Postharvest Practices and Technologies in the Central Corridor of Tanzania

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Outline of Presentation

1. Background
   • Postharvest Losses (PHL)
   • Postharvest Practices (PHPs)
   • Postharvest Storage technologies (PHTs)
2. Project Interventions
3. Adoption of PHP and PHT
4. Lesson learned
Grains Postharvest Loss (PHL)

Postharvest losses: Occur during the postharvest period

- **Quantitative**: weight loss
- **Qualitative**: color, physical appearance, smell, taste
- **Nutritional loss**: loss of nutrients
- **Loss of seed viability**: loss of ability to geminate
- **Economic loss**: Loss in terms economic (monetary terms)

**Generally:**
Postharvest loss ranges from 15 - 40% depending on crop, seasonality and geographical location
Postharvest Practices (PHP)

A. Harvesting
- Preparation before harvesting
- Suitable harvesting time
- Proper harvesting practices

B. Transportation
- Transportation mode from farm to home
- How losses occur during transportation
- Measures to mitigate losses during transportation

C. Drying
- Duration of drying
- Protection from domestic animals
- Avoid contamination with dust and other garbage
Postharvest Practices (PHP)

D. Threshing/shelling
- Separate rotten and good cobs
- Use of improved machines
- Use of tarpaulins
- Avoid Spreading of grains
- Avoid damaging of grains

E. Winnowing
- Cleaning of grains before storage

F. Storage
- Proper drying before storage
- Preparation of storage facilities and place
- Use chemicals (proper dosage)
A. Improved traditional storage technologies

- **Locally made storage technologies**
  Different local names e.g. *Vilindo, Vihenge,*

- **Normal polypropylene**
  Main grain storage facilities all over the country.

Improvement is in the proper use of storage pesticides, protection from moisture, and control of destructive insects and pests.
B. Hematic storage Bags  (PICS & AgroZ)

- New storage technology
- No use of storage pesticides
- Use the principle of hermeticity (air tight)
- Produced in Tanzania by established industries (PICS bags – PPTL Tanga, AgroZ – AtoZ Arusha)
C. Metal Silos

- Introduced in Tanzania by HELVETAS in 2014
- Use the principle of hermeticity (air tight)
- No use of storage pesticides
- Different sizes varying from 250 to 2000 kg
- Decentralized production model by locally trained artisans
- Can last up to 20 years
A. Demand creation
- Community sensitization
- Awareness raisings on PHM (PHL, PHP, PHT)
- Training extension officers and farmers on PHM
- Demonstrations of PHT

B. Strengthen Supply
- Develop capacity of local artisans to produce metal silos
- Strengthen capacity of agro-dealers
- Linking PHT producers with agrodealers and their supply network
- Linkage with finance
Training and Adoption of PHM

Adoption of PHP and PHT

- Farmers trained on PHM: 27,385
- Farmers adopted improved PHM practices: 25,803
- Farmers adopted improved traditional system: 19,817
- Farmers adopted hermetic bags: 7,868
- Farmers adopted silo: 2,073
Adoption of PHP

A. Use of Tarpaulin

- About 70% of farmers use for harvesting, transportation and drying
B. Use of Shelling Machine

- About 81% of farmers use shelling machine
A. Adoption of hermetic bags

- **39,340** hermetic bags bought by **7,868 HH**
  
  (3,934 MT of grains safely stored at HH level)

Adoption of hermetic bags is linked with …

- Number of bags harvested
- Cropped and maize area
- Surplus / deficit of production
- Decision maker about PHT
B. Adoption of metal silo

- 2,073 HH adopted metal silo
  (1,036 MT of grains safely stored at HH level)

Adoption of metal silo is linked with
- Number of bags harvested
- Surplus / deficit of production
- Membership in informal saving group (VICOBA)
- Household’s income
Lesson Learned

1. Market system development approach and partnership with private sector is crucial for sustainability

2. Awareness campaign and promotion is important to increase demand and adoption of PHP and PHT

3. Subsidies and other mechanisms which distort market should be discouraged

4. Availability of PHT closer to farmers is paramount to reduce grains loss

5. Options of storage technologies should be provided so that farmers can choose the best for them

6. Working with the private sector is key for growth and sustainability of PHT business
Thank you for your Attention