### A general framework to estimate loss sources and magnitudes in live ruminants

#### Key messages
- There are a dearth of consistent methods and applications to measure losses in livestock commodity value chains, in part due to the difficulty in defining and quantifying losses related to live animals.
- More research and evidence on the extent of losses at various levels of live animal value chains are needed. Such evidence is necessary to identify inefficiencies and intervention points to reduce such losses.
- There is a need to design a common methodological approach, an appropriate sampling framework and appropriate tools for the collection of data on the assessment of post-production losses. Tools are also needed to assess financial and environmental losses.
- Measuring losses in live-ruminants value chains is an equally important indicator of chain performance.
- A global loss function has been tabulated from reported losses during pre-marketing, actual sales and marketing phases, after which an optimization program applied.

#### Livestock-based solutions
- Food loss issues are usually addressed through quantitative- and qualitative-magnitude estimates with the implicit goal of eliminating them (‘zero’ loss approach). However, an alternative economic perspective would assess and alleviate the value of these losses.
- The conceptual framework was field tested in Senegal through the use of surveys with livestock keepers, transporters, traders (secondary markets), and brokers in terminal markets. Live ruminants—such as sheep, goat and cattle—were the main species. Scientists and staff at national livestock departments are currently the main users of the research outputs.

### Conceptual framework of PPL in the Sahelian live animal value chains

- **Main shocks**
  - Bushfires
e  - Animal diseases
  - Climate
  - Markets
  - Conflicts
  - Locust invasions

- **Losses** (volumes, quality, economic value)

### Scale of the tool
- Household
- Value chain

### Status of the tool
- Testing at small scale

### Global losses during pre-marketing and sales phases in the national live-ruminant value chain in Senegal

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