

# Rapid Loss Appraisal Tool (RLAT) for agribusiness value chains

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## 1. Introduction

- Food losses equal economic losses, wasted resources like soil and water and unnecessary CO<sub>2</sub> - emissions through wasted energy inputs.
- Potential solutions for the reduction of food losses are improved agricultural practice from soil to store, increased shelf life through improved storage and processing and safe transportation.
- A reduction of food losses contributes to:
  - Improved food security
  - More lucrative and competitive value chains
  - More efficient use of natural resources

## 2. Objective

- Create a lean and easily manageable methodology to:
  - Identify quantitative and qualitative loss hot spots along specific VCs (value chain)
  - Find major leverage points which are promising to return investments along VCs
  - Identify information gaps to support planning of further detailed studies on losses and loss reduction measures
- Increase willingness to address food losses through dialogue and agreement on potential

**Limitations:** The RLAT does not provide precise and sufficient data for evidence-based policy formulation or enterprise decision making. But the RLAT points out areas for investment or for more specific data collection.

## 3. Methods

### Scope

Plant and animal products intended for human consumption

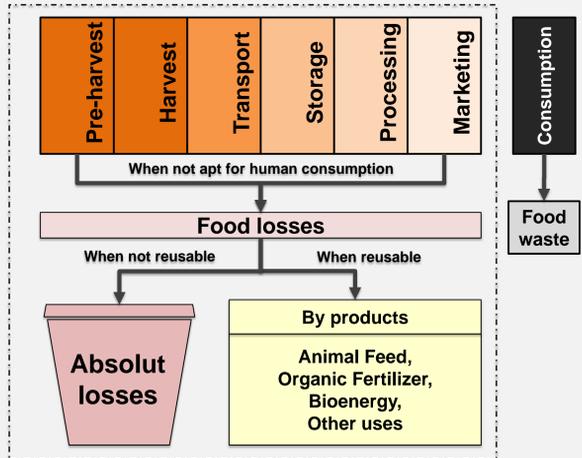


Figure 1. Definition of losses used for the purposes of RLAT

Table 1. Process steps of RLAT

Phase	Preparation (up to 12 days)	Field research (up to 24 days)	Follow-up (up to 14 days)
Steps	1 Scheduling the rapid appraisal 2 Training of users & facilitators 3 Desktop study	4 Key expert roundtable 5 Stakeholder workshop 6 Focus group meetings 7 Key informant meetings	8 Assessment of results 9 Conclusions & recommendations 10 Reporting
Relevant tools	<b>Participatory methods</b> - Sampling methods - Loss hot spot analysis - Key expert roundtable - Stakeholder workshop - Focus group meetings		<b>Forms for documenting results</b> - Cumulative loss matrix - Summary aflatoxin risk assessment - Final report structure & content
	<b>Checklists, Data collection sheets &amp; Evaluation sheets</b>		

## 4. Documented results

VC Function (cf. VC map)	Immediate effect	Likely later effect	Step 2: Relevance (0-3)	Step 3: Importance (0-3)	Step 4: Hot spot (6-9)
Input supplies					
Pre-harvest	Loss occurrence & effect at same VC stage				Hot spot if "Relevance x Importance" = 6 or 9
Harvest		Missed opportunities			
Aggregation			Probability of event (0-3): "how many people suffer?"		
Transport				Severity of event (0-3): "how much do people suffer?"	
...					

Figure 2. Loss Hot Spot Analysis (this table is used both to present the method and visualise the results)

In the **Stakeholder Workshop**, producers, intermediaries/aggregators, traders and processors take part. By **Interest Group Meetings**, farmers, traders and processors separately exchange their perception and ideas regarding food losses.

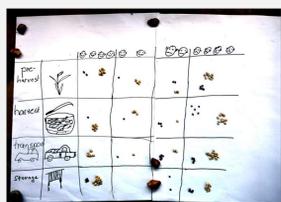


Figure 3. Case example: Loss ranking matrix

- The **Farm/Market Transect Walk** (see fig. 4), where location-specific solutions to approximate losses can be created.

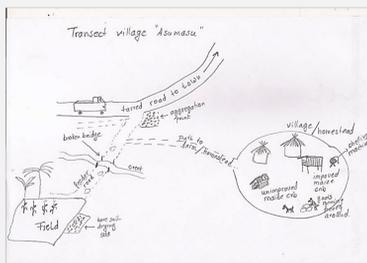


Figure 4. Case example: Farm Transect Map

The **Key Expert Roundtable** is an assessment of loss perceptions from highly qualified and/or experienced experts from different disciplines. The identification of critical loss points is done by using the **Loss Hotspot Analysis** (see fig. 2), where:

- Relevance and importance of losses at the various value chain functions are weighed.
- Immediate effects and lost opportunities are distinguished.

**Aflatoxin risk assessment** is an essential part of a comprehensive loss appraisal on crops that are susceptible to aflatoxin contamination (such as maize) and integrates them accordingly.

Table 2. Evaluation Sheet Aflatoxin Risk Processor Meeting

General information	High Aflatoxin Risk	Low Aflatoxin Risk
1. Supply calendar (seasonal or continuous throughout the year; main buying period)	Source from high humidity regions, coastal regions; source during the rainy season	Source from dry season and dryer regions
Quality of raw material/procured semi-finished products		
2. Moisture levels at safe levels for product	>12.5% grain moisture	<12.5% grain moisture
Transport/procurement of raw material/semi-finished products to factory		
5. Main loss points during transport (delays, wetting, heat, no tarpaulin to cover load)	Delays, heat build-up and wetting during transport, no tarpaulin to cover load	No delays, temperature control and aeration
Pre-processing/intermediate storage of raw material/semi-finished products		
13. Product stored (e.g. grains, cobs without husks, cobs with husk)	Stored as cobs with husk for a long time	Stored as grains with moisture content <12.5%
Quality of final product		
27. Measures applied to improve quality and their efficiency	No quality standards or good manufacturing practices or HACCP	Processing according to quality standards, apply good manufacturing practices or HACCP
Storage and packaging of final product		
28. Description of storage method	No ventilation, tight packing	Good ventilation, well packed, spaces, pallets
Transport of final product to customer		
35. Are goods well protected from temperature and sun during transport?	Loading in mixed loads; risk of wetting; risk of heat build-up	Clean trucks, covered by tarpaulin well aeraed
Outreach of measures to reduce losses to other VC actors		
37. Do you train the group/suppliers in good management practices?	No training to farmers group or suppliers	Train farmer groups/suppliers in good management practices
Number of answers out of 37 question points (Ratio of Aflatoxin risk)	...../37	...../37

## 5. Lessons learnt from the development stages of RLAT

- Narrowing the scope to post-harvest losses is not useful for value chain actors
  - Include pre-harvest losses and lost opportunities (i.e. choice of inappropriate seed). This is also a result of previous case studies on rice in Nigeria and potatoes in Kenya.
- Temporal variability of food losses
  - Carefully determine and plan the schedule

- Spatial and process-related variability of food losses
  - A reasonable scale is crucial, i.e. a specific value chain
- The integration of an Aflatoxin risk assessment is essential
  - In this context, the definition of "loss" has to be rethought, as contaminated grains continue to be consumed, with very negative effects on human health