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Subjective and Objective Factors for Farmers' Adoption of Soil Conservation Strategies

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Abstract

Smallholder farmers in our research area, Meegahakivula, Sri Lanka, are facing decreasing yields due to soil degradation primarily caused by unsustainable production practices. Farmers' strategies to increase production and hence income in short term leads to shrinking long term productivity. Our project is part of an interdisciplinary attempt with agronomists and specialists from remote sensing. We want to gain insights on the sustainability of the production practices, implemented by a private development programme which promotes *Gliricidia* cultivation. *Gliricidia*, a legume tree, is believed to improve soil fertility and soil structure by increasing nitrogen and organic matter content. Besides the incorporation of *Gliricidia*, various incentives as free seeds, extension, etc. are offered to the households.

As socioeconomic project component, we seek to understand why farmers participate in the development program. The design of the study considers the characteristics of the programme where incentives are only provided if farmers cultivate following the required production practices. This calls for a discrete analysis of the motivation for participation and a study on objective factors for *Gliricidia* adoption.

In a first step based on farmer's subjective utility the motivation for participation will be assessed. The assessment of farmer's aims for future development helps to understand the subjectively perceived effects of the programme on household's development. Second, a logit-model is used to find objective factors affecting *Gliricidia* adoption. For both analyses the sample of 119 households, including both programme participants and non-participants, is divided into two sub-samples. The first sub-sample is interviewed during dry season, while the other at the end of rainy season. The hypothesis is that the utility for participating in the programme as well as farmer's assessment of their situation is different depending on the condition of the influencing environment, while the objective factors for adoption should not differ between the two time points.

The analyses are accompanied by a one-year survey, where information on economic activities as well as consumption figures is assessed on monthly basis. The survey provides data to model, in a second step, effects of possible strategies regarding factors affecting adoption in addition to farmers' stated aims and utility.

Keywords: Programme participation, soil conservation decision, Sri Lanka