient Maya were attracted to the river for its water. They had concluded, without looking further from the river, that the settlement was a ribbon-like band adjacent to the waterway. I wondered whether this idea was yet another unexamined assumption about the Maya.

This focus on the river as the water source struck me as odd; after all, Tikal, among the largest of Classic Maya civic centers, was far from any river. This contradiction was coupled with my own experience living and working day-to-day on the Tikal–Yaxhá *brecha*: All the water sources in El Petén that my field team and I depended on were ancient Maya *aguadas*. Clearly, the Maya relied upon means of sourcing water other than proximity to rivers. I decided that my next major project would look beyond the Belize River. What I found would capture the rest of my career: El Pilar.

El Pilar is the largest Maya city center in the Belize River area. We now know that the site spans the current division of Belize and Guatemala and that El Pilar's hundreds of monuments and buildings cover about 50 hectares. We estimated that the total population averaged 200 people per square kilometer, more than the average for the Ming Dynasty in China in 1500 CE or premodern Japan in 1750. At El Pilar's height in the Late Classic Period (600–900 CE), 4,000 to 6,000 people lived in the city.

How had archeologists missed this incredible city? Early explorers heading into the interior El Petén sites of Uaxactun or Tikal took the path of least resistance from the Cayo area of Belize, avoiding the hilly escarpment upon which we later found El Pilar, overlooking the eastern valley below. Archaeologists had not investigated this area, instead preferring to explore well-known sites in the interior. Local farmers, however, were aware of the temple mounds. When we first visited the site with Belizean archaeologists, farmers had cleared the plazas for crops. We surmised that this area, located 10 kilometers from the Belize River, might help us determine whether the ancient Maya concentrated in the uplands or near the river.

In 1983, after completing my PhD at UCSB, I started surveys in the Belize River area, west of the previously studied Barton Ramie area. My team's surveys were designed to cross the valley up into the hills to assess how

the river influenced settlement patterns. We oriented three transects from the river through a civic center, rising up the valley into the interior. From these surveys, we would be able to determine whether the river was the most influential factor in predicting settlement.

The results of surveys conducted over two field seasons corroborated our research findings from the Tikal–Yaxhá area, demonstrating again that the well-drained uplands, characterized today by tall hardwood forests, had also been the preferred landforms for the ancient Maya settlements in the Belize River area.

The ancient Maya did not need to be near the river, because they managed water locally with *aguadas*, as well as collections of water around residential units. But if water was not the strongest attraction, what was?

To answer that question, I developed a predictive spatial model of the settlement patterns in collaboration with UCSB geographer Keith Clarke. The farming landscape of soil and slope was most significant. We showed that the 1,300 square kilometers of the greater El Pilar area could have supported 182,000 people at an average of 140 persons per square kilometer, whereas today there are fewer than 50,000 people and an average of only 20 persons per square kilometer.

Essentially, ancient Maya farmers settled in the areas with good farmlands, found in the well-drained uplands. Whether these uplands comprised only a few hectares or tens of hectares, they harbored dense settlements. Where there were larger extents of the well-drained uplands, there were more farmers, and therefore more people—and thus more potential for investment in civic endeavors, such as those once seen at Tikal and El Pilar. Civic centers grew in relation to the numbers of farmers, the source of food and labor. Nearly 80 percent of the residential units were concentrated in less than 40 percent of the terrain.

This research confirmed that civic centers emerged where the most people were, which for a preindustrial agrarian society meant the most favorable farming areas. As El Pilar's cultural and natural significance became clear, our team advocated for its national and international recognition

Google Earth

This map shows the sites where the author worked during her career, including El Pilar. Following her work on La Brecha Anabela, she surveyed other areas to understand whether the Maya tendency to settle in the fertile uplands was widespread. Next she studied the Belize River area, because studies there had only focused near the river itself. The prevailing belief was that the Maya had settled near the river as a water source. When the author looked in the uplands further from the river, she found El Pilar, a place that was already known to locals but that academic archaeologists hadn't yet noted.

and conservation. The site was declared a protected area first in Belize in 1998. By 2004, it was secured in Guatemala as well: the El Pilar Archaeological Reserve for Maya Flora and Fauna. The officially recognized contiguous protected area honors the Maya forest for the Conservation of Nature peace park that links the historic divide between Belize and Guatemala.

My archaeological research on La Brecha Anabela and at El Pilar revealed much about the land use of the ancient Maya; yet I also had recognized that

The Maya's land use is largely invisible in the archaeological record—labor, skill, and knowledge leave no trace.

and gardens, and is a living museum presenting Maya monuments with a conservation strategy we coined as Archaeology Under the Canopy.

Today, El Pilar is open to the public and is especially unique in its emphasis on monuments sheltered by trees. Our goal is for the site to be formally identified as an International Union

living knowledge promised even greater insights. I wanted to identify what necessities of daily life the Maya were resolving through interaction with the surrounding forests. To do so, I established a collaboration with Master Forest Gardeners who live in sync with the Maya forest landscape. These citizen scientists surveyed with me and drew

Courtesy of the author

An illustration of El Pilar shows temples and house sites, surrounded by forests and fields in various stages of the 20-year *milpa cycle* of cultivation and regeneration. In conserving El Pilar, the author aims to teach the public about the way the ancient Maya lived with and cultivated the forest around them.

my attention to their forests, home gardens, and fields.

One might think that after living in the forest on La Brecha Anabela I would have learned about these forest gardens. I had caught glimmers, yet it was in the El Pilar surveys and through years of working with Master Forest Gardeners that I came to fully realize the depth of the knowledge garnered over generations of living with the forest—what the Maya call *Otoch K'aax*, meaning "the forest is home." By getting to know the modern Maya, I looked for archaeological similarities to their current way of life, and realized how much had survived from centuries ago to today.

The Maya Forest as a Garden

Misunderstandings of land use in the Americas have caused much confusion. A shocking—but not fully recognized—repercussion of the brutal confrontation between colonists and Indigenous Americans was the European misperception of the landscape. In central Mexico, attempting to find a way to label the bewildering natural panorama and the crops they found, the Spanish invented the term *milpa* to mean a maize field, as it has come to be commonly used. The word *milpa*, however, is a contraction of the Nahuatl phrase "*Mili pan*," or cultivated place. One can picture Spaniards looking at what they saw as a maize-dominated field, without considering the dozens of other crops involved, and asking the conquered people what these fields were called. Had they later asked to be taken to a *Mili pan*, they might have arrived at a perennial orchard, as much a part of the cultivation cycle as the annual crops.

What the Spanish missed was the importance of what appeared untamed, yet was actually a domesticated landscape: managed fields and forests.

The milpa forest-garden cycle encompasses approximately a 20-year sequence that begins with cultivating annuals for about four years, which then sets the path for regenerating perennials, culminating some dozen years later in a mature forest. The cycle minimizes risk over the long term, rather than maximizing profits in the short term as monocultures do. What the Spanish missed was the importance of what appeared untamed, yet was actually a domesticated landscape: managed fields and forests.

Much of the written knowledge of the Maya has been destroyed. In the Yucatán in 1562, Friar Diego de Landa burned Maya written documents along with wood and clay figurines in a public penance for idolatry called *auto-da-fé* (act of faith) following the regulations of the Inquisition. The Spanish targeted these same communities in a 1552 ordinance against traditional practices. This ordinance proclaimed that houses should be clean and any trees and crops found around houses burned. Yet these trees and crops were part of the forest garden. Even today, the cultivation practices of the Maya have been denigrated as "shifting cultivation," a strategy that purportedly leaves valuable land uncultivated.

The archaeological record, however, presents a chronology of growth and development. Large centers grew from the Preclassic through the Classic Periods and were followed by greater numbers of residential settlements found both near and far from centers.

From the early beginnings 4,000 years ago, archaeologists identify increasing complexity of the sites, land use, belongings, and hierarchical arrangements of settlements. This archaeological evidence suggests a steady successful social development bridging climatic and economic changes. This evidence does not mesh well with the interpretation of land degradation and deforestation.

Many lines of evidence converge to support the conclusion that the milpa cycle characterized Maya land use and conserved the forest rather than degraded it. Yet conventional accounts of the ancient Maya are slanted toward environmental degradation and collapse, based on assumptions about the milpa cycle that have influenced interpretations of precipitation data and ancient pollen reconstructions from lake cores.

Integrating all the lines of evidence—paleoecological, ethnohistoric, ethnological, and agroecological—supports an alternative interpretation. For example, agroforestry studies by Stephen Gliessman of the University of California, Santa Cruz, provide a basis for reevaluating the importance of the archaeological record while appreciating the contribution of the environmental chronology derived from lake cores.

Fossil pollen captured in lakes favors plants that rely on wind pollination. Worldwide, wind pollination represents only about 10 percent of all plants. In the forested tropics, about 2 percent of plants use wind for pollination. These are mostly annual and perennial forbs, herbaceous flowering plants other than grass. Depending on proxies, the diverse fossil pollen grains found in lake sediments have been interpreted in a binary way: the demise of good forests in the wake of the expansion of bad disturbance plants. Yet the reality is much more nuanced.

Among the dominant perennial trees in the Maya forest, only one is known to be wind-pollinated: the pioneer ramón tree we used for mule fodder in the Tikal–Yaxhá survey. In fossil pollen studies from the area, this one tree is the principal proxy for the forest, despite the hundreds of trees known in the region. Is it credible to use the absence of only one tree as evidence for deforestation? Given the nature of wind pollen and its overrepresentation in lake core sediments, using this proxy to support such a sweeping conclusion merits caution.

Macduff Everton

The buildings above are part of a house compound at El Pilar that the author and her team excavated and consolidated to present the daily life of the Maya. Most Maya archaeological sites that are open to the public focus on the temples; El Pilar offers views of houses and gardens. Both structures shown above are from the same compound and face one another.

Weedy annual plants are mainly wind-pollinated and naturally proliferate in fields and regenerating forests. Annual and perennial herbaceous forbs were lumped into the disturbance category along with grasses. When one separates grasses from forbs, we discover that grass pollen is minimal, whereas wind-pollinated forbs are abundant. Many of the forbs attributed to "disturbance" in these studies are common plants in modern milpa fields, as well as the succession phases of the milpa cycle. These plants are used for spices, greens, medicines, and even pest control. If one reinterprets "disturbance" pollen as an indicator of a healthy milpa forest-garden system, one can look to other sources to confirm the presence of the forest.

There is other evidence of the forest landscape of the ancient Maya. Archaeobotanical data are a rich source of information on trees that the Maya used. Archaeologist Shanti Morell-Hart of Brown University and her colleagues identified from botanical remains at Maya sites 132 trees, shrubs, forbs, grasses, and vines. Of those, 48 are trees, and one is, indeed, ramón. Kim Thompson, now at Ohio University, worked with archaeobotanical materials at Tikal and concluded that the botanical remains reflected the trees found in the forest today. These data and assessments tell a story of living with and managing the Maya forest in the past in a way that converges with the present.

Currently, standard soil classifications, such as those from the U.S. Department of Agriculture and the United Nations Food and Agriculture Organization, categorize lands around the Maya center of Tikal as "not cultivable" (read: not arable) and suitable only for forestry. *Arable* means plowable, and the early inhabitants of the Americas did not plow. Contemporary traditional Maya farmers use a dibble stick, a hand implement used to make holes in the ground for plantings. The uplands around Maya civic centers such as Tikal have good drainage and fertility, but the soil is shallow and rocky. This land is definitely not arable, the prejudicial convention for identifying cultivability. Generalizing what is cultivable has led to a perception of waste—lands left to be cleared, improved, and made "arable."

Macduff Everton

The late Zacarias "Chaco" Quixchan and his grandson in 2006 stand in their field of interplanted perennials, fruit trees, and hardwoods in San Andrés, Guatemala, with mature forest in the background. Like many contemporary Maya, Quixchan practiced traditional agroforestry and participated in the Master Forest Gardener collaboration the author launched with locals who farm this way. This tradition follows the milpa cycle, a decades-long sequence of regeneration that uses controlled burning, planting crops, and nurturing perennials. Once maligned as a wasteful use of land, scholars have come to recognize it as a viable way of farming sustainably.

The assumption has been that the milpa system was a widespread misuse of land, not an intensive system of remarkable cycles of regeneration. The Maya's land use is largely invisible in the archaeological record—labor, skill, and knowledge leave no trace. There were few visible investments in the landscape, such as terracing, irrigation channels, drainage canals, and raised fields, and these are seen as the only evidence of land use intensification. These visible strategies, however, are all developed on landforms that have significant limitations: water moving too fast or too slow. One would presume, à la Goldilocks, that the absence of these engineering features would mean the land is just right! Tikal, among the largest Maya centers in the region, is simply characterized by these fertile and well-drained uplands.

Master Forest Gardeners

After my colleagues and I established that the settlement patterns of the ancient Maya are dispersed, in contrast to examples in temperate Old World settings where settlements cluster around urban centers, research in tropical contexts continued to grow. The concept of *low-density urbanism* has been tendered to describe this system of civic centers and their constituent residents. In the case of the Maya, civic centers could be better described as green cities, as Elizabeth Graham of University College London has proposed. At this point, I had uncovered evidence that the Maya lived sustainably, but little was known about the details of their practices.

Today, traditional Maya gardens surround homes, while nearby field plots, seldom greater than a hectare and rarely farther than an hour's walk, are asynchronously opened for planting. These plots are prudently cleared to protect favored trees, with other trees and shrubs carefully culled with a controlled burn that hastens regeneration. Maya farmers grow several dozen crops along with a vanguard of forbs that recommend themselves under the dappled canopy of maize. While Maya farmers avoid steep slopes, shallow yet fertile soil with stones poses no problem. Fields opened at different times are embedded and surrounded by renewing and mature forests, which prevent erosion and conserve water, not to mention offering fire control and handy access to resources needed for construction.

Master Forest Gardeners have shown me how these practices provide the essentials of life. The present-day Maya use 497 different plants as food sources, as Scott Fedick of the University of California, Riverside, has shown. In addition to food, such intentional cultivation yields heartwood posts for houses, piper bush leaves for insect repellent, the five-node branches of the luin tree for making cacao blenders, bayal palm stems for basketry, *tinto* or logwood for black dye, habitat for deer, flowering trees for honey-producing *Melipona* bees, and just about anything necessary for every household provision. These low-tech yet sophisticated solutions are at the foundation of Maya civilization.

By walking daily in the footsteps of elders, friends, and others with local experience, I learned how to recognize valued plants, assess recommendations, share observations, and look after habitats for animals. I have learned that these skills depend on nurturing resources in the places they thrive, shaping the domesticated landscape to provide for daily needs.

Farming for the Future

The landscape that supported the grand ancient Maya civilization emerged and developed across millennia, conserving a biodiversity hot spot replete with useful plants. This flora was important prehistorically and continues to be important today, making the Maya forest a high priority for conservation.

Today, the Maya merit wide recognition and, indeed, celebration of their care for people and the planet. In 2000, I founded the nonprofit Exploring Solutions Past (espmaya.org) to put into action the information I had uncovered as a researcher. Exploring Solutions Past promotes forest gardening and has helped achieve formal acknowledgment of these citizen scientists. Together with Cynthia Ellis Topsey, Legator of Indigenous Knowledge, we have plans for an exposition with the Museum of Belize that will feature El Pilar and the value of forest gardens of the tropics around the world.

The milpa cycle minimizes risk over the long term rather than maximizing profits in the short term.

In contrast to the grim interpretations of Billie Lee Turner and Jared Diamond, who declared that the populations of the Maya and other Indigenous peoples around the world collapsed because of deforestation, my colleagues and I have found that the Maya thrived and continue to conserve their forests. The evidence for an alternative view is mounting, one that acclaims the Maya agricultural mastery found in ethnohistorical, ethnographic, and agroecological data as relevant to our current environmental crises.

The late Master Forest Gardener Heriberto Cocom (*below right*) hands the author (*below left*) a cacao pod in his garden in Bullet Tree Falls, Belize. Master Forest Gardener Narciso Torres (*left*) holds allspice leaves grown on his farm. Torres has worked with the author since 1983, and last year he was awarded Belize's Meritorious Citizen Award, as well as the Chancellor's Medal from the University of California, Santa Barbara, for sharing his knowledge with the author for 40 years, or a *Ka' Katun* in Mayan. Through these collaborations, the author has documented Maya forest gardening practices.

Macduff Everton; courtesy of the author

At UCSB, Chancellor Henry Yang recently presented the prestigious Chancellor's Medal, the highest award the university can bestow, to Master Forest Gardener Narciso Torres, who has worked with me since 1983, selflessly sharing his vast accumulated wisdom and ecological knowledge over the course of our careers—40 years or a *Ka' Katun* in Mayan. For his contributions to the environment, Torres has also received Belize's Meritorious Citizen Award.

By recognizing the contemporary milpa forest gardener as a descendent of the ancient Maya, a completely new account of the so-called "collapse" emerges. As the ancient Maya farming settlements expanded and grew, so did the complex hierarchy of the Maya civilization. The success of the Maya hierarchy was built into the monumental stone architecture that has attracted the awe of so many modern visitors. Maya temples and palaces required maintenance, and this work fell to the general populace. With this dramatic growth, upkeep became a liability, leading to the slow neglect of civic centers. All the while, farmers went on cultivating the woodlands until the real collapse brought on by Spanish conquest.

As we now face an ever-mounting climate crisis, it is imperative that we explore, honor, and learn from proven solutions. Over the coming decades, the tropics are projected to experience the greatest human population growth on the planet. Maya forest gardeners can bring tried-and-true strategies to secure the future of the tropics, where Euro-American strategies are clearly failing. Flexible approaches are at the foundation of ancient Maya success and the viability of contemporary Maya forest gardeners. The milpa forest garden cycle may hold the secrets of conservation and cultural prosperity. Thus, the real threat to the Maya forest would be the loss of the expertise of these Master Forest Gardeners.

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