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Impact of Dissemination Pathways on the Probability and Intensity of “Push-Pull” Technology Uptake in Western Kenya

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Abstract

In Kenya, food security is linked to households having sufficient maize supply. However maize production has significantly been challenged by stemborers (*Chilo partellus* and *Busseola fusca*) and *striga* weeds (*Striga hermonthica* and *S. asiatica*). The recommended conventional control methods (*e.g.* crop rotation, chemicals) have not been effective despite some of them being prohibitive and unaffordable to small resource poor farmers. Push-Pull Technology (PPT) developed by International Centre for Insect Physiology and Ecology (ICIPE) together with its partners has successfully been promoted as a control measure for the two vices in western Kenya. It comprises intercropping between rows of maize with plants (*Desmodium*) that repel stemborers, and which also reduce the level of *striga* infestation, combined with a surrounding crop of plants (Napier grass) that trap out stemborer pests. Since PPT is a new and relatively knowledge-intensive technology, the provision of information about it is critical for its adoption, use and retention. By examining the relationship between the adoption of PPT (probability and intensity) and the dissemination pathways, this study aims at isolating the pathway(s) that have greatest impact on adoption. This information will help in coming up with an effective dissemination strategy. A Macdonald and Moffit decomposition of two limit tobit was used to analyse data from 491 respondents selected from 4 districts in western Kenya. The results indicate that field days (FD), farmer field school (FFS) and farmer teacher (FT) chronologically, had the greatest impact on the probability that a farmer in the study area would adopt PPT and also on the intensity of adoption. The PPT adoption intensity was higher on small farms than on large farms and on farms close to the tarmac roads than those far away from the tarmac roads. The impact of location dummies varied across the districts. Also, the impact of dissemination pathways on both adoption decision and intensity of adoption was higher than the impact of socio-economic factors (*e.g.*, age, education). Efforts to disseminate PPT should therefore target the use of demonstrations and field days to intensify adoption. FT and FFS can be used as alternative pathways.

Keywords: Adoption, dissemination pathways, push-pull technology, Tobit

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