Post-harvest Losses and Food Sustainability Challenges of Rural Farmers in Developing Countries: A Case Study of Rural Maize Farmers in Ghana

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Abstract

Post-harvest losses in crop production are of great concern today. Resources such as labour, land, water and fertilisers/chemicals used as production inputs are wasted. An attempt was made to quantify these losses in maize production during storage and its impacts on the livelihoods of rural farmers in Ghana. Three hundred and seventy one (371) maize farmers from 9 districts in 3 regions were interviewed in order to gain the farmers’ perceptions of post-harvest losses and causes. Data collection was done between March and April 2011 (after the minor season of maize farming). Formal and informal interviews were conducted among experts in maize storage. A visit to some storage sites revealed poor storage facilities, which are prone to factors responsible for maize losses and low level of technical expertise among maize farmers. Some findings show that about 51.8 % of farmers still rely on saved maize seeds from previous harvest as source of planting material. Only 20.2 % of farmers use certified seeds, while others get their seeds from the open market. Over 94 % of farmers harvest maize when matured and dried on the stalk. This according to experts is a major source of pest infestation and mycotoxins contamination. Fifty-five per cent of the farmers store their maize in bags, 32.6 % in local cribs and only 0.3 % store in household metal silos. This may account for the high losses recorded, which ranges from 10–30 %. The farmers identified insects, rodents and fungal infestation as the major problems they experience during maize storage, which is usually up to a period of 3–9 months. Statistical analysis was carried out using factors that could contribute to maize losses. These factors are location of the storage structures (in the field or in the house); period of storage (months i.e. between 3–9 months) and methods of treating storage structures before storage. None of the above-mentioned factors was statistically significant to maize storage losses at $p < 0.05$.

Keywords: Maize and food sustainability, post-harvest losses

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