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"Global food security and food safety:
The role of universities"

Smallholder's Agriculture, Biodiversity and Food Security

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German Institute for Tropical and Subtropical Agriculture (DITSL), Germany

Abstract

Smallholder peasant family agriculture is studied in the tropical areas of Ecuador. This type of agriculture is characterised for being multi-crop, in which age and gender are not restrictions for productive organisation. It includes non-cultivated plant species that are allowed in the small farm. These "weeds", as commonly termed in conventional agriculture, fulfil different purposes: protection from the wind and pests, conservation of soil humidity, aesthetics, and even protection from spirits. In this presentation, we propose a model of agriculture sustained in biodiversity, which in turn guarantees the equilibrium of agricultural ecosystems and incorporates a social relationship between plants, humans and the environment. To investigate this relationship, we develop a quantitative approach using latent variables in the framework of a PLS-structural equation model. We want to emphasise the symbiotic relation between biodiversity and smallholder peasant family agriculture. The policy implication supports multi-crop farming against the mono-cropping model dominating modern capital intensive - land extensive farming. We state that there is a gap of knowledge in the understanding of this form of agricultural organisation; such gap derives from a scientific bias stemming from the Green Revolution. A new paradigm is suggested assigning a role to academic research at the university level to develop scientific grounds towards a new form of agricultural productive organisation that would enhance and guarantee food security.

Keywords: Biodiversity, smallholder family agriculture

Contact Address: ú, ŭ, ŭ, û, ü, ù, ů, ũ, É, Ĕ, Ĕ, Ę, Ê, Ë, È, Ẽ,, German Institute for Tropical and Subtropical Agriculture (DITSL), Steinstraße 19, 37213 Witzenhausen, Germany, e-mail: e.tielkes@ditsl.org