



XVIIth World Congress of the International Commission of Agricultural and Biosystems Engineering (CIGR)

Hosted by the Canadian Society for Bioengineering (CSBE/SCGAB)
Québec City, Canada June 13-17, 2010



LINKING TRADITIONAL AGROFORESTRY PRACTICES OF THE TSOTSIL MAYA IN SANTO DOMINGO LAS PALMAS, CHIAPAS, MEXICO TO ECOSYSTEM BIODIVERSITY, LAND MANAGEMENT SUSTAINABILITY, AND COMMUNITY WELL-BEING

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CSBE100788 – Presented at the 10th American Ecological Engineering Society Annual Meeting (AEES) Symposium

ABSTRACT The Tsotsil Maya of Santo Domingo las Palmas, Chiapas, Mexico practice various forms of land management, including traditional agroforestry, corn (milpa) farming, and cattle ranching, while maintaining surrounding communal forest land. Tsotsil traditional ecological knowledge (TEK) originates in the highlands of Chiapas, Mexico, therefore its application to lowland forest ecosystems provides a working example of biocultural restoration and adaptation. Traditional ecological knowledge (TEK) may offer tools for ecological engineering to sustainably integrate human needs, ecological restoration, sustainability, and conservation. This study aims to understand how the land management techniques practiced by the Tsotsil Maya affect their subjective well-being, ecosystem biodiversity, and land management sustainability. The goal of the study is to better understand the link between humans' well-being, or happiness, and ecosystem health and to create a community-scale indicator framework for the assessment of this relationship within various production systems. TEK may offer insight to the western world in envisioning humans as part of their ecosystem, a fundamental principal of ecological engineering. Land management sustainability was assessed using Emergy analysis and was coupled with an assessment of subjective well-being using a modified psychological needs theory questionnaire. Ecosystem biodiversity, immediate use of planted species, and soil-fertility enhancement will be assessed through collaborative fieldwork with local farmers to be completed in December 2009.

Keywords: Ecological engineering, traditional ecological knowledge, biodiversity, ecosystem health, subjective well-being, indigenous, agroforestry, biocultural restoration, conservation, ecosystem indicators