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Farmers’ and academia’s views”

The role of services and networks for the sustained uptake of agroforestry practices in the Sahel

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Abstract

In the context of this study a series of econometric estimations were performed to analyse factors associated with awareness, adoption and disadoption of agroforestry in Senegal and Mali. Agroforestry in this context was defined as the active use of trees and shrubs, such as *faidherbia albida* or *piliostigma reticulatum*, for improving soil fertility and annual crop productivity. Insights from these analyses stem from a cross-sectional dataset of 2853 households spanning four regions of Mali (Kayes, Koulikoro, Ségou and Sikasso) and one region in Senegal (Niakhar). The dataset was collected during the 2019 and 2020 production seasons and provides a comprehensive resource from which the relationships of key characteristics associated with agroforestry practices were identified. These range from frequently utilised socioeconomic and farm characteristics to aspects concerning social integration and provisioning of financial and advisory services, which are the adoption drivers of main interest of this study. Heckman regression models were specified for both countries to account for exposure bias - the fact that a substantial number of farmers has never heard of agroforestry practices for soil fertility management - and thus improve adoption estimations. The results consistently presented highly significant and positive associations between awareness as well as the adoption decision and key leverage variables related to NGO extension advice and peer learning. Access to extension was also important for increased awareness, while access to credit was associated with higher levels of agroforestry use. The positive associations were clearly reversed when estimating the disadoption decision on the reduced sample of previous adopters. Furthermore, land ownership showed strong associations with adoption. Whilst this approach remains rather exploratory in nature and produces correlations rather than causal explanations, these initial findings nevertheless present interesting considerations for decision-makers and confirm the key role of peer learning in agroecology.

Keywords: Adoption, awareness, disadoption, Heckman model, Mali, Senegal, shrubs, soil fertility, trees