

## Determinants of Carbon-Certified Small-Scale Agroforestry Adoption In Rural Mount Kenya

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**Abstract :** Purpose - We address smallholder farmers' restricted possibilities to adopt sustainable technologies which have direct and indirect benefits. Smallholders often face little asset endowment due to small farm size and insecure property rights, therefore experiencing constraints in adopting agricultural innovation. A program involving payments for ecosystem services (PES) benefits poor smallholder farmers in developing countries in many ways and has been suggested as a means of easing smallholder farmers' financial constraints. PES may also provide additional mainstay which can eventually result in more favorable credit contract terms due to the availability of collateral substitute. Results of this study may help to understand the barriers, motives and incentives for smallholders' participation in PES and help in designing a strategy to foster participation in beneficial programs. Design/methodology/approach - This paper uses a random utility model and a logistic regression approach to investigate factors that influence agroforestry adoption. We investigate non-monetary factors, such as information spillover, that influence the decision to adopt such conservation strategies. We collected original data from non-government-run agroforestry mitigation programs with PES that have been implemented in the Mount Kenya region. Preliminary Findings - We find that spread of information, existing networks and peer involvement in such programs drive participation. Conversely, participation by smallholders does not seem to be influenced by education, land or asset endowment. Contrary to some existing literature, we found weak evidence for a positive correlation between the adoption of agroforestry with PES and age of smallholder, e.g., one increases with the other, in the Mount Kenya region. Research implications - Poverty alleviation policies for developing countries should target social capital to increase the adoption rate of modern technologies amongst smallholders.

**Keywords :** agriculture innovation, agroforestry adoption, smallholders, payment for ecosystem services, Sub-Saharan Africa

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