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The Role of Extension and Famer Groups in Adopting Agricultural Technologies

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Abstract

Despite the inherent potential and merits of adopting modern agricultural technology, the present-day farmer in sub-Saharan Africa is yet to catch-up with the rest of the world in harnessing this potential. Thus, this study examines factors affecting modern agricultural technology adoption in the coastal regions of Kenya. A multistage comprising of stratified, quota and snowball sampling approach was designed and used for data collection in 2018 with a vision of more representative data from a set of 15,000 local farmers located in three major cashew producing counties in the country. The logit and multiple linear regression models were used to analyse a sample of 372 smallholder cashew farmers in the coastal regions of Kenya. Logit regression analysis was used to establish the relationship between modern agricultural technologies such as fertilizer use and chemical spraying with other variables of interest. Linear regression model was used to investigate appropriate planting density and the consequent effect of adoption on farmers economic performance. The results show that access to extension services and group membership both have significant positive effects on adoption of modern agricultural technologies namely fertilizer usage and appropriate planting density. Regarding the economic performance, only appropriate planting density show a statistical significant positive effect. With pesticides application showing no effect on economic performance and fertilizer usage had a negative effect. Thus, the study recommends promoting the extension of disseminating benefits of adopting appropriate planting density among cashew farmers. Furthermore, proffering a relevant policy implication based on the findings to further strengthen existing farmer groups and encourage formation of new groups with an aim of introducing modern technologies to boost the agricultural sector's performance.

Keywords: Cashew, chemical spraying, fertiliser usage, planting density, sub-Saharan Africa

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