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## Postharvest Practices and Technologies in the Central Corridor of Tanzania

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Marko Mbilinyi

Project Officer

Grain Postharvest Loss  
Prevention (GPLP) Project  
HELVETAS

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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 germinate
- **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)





# Postharvest Storage Technologies (PHT)



## 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



# Postharvest Storage Technologies (PHT)



## 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)



# Postharvest Storage Technologies (PHT)



## C. Metal Silos

- Introduced in Tanzania by HELKETAS 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





# Project Interventions



## A. Demand creation

- Community sensitization
- Awareness raisings on PHM (PHL, PHP, PHT)
- Training extension officers and farmers on on PHM
- Demonstrations of PHT

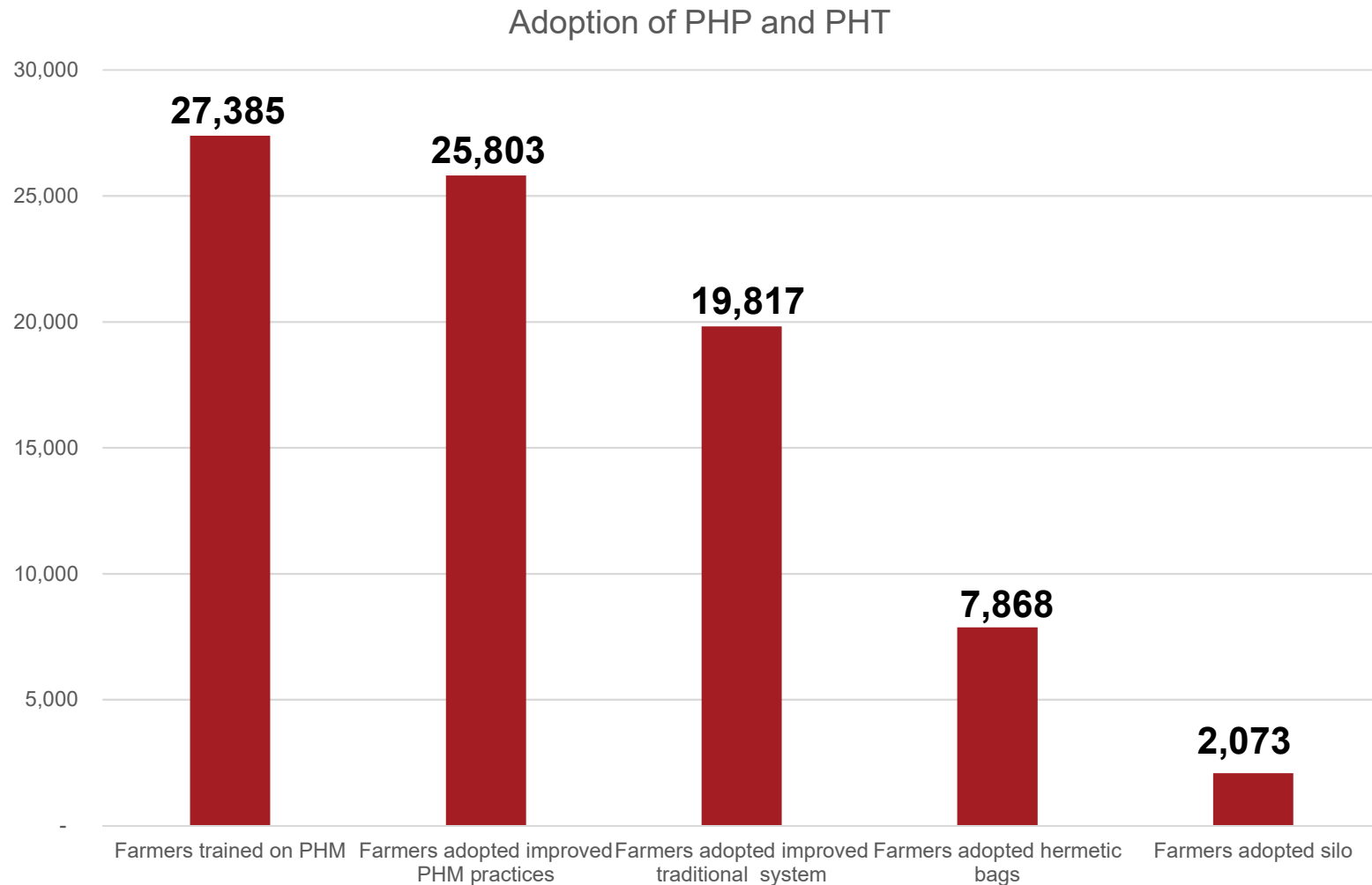


## B. Strengthen Supply

- 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





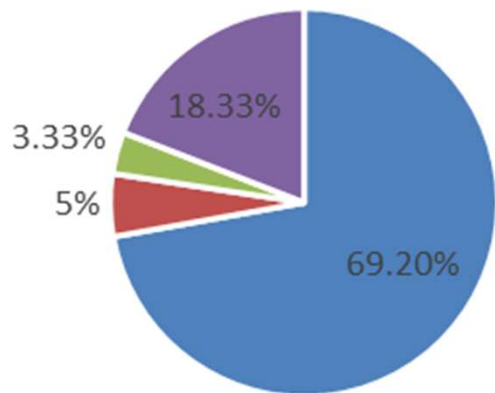
# Adoption of PHP



## A. Use of Tarpaulin

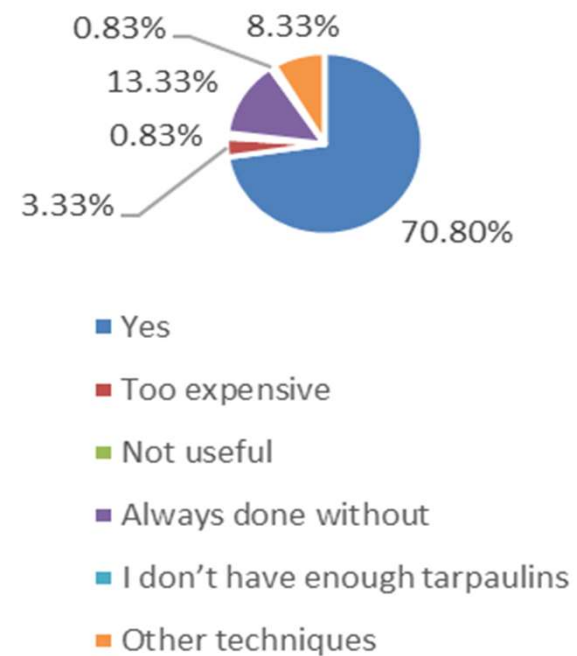
- About 70% of farmers use for harvesting, transportation and drying

Use of tarpaulin for protection during transport



■ Yes ■ Too expensive ■ Not useful ■ Always done without

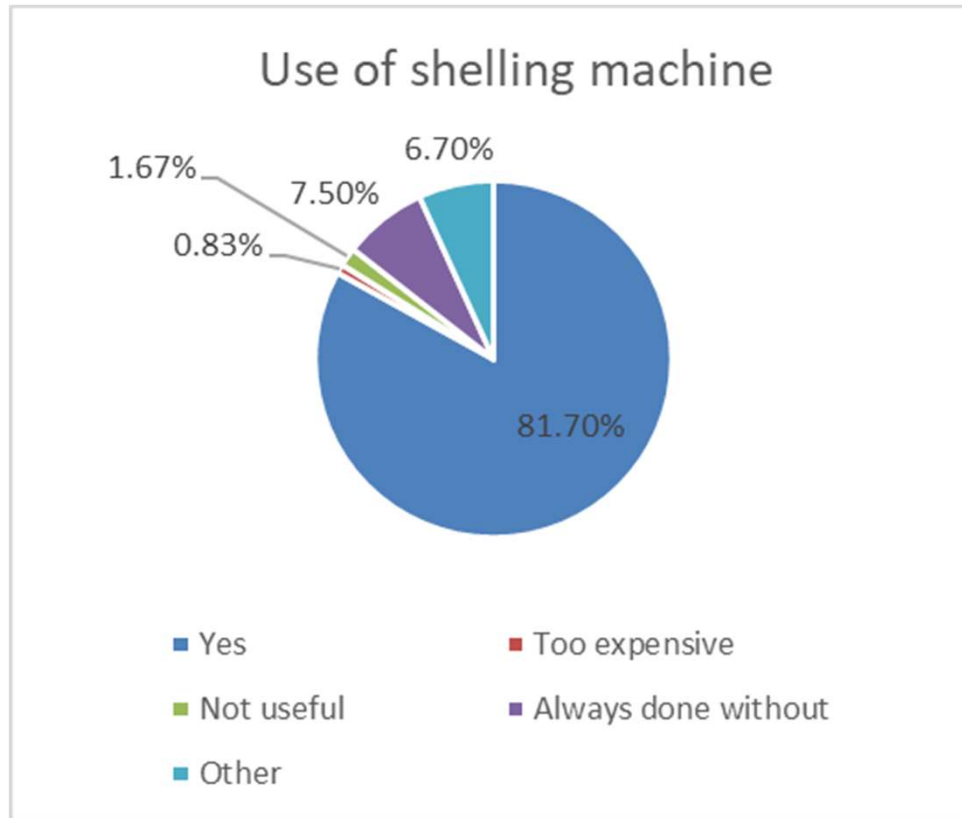
Use of tarpaulin for drying at home



# Adoption of PHP

## B. Use of Shelling Machine

- About 81% of farmers use shelling machine





# Adoption of PHT



## 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



# Adoption of 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

