



Economic evaluation of improved grain storage technology in Tanzania

Hanney Mbwambo¹, Bekele Hundie Kotu^{2*}, Zena Mpenda¹

¹Sokoine University of Agriculture, Tanzania

²International Institute of Tropical Agriculture (IITA), Ghana

*Corresponding author: Bekele Hundie Kotu, B.Kotu@cgiar.org

Abstract

Postharvest grain losses are substantially high among smallholder farmers in Sub-Saharan Africa. The losses vary among countries, crops, and between seasons while the average figure ranges from 20-40%. This high loss suggests the need for greater attention to postharvest grain losses in order to address the problem of household food insecurity in these countries. As part of reducing the problem, Africa RISING has introduced the use of improved hermetic grain storage technologies to smallholder farmers in Tanzania and tested them for their effectiveness in reducing postharvest grain losses. This study was initiated to quantify the financial gains associated with the improved technologies and examine how they compare with the traditional technology. Specifically, we analyse the economic advantage of using Purdue Improved Crop Storage (PICS) bags over Polypropylene bags which are commonly used by the farmers. Results are based on participatory cost benefit analysis (PCBA) carried out with three male groups and three female groups of farmers in three village of Babati district. The PBCA data is complemented by survey data collected from 200 randomly selected households. The purpose of the survey was to collect data on farmers' storage facilities, capacities and allocation to maize and other crops, grain production and storage patterns, storage costs, use of improved hermetic bags in the study villages, and associated issues. Results show that about 22% of the households use PICS which constitutes only about 5% of the total storage requirements of the sample farmers. PICs are profitable and worth investing in. The discounted benefit-cost-ratio is 15.6 while the discounted net benefit is about TZS 655,000 (~USD325) implying that a typical maize producer in the study villages would gain about TSh36,399 per investment in one bag. The results suggest that promoting the improved storage technologies would substantially contribute to household food security and income by reducing storage losses.

Key words: Postharvest losses, cost benefit analysis, PICS bags.

www.africa-rising.net

