An Analysis of Factors Influencing Adoption of the Recommended Maize Technology’s Package in Makuyu Division, Murang’a South District, Kenya

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Maize is the most important staple food and the major source of sustenance for the majority of the Kenyans. The increasing population trend in the face of declining yields in maize production has intensified the food insecurity problem (Republic of Kenya, 1994). This has created the need to improve maize production techniques so as to meet food security demands. Researches have been conducted on maize varieties suitable for Kenya’s different agro-ecological zones (KARI, 2000). From these research findings, packages of improved maize varieties and the recommended agronomic practices that accompany adoption of each variety have been released. Each package contains a specific maize variety and its management practices that should be fully adopted to enable it give its expected maximum yield gains. The improved seeds have high yielding potential especially when the agronomic practices are employed to the recommended levels. The main objective of this study was to determine the level to which farmers in Makuyu Division of Muranga South District, Kenya have adopted the entire recommended maize variety’s package in order to identify and analyze the major socio-economic constraints towards its adoption. This was done in order to identify possible policy options that can promote its entire adoption. A total of three hundred farmers were sampled using a multi-stage purposive technique from six sub_locations in the division namely Makuyu, Gakungu, Kimorori, Mihang’o, Maranjau and Karia-ini. The sampled farmers were interviewed through a structured questionnaire. The results revealed that, adoption of the entire package is sub-optimal for only 1% of the sampled farmers had adopted all the six technology components in the package as recommended. It was found out that, users of fertilizers and cattle manure applied them at far below the required amounts. Most of the sampled farmers (71.3%) planted after onset of the rains. Awareness of weed control and the recommended crop density is high among the farmers as reflected by 84.7% and 59.2% of the sampled farmers respectively. Only 33.3% of the farmers in the sample applied above 50% of the package components to the required levels, an indication of low
levels of adoption of the entire package. The study found a significant relationship between gender, education and income levels of the farmers and adoption of the entire package. Age and contact with extension services did not influence adoption of the entire package while cost of the technology, complexity and high perceived risks had negative influence on adoption of the entire package. Spearman’s rho test revealed existence of a significant linear relationship between levels of income and formal education and adoption of the entire package. The study therefore recommends strengthening of contact between farmers and technology promoters. There is need to improve methods of disseminating agricultural technologies to the farmers through increased demonstrations. Farmers need to be given less complex technologies to enable them adopt them more readily. The study further recommends subsidies on farm inputs and provision of credits to the farmers to enable them afford the costs involved in adoption of agricultural technologies. Finally, there is need for further research on water use efficiency methods as intervention measures against weather variability.