TIKAL

The primary theoretical question addressed in this book focuses on the lingering concern of how the ancient Maya in the northern Petén Basin were able to sustain large populations in the midst of a tropical forest environment during the Late Classic period. This book asks how agricultural intensification was achieved and how essential resources, such as water and forest products, were managed in both upland areas and seasonal wetlands, or bajos. All of these activities were essential components of an initially sustainable land use strategy that eventually failed to meet the demands of an escalating population. This spiraling disconnection with sound ecological principles undoubtedly contributed to the Maya collapse. The book’s findings provide insights that broaden the understanding of the rise of social complexity – the expansion of the political economy, specifically – and, in general terms, the trajectory of cultural evolution of the ancient Maya civilization.

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Tikal

PALEOECOLOGY OF AN ANCIENT MAYA CITY

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I am honored to be asked to write the Foreword to such an important volume on the ancient Maya site of Tikal, Guatemala, and how its inhabitants used and misused their environment. The authors in this book address one of the towering issues facing our society today: sustainability. Ancient and recent people living on our planet have had impressive successes in achieving sustainable adaptations for hundreds and often for thousands of years, yet others have misunderstood the consequences of maladaptations and have collapsed. The ancient Maya have provided us with numerous examples of these extremes. For instance, the Maya commoners in the village of Chan, in what is now Belize, achieved a sustainable adaptation for more than two thousand years (Robin 2012), and the lead editor of this volume, David L. Lentz, contributed research results at Chan that help explain how that success was achieved. The city that rose near Chan, Xunantunich, exemplifies the other extreme, as it only lasted for two centuries and collapsed completely. The factors leading to success or failure in achieving a sustainable adaptation are explored in this current volume.

The experience of Tikal is a mixed one, between that of Chan and Xunantunich, with sustainability achieved early in its time as a complex society and maintained for a few centuries. However, they crossed the threshold of sustainability, the tipping point, and during their last centuries created such fundamental problems that they ceased to exist by A.D. 900. Understanding the factors in sustainability successes and failures has been beyond archaeologists’ abilities until recently. Fortunately, the sophistication of today’s researchers conducting multidisciplinary research – including the natural...
sciences, social sciences, and humanities – allows serious exploration of this topic in past societies, with direct implications for our society today and into the future.

The authors herein document how the ancient Maya in the Early Classic and into the Middle Classic (see Figure 1.1) periods maintained an adaptation that supplied sufficient food, firewood, wood for construction, and other resources, without degradation of soils or rain forest. They developed a sophisticated system of agroforestry by favoring the productive trees and avoided deforestation in their early centuries. They developed sophisticated means of managing water in a challenging environment without surface rivers or lakes. Sediment cores and excavations within reservoirs, bajos, and aguadas provided information on natural and cultivated flora. In those sediments were smectite clay concentrations demonstrating the frequent airfall depositions of volcanic ash that increased soil fertility of the tropical soils. The population was growing but did not exceed the carrying capacity of the environment until around the sixth century A.D.

Because farmers interacting with their crops and soils on a daily basis are (and were in the past) acutely aware of edaphic conditions, I can only suspect the Tikal elite were unaware of the longer-term consequences of passing that tipping point into unsustainable conditions. Scholars have much to learn about elite-commoner relationships and their changes through time. A greater disconnection between the world of the elites and that of the farmers is probable. Also, Tikal was living in, and contributing to, a more bellicose environment in the sixth century and later, and the elite may have decided that population increase beyond sustainability was advantageous in warfare in the short run. At any rate, this volume documents the factors in the Late Classic period that contributed to the decline and ultimately to the total collapse of civilization at Tikal. Drought added further stress to a system already on a downward spiral. At most, the drought accelerated the demise, but it was not a sole cause. I suspect had Tikaleños done the terracing that was so prevalent at Chan and Caracol, the Late Classic decline might have been slowed, but not stopped.

What is ironic is that humanistic achievement at Tikal reached its apex during this time of stress and failure of the adaptive infrastructure, as judged by the architecture, sculpture, and other fine arts. The
same disjuncture occurred at Tikal’s sister city, Copán, at about the same time, with the same consequences.

This book is an essential resource for Mayanists interested in the great trajectory of one of the world’s civilizations. Maya achievements were stellar in art, architecture, astronomy/astrology, epigraphy, numerology, cosmology, and many other domains. As exemplified by Chan for two millennia and by Tikal for a few centuries, sustainable adaptations were achieved in spite of challenges in their environments. Decisions were made, particularly in the sixth century, that undermined that success, and the consequences of overpopulation relative to adaptation, leading to environmental degradation, are presented in this volume. Therefore, this volume is an essential resource for scholars worldwide in a wide range of disciplines who are studying sustainability. It should be required reading of politicians as well, but I am not optimistic that they would want to consider the difficult decisions that are necessary to maintain sustainability in our present world. The mantra of “growth” being essential to the futures of societies is deeply ingrained in our societies, yet it is antithetical to sustainability. It is a rare politician who has the courage to realize and express this. Can we learn from this Tikal case, or do we continue overpopulating and degrading our environment to our own long-term detriment?

Payson Sheets
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