Analysis of Land Use Change for Food Security Planning in Mae Tun Watershed, Thailand: Applications of Remote Sensing and GIS

Chakkrit Thongthap and Apisit Eiumnoh

Rural Development, Gender and Resources Program, School of Environment, Resources and Development
Asian Institute of Technology (AIT)
P.O. Box 4, Khlong Luang, Pathumthani 12120, Thailand

Abstract

Changes in the biophysical, social and economic environment are critical issues for watershed development and planning. The impact of these changes will affect to people in various ways, depending on their available resources and opportunities. In the Mae Tun watershed in Chiangmai province, northwestern Thailand, the natural resources have been severely degrading rapidly. This has created adverse impacts on human nutrition in the watershed. In developing solutions to these problems, this research had integrated Satellite Imagery Analyses (SIA) and Geographical Information Systems (GIS) for investigating land use issues that related to food security planning. The applications of these technologies have revealed considerable overuse of land resources. The analysis illustrates that the suitability of available land use options can improve human nutrition by crop production. The framework used in this study provides information to improve human nutrition and ensure the conservation of forest resources and their ecosystems. The outcome of this interdisciplinary research is important to produce useful guidelines for planners and decision-makers for the watershed.