

Review of farm level post-harvest losses in sub-Saharan Africa

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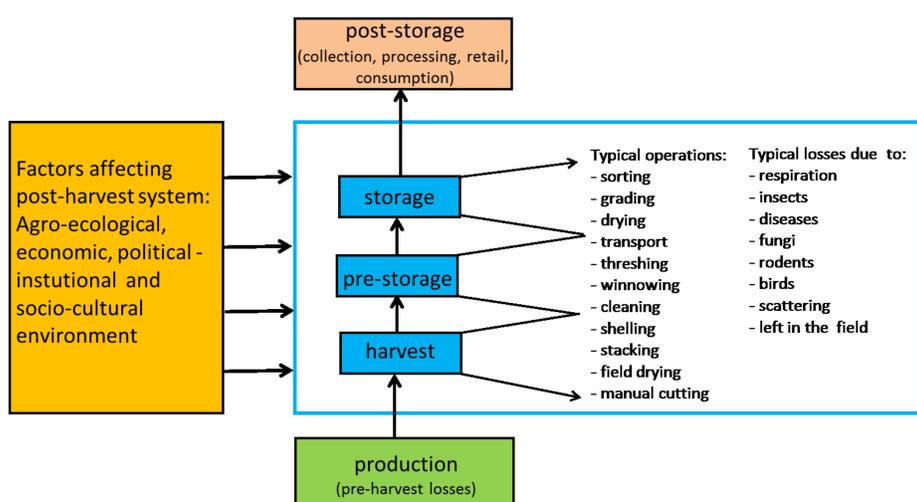
Background

The Food and Agriculture Organization (FAO) estimates that 70% more food needs to be available by 2050 given projected changes in population, income, and diets. Reducing food losses could be a major contribution to the anticipated higher global food demand and to improving local food security. However, recent and systematic evidence is lacking on the magnitude of post-harvest losses at farm level in developing countries.

Objective

- Review of the literature on post-harvest losses to quantify food losses in post-harvest systems of smallholder farms in sub-Saharan Africa (SSA).
- Literature published after 1990 with quantitative dry weight loss data of major cereals and roots/tubers.

Post-harvest system of smallholder farms



Results

Characteristics of the reviewed literature

In total 47 unique publications satisfied our selection criteria, i.e. 37 dealt with post-harvest losses in cereals, 13 with roots/tubers and 3 with both crop groups. Except for one, all publications dealt with on-farm storage losses. The data addressed 19 different countries in SSA.

Table 1. Characteristics of selected literature.

	Cereals	Roots/tubers
Total publications	37	13
No. of publications in ISI Web of knowledge	5	2
No. of publications with specified measurement/estimation method	21	8
No of publications with actual farm losses	22	5
No. of publications with experimental farm losses	14	7
No. of publications with both actual and experimental farm losses	1	1

Weight loss during storage

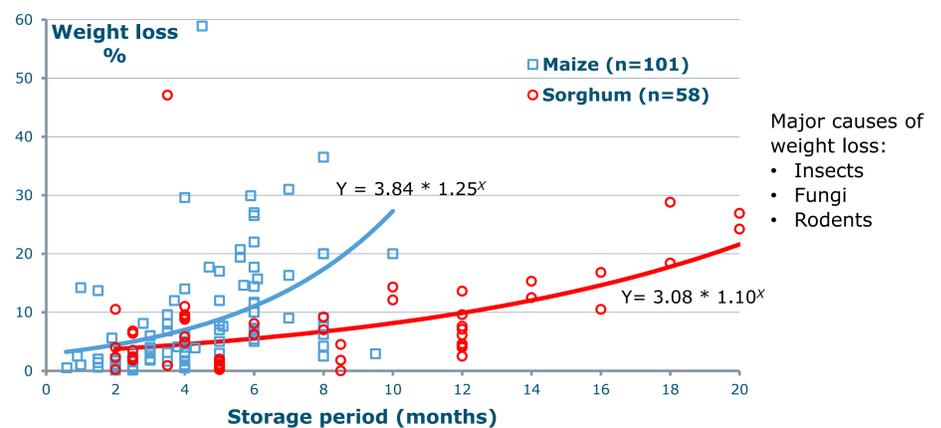


Figure 1. Relationship between on-farm storage loss and storage period of maize and sorghum based on a meta-analysis of data from the literature.



Figure 2. Threshing by animals and winnowing of cereals in Tigray, Ethiopia.

Table 2. Average weight loss (%) and related storage period of maize (n=101), sorghum (n=58) and roots/tubers (n=13) in on-farm studies in SSA.

	Storage period (months)	Weight loss (%)
Maize	4.3	8.5
Sorghum	7.7	7.4
Roots/tubers	3.7	18.5

Discussion

- Focus on single loss factors in storage studies potentially underestimate total on-farm food losses.
- Not clear how possible changes in moisture content of food during storage affected measured weight losses.
- To assess total storage loss better understanding is required of the storage management of farmers and their practices to reduce loss.

Conclusions

- Little recent quantitative information is available on the magnitude of food losses at farm level. Only for storage losses limited and partial information is available.
- More quantitative information is required on the losses that incur during all farm operations to identify cost-effective interventions aimed at the reduction of food losses at farm level.

Acknowledgements

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