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UCSB Archaeologist Disputes Common Belief About Collapse of Maya

For decades, the Maya -- and their descendents -- have gotten a bad rap from archaeologists, anthropologists, and other scholars who cite the ancient civilization's agricultural practices for its eventual collapse. While they agree that other factors contributed to the fall of Maya society roughly 1,000 years ago, they claim the civilization's slash-and-burn approach to farming caused such widespread environmental devastation that the land simply could not sustain them.

However, research conducted by Anabel Ford, an archaeologist at UC Santa Barbara and director of the university's MesoAmerican Research Center, suggests the contrary may be true -- that the forest gardens cultivated by the Maya demonstrate their great appreciation for the environment. Her findings are published in the current issue of the *Journal of Ethnobiology* in an article titled "Origins of the Maya Forest Garden: Maya Resource Management."

A forest garden is an unplowed, tree-dominated plot that sustains biodiversity and animal habitat while producing plants for food, shelter, and medicine. Tailored to the local geography, the Maya cultivated the forest as a garden for thousands of years. Today, the Maya forest is dominated by these useful plants, nurtured by traditional farmers of the region who grow a wide array of food, medicine, and spices as well as materials for construction, tools, and utensils. Their forest gardens provide

nourishment for their families, maintain soil fertility, secure water, and clean the air.

"We conclude that the vegetation changes that took place between 4,500 and 3,000 years ago were largely a consequence of unstable climatic conditions," said Ford, who co-authored the paper with Ronald Nigh, an ecological anthropologist at Centro de Investigaciones y Estudios Superiores en Antropología Social, a social science institute in San Cristobal, Mexico. "This climatic chaos forced the Maya to adapt from a society of mobile horticulturists to one of agriculture in a single location." The result was the Maya Forest Garden, a highly productive and sustainable form of resource management that was the foundation of the Maya civilization from 3,000 to 1,000 years ago.

According to the paper, "shifts in the paleoecological record, previously interpreted as evidence of the Maya denuding the forest, can be reinterpreted as evidence of forest management in the form of the Maya Forest garden." Climate change played a significant role in landscape transformations, the paper continues, "and the Maya's adaptation to climatic changes was to intensify the forest management system developed during the preceding millennia, a system that is still in place today."

The ancient Maya, who farmed without draft animals or plows, and had access only to stone tools and fire, followed what Ford calls the "milpa cycle." It is an ancient land use system by which a closed canopy forest is transformed into an open field for annual crops, then a managed orchard garden, and then a closed canopy forest again. The cycle covers a time period of 12 to 24 years. A misconception about the milpa cycle is that the fields lie fallow after several years of annual crop cultivation. "In reality, in the 'high-performance milpa,' fields are never abandoned, even when they are forested," Ford explains in the article. "The milpa cycle is a rotation of annuals with successive stages of forest perennials during which all phases receive careful human management.

"As a cultivated field," Ford continues in the article, "the milpa has its own ecology of herbs, tubers, and plants that deter pests of the main crops, enhance soil nutrients, and maintain moisture in the soil. Even before this phase of annual crops is over, the selection of trees and bushes for the woodland stages begins."

"It just doesn't make sense that the Maya wouldn't take care of the land," Ford said. "They had to maintain its quality or they wouldn't survive. We assume that the ancient Maya must have destroyed their environment because that's what people

are doing there today. If we're doing it, they must have as well. But the fact is, they managed the landscape. They practiced what I call 'select and grow.' They did not slash and burn themselves out of existence."

She added that the present-day Maya's knowledge of forest gardening is not formally documented in any comprehensive way. "We could save the Maya forest garden if we could learn from these farmers and their observance of nature," Ford said.

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