

## Introduction:

CIMMYT programme assessment report identified infrastructure gaps in the Sorghum & Millet Improvement Programme. Existing infrastructure limitations hinder innovation and efficiency. Recommended infrastructure upgrades include: (1) Irrigation systems, (2) Greenhouses, (3) Cold storage facilities, (4) Threshing equipment

## Prioritization of recommendation/s:

Infrastructure was prioritized based on urgent needs. Irrigation infrastructure was deemed critical, particularly after the drought exposed the institution's vulnerability due to inadequate irrigation facilities. Other key priorities included: communication, cold rooms, greenhouses, and threshing equipment.

## Challenge

### • Key problem statement/s

Lack of infrastructure in a plant breeding program can lead to a variety of challenges that hinder the efficiency, effectiveness, and impact of the program. Below are key challenges:

- Prolonged breeding cycles due to lack of controlled environments and irrigation
- Reduced viability for germplasm due to poor storage
- Poor data collection and management
- Inefficient hybridization and screening due to lack of facilities

## Solutions

### Infrastructure

**MMRS:** Two boreholes, dam 3, 600 million m<sup>3</sup>, rehabilitation of irrigation lines, coldroom, Starlink, solarpower (CIMMYT/GRZ).

**GART:** Four Coldrooms (one done), irrigation pipes, irrigation lines, hydrants, irrigation pipes, Starlink, Thresher and blower. (CIMMYT).

**Musekera:** Two green houses, borehole, irrigation, water reservoir, solar powered borehole and Starlink.

**Longe:** Borehole (dry) second attempt in progress, Starlink and thresher.

**Misamfu:** Starlink and thresher.

The solutions were collaboratively agreed upon with the senior management of ZARI to aligned with the needs and priorities of CIMMYT/GRZ.

Both CIMMYT/ZARI provided valuable input into the solution design.



# Capacity improvement conducted during 2024 in Zambia

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## Key messages/Insights

1. Capacity building has catalyzed transformative change in R&D which will drive efficiency, innovation, and agriculture development.
2. Collaboration is accelerating innovation and transforming R&D research in plant breeding.



## Current implementation status

**Irrigation: (1) MMRS:** Dam structure, pump house construction, protection of hydrants begins mid-mid-December. **(2) Longe:** Second borehole drilling begins first week of December.

**Starlink:** GART, Longe and Misamfu engineers in the process of installation.

**Coldrooms:** MMRS completed, GART one out of four completed.

**Threshing equipment:** Procured for pearl millet, sorghum and finger millet.

## What are your plans to sustain?

### I. Revenue generation

- Royalty collection
- Training and capacity development
- Facility rental

### II. Infrastructure maintenance

- Regularly inspect and maintain facilities
- Establish a maintenance schedule

### III. Human resource development

- 1. Continuously develop the capacity of researchers
- 2. Staff retention: Implement strategies to retain skilled staff

### IV. Partnerships and collaborations

- Maintain partnerships with CIMMYT, GRZ & PPPs
- Enhance and maintain regional collaborative

### V. Monitoring and Evaluation

Develop indicators (KPIs) to measure impact  
Conduct regular reviews and assessments

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