

Socio-Economic Factors Influencing Farmers' Participation in Grain Warehouse Receipt System and the Extent of Participation in Nakuru District, Kenya

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Abstract

Post harvest losses in Sub-Saharan Africa (excluding South Africa) are generally high, arising from handling, transportation, storage, processing and packaging and marketing. In Kenya, it is estimated that 21.1% of total annual maize production is lost through poor post harvest handling techniques. As an effort to mitigate post-harvest losses, the Government together with development partners introduced the Grain Warehousing Receipt System (GWRS). Under this system, farmers store their marketable surplus in parastatal storage capacity or private grain handling service providers. The farmers are charged for storage service. As certification of their deposition, farmers are issued with receipts from the warehouses. The receipts can be used to access credit facilities from cooperating financial institutions up to 80% of the prevailing maize market prices. After waiting for prices to rise over the storage season, the farmers market the produce and payment made through respective financial institutions.

Methods: The study was carried out in Nakuru District, Kenya. Double Hurdle model was used to estimate factors influencing farmers' participation in GWRS and the extent of participation. The sample size was 178 farmers using multistage sampling technique where two divisions, Mauche and Gilgil were chosen to represent zones where maize farming is commercialized. Each of these divisions had 89 farmers randomly selected. The determination of sample size was through the approach based on the precision rate and confidence level.

Results: Six explanatory variables were found to significantly influence participation in GWRS. Gender and distance to warehouse negatively influenced participation in GWRS while gender land size under maize production, off farm income, group membership positively influenced participation in GWRS. On the extent of participation in GWRS, five dependent variables were found to significantly influence participation in GWRS. Gender, household size and distance to warehouse negatively influenced while land size under maize production, group membership positively influenced the extent of participation. From the study the following recommendations are made; Strengthening of farmer owned organizations is highly recommended. This is achievable through capacity building and training on organizational development. Empowering women in agricultural activities is desirable. Offline diversification should be promoted to enhance household income. Grain driers and collection points should be made available at distance which farmers access them with ease to counter quality and transport challenges experienced by farmers. Storage costs charged by warehouses, interest on loan and loan arrangement fees should be brought down through research for farmers to optimize profit. This can be achieved by approving more warehouses, involving more cooperating financial institutions, warehouses diversifying to offer farm inputs and financial services and offer contract farming.

Keywords: Socio-economic characteristics, Participation, Marginal effects