



Tropentag, September 16-18, 2026, hybrid conference

“Towards multi-functional agro-ecosystems
promoting climate resilient futures”

A natural experiment on small-scale Farmers’ adoption of “new theory farming” in ayutthaya, Thailand

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Abstract

Thailand’s agriculture, characterised by a mix of corporate and small-scale farmers, provides food and fibre to the economy. However, it faces climatic changes, resource depletion, and biodiversity loss in the ongoing epoch, the Anthropocene. This calls for farmers’ stewardship in terms of their land management practices for sustainable livelihoods. In this context, Thailand follows New Theory Farming”(NTF) practices, requiring farmers to arrange their agricultural land in a ratio of 30:30:30:10 for pond, rice, orchard, and dwelling. Although the literature lauds their theoretical application to sustainable livelihoods, the practical implications of NTF practices still lack grassroots-level evidence. To this end, we utilise a natural experimental design to examine the adoption of NTF practices among 210 proportionally selected small-scale farmers from six districts in Ayutthaya, Thailand. Using the lens of Diffusion of Innovation Theory and the framework of Vijitwornont et al. (2023) for NTF practices, we first develop an adoption index and then conceptualise socio-economic, demographic, crop-specific, and institutional factors impacting the adoption of NTF practices and analyse them using a binary logit model. The adoption index suggests moderate-level (50 %) compliance with overall NTF practices and with each category, i.e., pond, rice, orchard, and dwelling areas. Adopters differ significantly from non-adopters on crop yield, crop income, and their access to information. The significant factors increasing the likelihood of adoption are farmers’ access to information, higher yield (rai*), crop income (tonne), and age (higher). In contrast, the factors limiting adoption are farmers’ access to information through government officials, marketers, and/or friends; gender (women); and personal business as a primary source of income. Our contribution comes in two ways: we provide ground-level evidence on small-scale farmers’ adoption of NTF practices and develop an adoption index. The findings are useful for farmers, community leaders, officials, and policymakers in advancing Sustainable Development Goals (SDGs) to ensure sustainable livelihoods for Thai farmers.

* Rai is a local land measurement unit, where 1 hectare equals 6.25 rai.

Keywords: Ayutthaya, natural experiment, new theory farming, sufficiency economy philosophy, sustainable livelihoods, Thailand