

The Pennsylvania State University

The Graduate School

Department of Anthropology

**LAND AND LABOR: CLASSIC MAYA TERRACED AGRICULTURE AT
CARACOL, BELIZE**

A Thesis in

Anthropology

by

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ABSTRACT

This dissertation addresses several issues facing current research in archaeology. First, and generally, it illustrates that archaeologists still need to emphasize process over event in prehistory. We are often taken aback by the scale and complexity of the features we excavate, sample, and survey, which can lead to difficulties in our interpretations. This is particularly true when studying large scale and complex agro-engineering features, such as terraces, wetland fields, and irrigation systems. The scale and complexity of the features can bias our interpretations, as they are typically the end result of several centuries of a process of agricultural intensification, not a single event. Using quantitative models and analysis helps to refocus archaeological research to intensification in process.

Second, this project demonstrates the value in the application of information technology for analyzing and reconstructing past behavior. Recent advances in computer technology, specifically, GIS, now allow archaeologists to accurately and efficiently model and simulate complex systems, diachronically. While such simulations and models may present an abstracted picture of the past, they do provide us with a means to view broad processual change and to identify critical periods and variables for intensive exploration.

Third, and more specific to my case study the Classic Maya, the use of a smallholder approach is not only appropriate but critical to understand many of the major features of Classic Maya culture history. In this particular case study, the smallholder approach helped to identify two crucial variables for reconstructing the history of Classic Maya sites and polities, *land* and *labor*. Such a focus illustrates that many of the patterns found within and between sites, concerning the political economy of rulers, may be the result of largely bottom-up processes.

The location of this research is the Classic Maya site of Caracol, Belize, which exhibits the clearest evidence for agricultural intensification in the Maya lowlands. The features are extremely complex and cover a broad region on the Vaca Plateau in Belize. When I first viewed the features, I was taken aback by their scale and complexity. Using quantitative models and simulations, I illustrate that these ‘landesque’ capital improvements to the landscape were the result of a process of agricultural intensification occurring over the course of several hundred years. The features were constructed, managed and maintained by households early on in the agricultural and archaeological history of the region. Through time, the intensity of production increased greatly, leaving the system very ‘tight’ from a surplus perspective. This research illustrates that Late Classic farmers in the region, not only produced little in the form of agricultural surplus, but also had very little surplus labor, due to the demands of intensive agriculture. I believe that these changing patterns of *land* and *labor* directly affected the political economy of the ruling elite and can be tied to some broad patterns viewed in the

epigraphic and archaeological record. Ultimately, the power of Classic Maya ruling elite was directly tied to their ability to extract a surplus of labor and agricultural produce from the thousands of farming households found throughout the region.

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