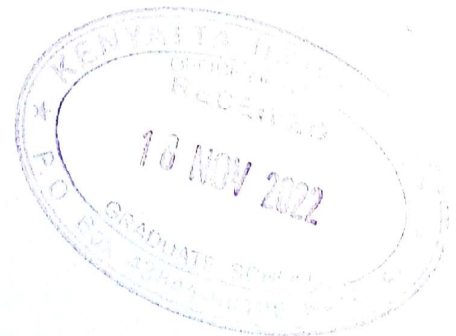


**ANALYSIS OF FARMER PARTICIPATORY EVALUATION OF  
MAIZE VARIETIES IN KENYA**

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**NOVEMBER, 2022**



## DECLARATION

This thesis is my original work and has not been presented for a degree in any other university or any other award.

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## ABSTRACT

There are major efforts to develop maize varieties with desirable attributes to address low productivity. Despite these efforts made by research institutions, maize productivity levels are still low. Several instances have occurred where new hybrid varieties have been released, but not adopted by farmers primarily because they do not possess the desired traits. This study seeks to address the knowledge gap by analyzing farmer participatory evaluation of maize varieties in Kenya under farmer-managed conditions. The study addressed three specific objectives that were aimed to; assess maize traits or attributes that influence farmer variety selection, analyze farmer participatory evaluation of maize varieties in Kenya and evaluate socio-demographic factors influencing farmer variety selection. A farmer participatory evaluation was conducted with 2,621 participants in five counties namely; Meru County, Kirinyaga County, Machakos County, Kakamega County and Bungoma County. Means was used in the first objective, whereas in the second and third objectives ordered logit regression was employed. Analysis of variance and T-test were used to determine the traits and variety differences among agro-ecological zones and between gender groups. The study findings revealed that; grain yield, good germination rate, early maturing and drought resistance influenced the choice of varieties. The result also revealed that; the best varieties preferred by farmers were the newly introduced hybrids, they were accepted by farmers due to their high grain yield, good germination rate and resistance to drought and diseases. Selection of varieties and important attributes varied significantly among agro-ecological zones. Results also indicated that there were no significant differences in the variety evaluation and important attributes based on gender groups. The results of ordered logit model indicated that agro-ecological zones, farming experience, farm size, household income and education influenced farmers' choice on varieties. These findings serve as the foundation for both public and private maize breeders, farmers, and research institutions to incorporate farmer-interest traits into their breeding programs to increase farmer acceptability and adoption. The study recommends that the adoption of these varieties with desired farmers' attributes, could revamp maize production and contribute to nutrition and food security in the country.