

ABSTRACT

core.ac.uk Dissemination, continued uptake and expansion of the area covered by push-pull technology (PPT), remain critical requirements in addressing the major constraints facing maize production such as infestation by striga weed and stem borers, and declining soil fertility for improved livelihoods. Despite increasing investment and literature on PPT in Homa Bay County, there are still smallholder farmers who for unknown reasons have chosen only to expand a smaller portion of their potential land for PPT or those who have chosen to reduce the area covered by PPT since adoption. This study econometrically addresses this information gap by looking at the rate and factors influencing extent of PPT expansion. A multi-stage sampling procedure was applied to select a sample of 240 smallholder farmers in Homa Bay County. Data were obtained through a face-to-face interviews using a pretested semi-structured questionnaire, and analyzed using censored tobit model. The results revealed relatively low PPT expansion rate of about 48.59%. Tobit results revealed that gender, marital status, access to extension services, dissemination pathways, perception on the stem borer severity, napier seed availability, longevity of PPT use, total size of cultivable land, and distance to the nearest market significantly influenced the extent of PPT expansion. Interestingly, farmer-to-farmer, field days and farmer teachers were found to be the most important and effective dissemination pathways enhancing the extent of PPT expansion. Therefore, the paper recommends policies that seek to ensure equitable access to output and input markets, efficient and effective extension system, as well as those that ensure strengthening of social institutions for extensive use of PPT. Again, such policies should ensure establishment of an integrated input development system which involves all stakeholders in the development and dissemination of PPT inputs such as desmodium seeds.