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Milpa, Forest, Garden: Maya Agro-ecosystems

Review by Alessandro Questa

The Maya Forest Garden: Eight Millennia of Sustainable Cultivation of the Tropical Woodlands by Anabel Ford & Ronald Nigh

Left Coast Press, 2015

The Maya Forest Garden is an impressive book on environmental and human history in the Maya area. I dare say it also constitutes a much-awaited response to the contagious yet uninformed apocalyptic notion of a "Maya collapse." Indeed, the contradictory perception that glorifies ancient Maya culture as it ignores or even deems modern Maya practices as "primitive" is bewildering. This analysis can be paired to relevant historical ecology studies in other parts of the world (Flannery 2002, Gammage 2011), which show how non-Western societies have had a much deeper and long-lasting success in managing their landscape than, well, us.

In the case at hand, this success is marked by the continued and skillful practice around the Maya milpa system, an expanded Mesoamerican knowledge-practice, defined as a diverse agroforestry polyculture based on maize and managed in long cycles that integrate agricultural and domestic practices to forest growth. Such practice, preserved by local gardeners, stands as the key strategy for long lasting sustainability in the region. The milpa system, according to the authors, more than just disturbing local ecosystems, has worked with tropical forests becoming integral to their sustainability today. Relying on a multifarious array of sources, from pollen fossil analysis, lake core samples and early Spanish chronicles to ethnographic and archaeological research data, Ford and Nigh — a couple of renowned seasoned scholars on the Maya — propose to look at the currently mega diverse tropical forests of Belize, Guatemala and Mexico as a human managed environment via cultural practices around food production, specifically controlled fire and felling of vegetation paired to polycrop agriculture.

By doing a survey of the last 8,000 years of human inhabitation in the area, the authors challenge recent assumptions about a Maya civilizational collapse due to deforestation, overpopulation and environmental abuse. They instead pose that Eurocentric assumptions have prevented a real understanding on Maya knowledge and traditional farming practices as determinant to the conservation and expansion of tropical forests. Western ideas about production (arable land, intensive agriculture) together with urbanization, centralization, population increase and social stratification as tacitly desirable features that mark somehow a "successful" civilization have judged Maya farming — a careful territorial management between owner spirits, milpa gardens, forestry and controlled fire — as simply a brutish "slash-and-burn"method. Furthermore, these Eurocentric ideas backed by an agroindustrial economy have solidified as an "ecological imperialism," turning detrimental in the region by forcing human concentration, and relying for food production on over exploitation of land and labor, and the expansion of pastures and plows lands.

The book starts by offering a historical and ecological background of the region over the last 8,000 years, briefly discussing the relations between population, land, resources, and political factions in Maya chronology. In short, against the deforestation and collapse theses, the authors point out the evident presence of a diverse and abundant ecosystem, with numerous trees and plants species directly beneficial to humans. They argue that what we imagine as a sudden "collapse" is rather a long process characterized by the abandonment of certain practices such as dense population, monumental architecture, and warfare in favor of others such as the emergence of a "galactic" form of urbanism, based on decentralized smaller farming units.

This serves as a backdrop for understanding how milpa gardens operate as a high-performance agro-ecosystem that relate diverse household resources (horticulture, hunting, bee keeping) with forest growth and human-spirit relations in Petén, Yucatan and Lacandon forest areas. Milpa gardens are not only connected to different local beliefs (a spiritual landscape and a trans-species moral order), but are also highly flexible and can be intensified or varied in many ways according to the population's needs. The Maya forest is the result of dynamic and resilient historical ecology making a diversified landscape. Maya farmers, the authors claim, must not be seen any longer as a destructive presence in an imagined pristine forest but as spiritual caretakers and co-creators of said forest.

In the following chapter, the authors present paleo-environmental data, mainly from pollen fossil, precipitation and lake core soils, to destabilize the idea of historical environmental destruction by human population. In the last 8,000 years, the region has indeed drastically changed from arid to humid and temperate with long periods of irregular precipitation. Such changes however marked the development of the milpa with controlled fire as a combined form of restoration agriculture, permitting

for much carbon to be reintroduced in the local soils allowing forest regeneration. Forest and milpa gardens are thus integral.

In chapter 4, Ford and Nigh describe the life of Maya people during the Late Classic period (around 1,500 years ago), in the archaeological site of El Pilar, at the border between Belize and Guatemala. The authors estimate, based on archaeological evidence, a high residential density and population (180,000 people, between 137-142 persons per square kilometer) showing different levels of intensification and size in the surrounding milpa gardens.

In chapter 5, the authors offer a comprehensive list of trees and plants dominant in the local forest and beneficial to humans. If milpa is integral to forest conservation, then the forest is key to both milpa and human reproduction. The authors offer a characterization of inhabited upland dry lands in contrast with uninhabited lowlands and wetlands to calculate an approximate parity between human population, milpa and forestlands. They conclude that even if in the thickly inhabited upper dry lands would have had a heavy impact on some trees in the surrounding forests, in the vast lowlands and wetlands with peripheral human population, the impact was kept light.

In chapter 6, the authors pose the problem of conservation as a Eurocentric practice and the dangers for the actual continuity of Maya forests as long as a globalized economy based on intensive production and biodiversity reservoirs keep Maya people, and their profound knowledge, out of the picture. It becomes necessary to explore further the co-creative relations between Maya people and the forest in order to visualize possible routes for their continuation under the pressure of agro-industrial, mining, lodging, and oil interests.

In short, the book is a timely multidisciplinary exploration of not only the rich historical ecology of the Maya forest garden, but also of Maya culture, history and knowledge – and the risk of loosing all of it. The value of explorations like the one offered by this study need to be — for the future of any form of sustainable humanity and in my modest opinion—continued.

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