

## ABSTRACT

Most smallholder farmers who account for more than 70% of the maize produced in Kenya are perpetually food insecure and stuck below poverty level. Sustained maize yield increase largely depends on long term adoption of modern farming technology. However, despite the high yields associated with modern maize technology promotion during and shortly after implementation phase of many projects, sustainability of the technologies still remains a challenge for smallholder maize producers in Kenya. The objective of this study was to analyse factors that influence sustainable adoption of maize technologies beyond the promotion phase among smallholder farmers in Ugenya Sub-County. An ex post facto research was carried out where one hundred and eighty eight smallholder farmers were selected through simple random sampling from purposively selected study population in Ugenya Sub-County. The data was subjected to Independent 2-Sample T-Test and multiple regression analysis. Maize yields obtained by inputs subsidy beneficiaries and non beneficiaries during post-subsidy support phase were not statistically significant ( $p>0.05$ ). Except for on-farm labour availability and farmer's farming experience ( $p<0.05$ ) in the study area. The study recommended that smallholder farmers should operate under a functional structure such as farmers' association that will support timely access to key factors of production, optimize on benefits of the economies of scale, enforce sustainable practices and serve as a linkage to key enterprise value chain actors.

**Keywords:** Sustainable, adoption, technologies, smallholde