

POLICY BRIEF

POST HARVEST FOOD LOSSES: *the maize we must jealously not lose*



Key Messages

- Africa loses up to KES 400 billion worth of food annually
- Kenya loses up to 30% of its food, post-harvest estimated at KES 90 billion
- This greatly threaten the nation's effort towards food security
- Post-harvest maize losses directly impacts poor producers through foregone income.
- It impacts poor consumers through reduced food availability, increased prices, and decreased nutritional content
- Lack of training and availability of local services to build skills in handling, packaging, and storage as well as insufficient post-harvest storage facilities or basic on-farm storage technologies are the key culprits

Feeding the nation is urgent, reducing food loss is critical

Kenya's vision 2030 projects a sustained double digit economic growth (above 10%) over time with agriculture contributing up to 30% of its annual Gross Domestic Product (GDP). However, agricultural sector has not grown in tandem with the increased demands from the rapid population growth. The demand for food has far outstripped production and the country is classified as a food deficit leading to increased imports. Presently, close to 1 in every 3 Kenyans (14.5 million) suffer from chronic food insecurity and poor nutrition annually. In addition, about 30% of the children countrywide are stunted, 13% moderately wasted, while 7% are moderately underweight.

Approximately 20% of the population does not attain the minimum dietary requirements to sustain a healthy and productive life. Generally, the low levels of food supply is attributed to deep embedded challenges in the sector spanning from production, distribution, processing and storage.

Food production has been declining due to high dependency on rain-fed agriculture, low adoption of technology including post-harvest management, frequent attacks by

pests and crop diseases, adverse weather, degradation of agricultural land, encroachment of urbanization into arable land, and rural-urban migration of the youth. Post-harvest losses constitutes a major factor to decreased food availability and therefore the need to prioritize loss reduction interventions and formulation of policies. Kenya loses up to 30% of its key cereals (Figure 1) annually occurring within 6 months after harvests (World Bank et al., 2011) leading to huge costs (Figure 2).

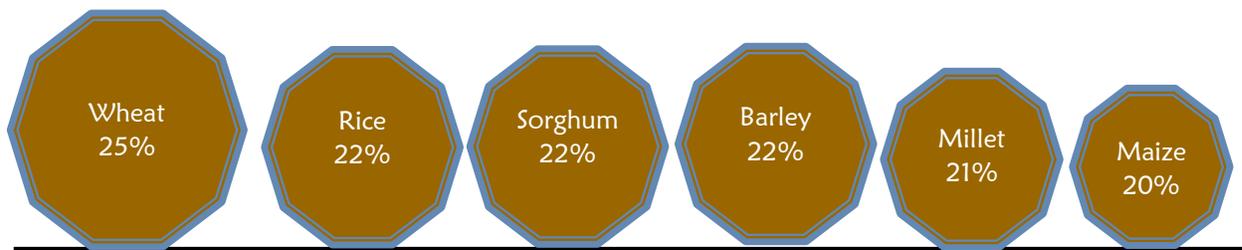


Figure 1. Between 20- 25% of the major cereal crops in Kenya is lost to post harvest losses (During Harvesting; Field Drying; Platform Drying; Threshing and shelling; Winnowing; Transport to Farm; Farm Storage; Transport to market; Market storage)

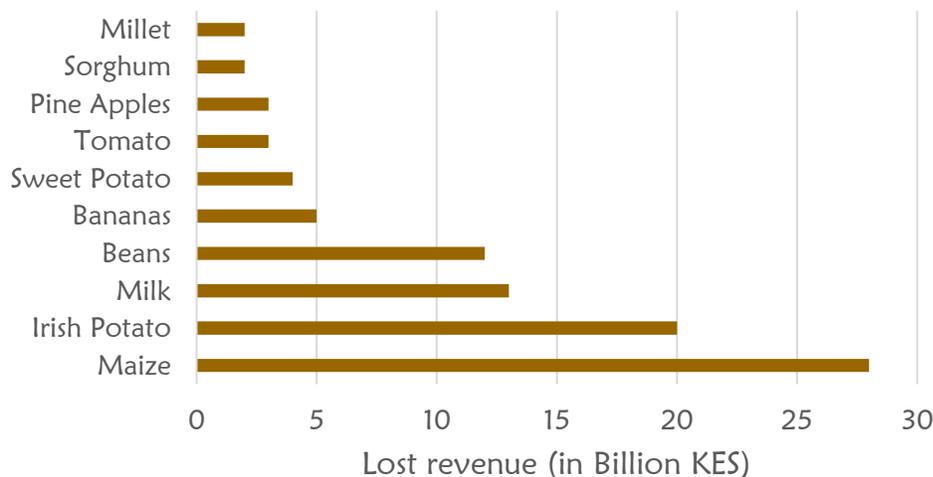


Figure 2. Over KES 90 B lost post production in various food value chains (Source: KNBS, 2018)

In its blueprint, the “Big Four”, the Kenya government identifies achievement of food and nutrition security by 2022 as a flagship. However, even as the government embarks on the “Big Four” development agenda,

management of postharvest losses through capacity building, resource allocation and provision of appropriate, affordable and effective grain care technologies is paramount.



Figure 3. Various sources/forms of maize grain losses in Kenya

Post-harvest losses presents significant negative impact to the country’s food security, nutrition, economic growth and hinders the government “Big Four “agenda. It manifests as degradation in quantity and quality of food produced between harvest and consumption.

While great emphasis and resources have been geared towards increasing or doubling

food production to meet the increasing food demands, little has been done to safeguard loss after harvest.

Post-harvest losses in maize, a key staple and a leading source of calories for many Kenyans comprises of broken grains, insect damage, rodent damage, foreign matters, mould damage, discolored grains (Figure 3) and often due to aflatoxin.

Our Maize, A treasure we cannot afford to lose, but has since lost.

Maize is a strategic food security crop accounting for up to 15% of Kenya’s GDP from Food crops which cumulatively contributes 32% of the agricultural GDP. Declined maize production or any shortfalls will automatically lead to a food security crisis in the country.

In 2008, maize farmers, mainly small scale farmers, lost up to KES 29.6 billion with 80% of the losses linked to poor farm storage associated contamination with aflatoxin. The affected quality of grains adversely reduces the market price and invariably renders it difficult for farmers to market their produce to millers or

aggregators including the National Cereals and Produce Board (NCPB).

The problem is further aggravated by the lack of knowledge and appropriate, affordable and effective grain care technologies.

No more maize loss, solutions are plentiful

Since most of Kenya's post-harvest maize grain loss occurs during storage, interventions that counter major drivers would not only save the country's staple but as importantly mitigate against lost revenue.

National and devolved governments, Community Based Organizations, Non-Governmental Organizations, individual farmers *etc.* have an obligation and opportunity to invest and routinely use knowledge of the various infrastructure and tools (Figures, 4, 5, 6) at the farm, community and national level. Control of relative humidity that fosters mold formation during maize grain storage and prevention of damage from pests such as weevils, grain borers, birds, and rodents is technically feasible.



Figure 4. Grain driers- Stationery and Mobile



Figure 5. Grain driers- Stationery and Mobile



Figure 6. Hermetic Bags



What must be the focus moving forward

To reduce maize post-harvest losses, a systematic multi-step analysis of the crop's production and handling system is the logical first step in identifying an appropriate strategy. In addition, a cost-benefit analysis to determine the return-on-investments in the recommended post-harvest technologies is paramount. The following would be catalytic:

- a) A national post-harvest policy particularly for maize
 - b) A curriculum in post-harvest management in Kenya's institutions of higher
 - c) Waived duty on post-harvest management infrastructure and tools
 - d) Capacity building and sensitization among stakeholders on available opportunities
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