

Socioeconomic Preferences into GIS-Based Land-Use Planning for Sustainable Agriculture and Natural Resources Management in Kien Luong, Vietnam

Thanh Son Nguyen

For many years now, the greatest concern confronting resource managers in the Mekong region of Vietnam is the mismanagement of land use and natural resources. This case study in Kien Luong, considers an integrated land-use planning approach developed by FAO and UNEP using GIS to investigate the suitability of agricultural production systems and examine the socioeconomic factors affecting land-use changes, household land-use decisions and natural resources management in agricultural landscapes. Various data were spatially and socioeconomically obtained through household survey and qualitative methods. The study found that the loss of forestlands was driven by the quick growth of the rural economy in which the two largest contributors were the prompt expansion of agricultural and aquaculture lands. Such a land-use change has initially hampered the agricultural development and ecological services; a large proportion of the area under existing production systems did not match its land requirements and resource management was partially effective due to socioeconomic driving forces. Land-use options and management measures were thus made based upon the land suitability and socioeconomic analyses, to secure the rural livelihoods and restore the native ecosystems. However, these could only be realized if there were institutional instruments and an improved awareness of farmers on specific land mapping units through agricultural extension and credit assess services.

Keywords: GIS, land use planning, sustainable agriculture, natural resources management