Research and Development (R&D) Efforts under Legumes

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Lead scientists – Legumes
On Behalf of Legumes Commodity Teams
(Malawi, Mozambique and Zambia)
Presentation Outline

• Background
  – RD Gaps Addressed
  – Key Research Areas
  – Objectives

• Focus crops

• Projects implemented

• Key Outputs (Achievements)
  – Technologies Generated
  – Technologies Released
  – Technologies disseminated

• Key Lessons

• Way forward

• Acknowledgements
Background

• The Nitrogen fixing properties of Legumes can improve soil fertility which improves and extends the productivity of farm lands
• Legumes are sources of proteins and dietary fibre
• Good rotations crops with cereals
• Legumes have low fat content, zero cholesterol
• They can be good sources of income
The low yields are attributed to a number of factors, some of which include low use of inputs, use of unimproved varieties, recycling of seed, pests and diseases.

Drought and heat is becoming a problem with SHF and hence need to come up with genotypes/varieties that are tolerant to drought.
Key Research Gaps

- Low productivity
  - Pests and Diseases
  - Low access to improved seeds
  - Poor Production methods

- Climate resilience
  - Droughts
  - Heat

- Nutrition
  - High Iron and Zinc
Key Research Gaps

- Managing aflatoxin problems in Groundnuts
- Reducing post harvest losses in grain legumes
- Improving access to new varieties through development of sustainable seed system
- Germplasm collection and conservation
Key Objectives

- To generate Legume based technologies for increased productivity and production for both small scale and commercial farmers in Malawi, Mozambique and Zambia
- To develop appropriate production packages for the farming community and stakeholders
- To enhance utilization of legumes at household level
Focus Crops

- Groundnuts
- Beans
- Soybeans
- Cowpeas
- Pigeon peas
- Bambara nuts
### Projects Implemented

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A number of technologies were generated

- Varieties
- Production packages
- Utilization packages
## Released Technologies (Varieties)

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## Germplasm Collection and Conservation

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Technologies Disseminated

- Use of Inoculum in Soybeans
- Row Planting in Beans and cowpea
- Lime use in Groundnuts to reduce Aflatoxin contamination
- Side Raised Windrow in Drying Groundnuts
- Dwarf Raised Windrow in Drying Groundnuts
- Raised Ventilated Platform in Drying Groundnuts
Technologies Disseminated

- Double Row ridge planting in Groundnuts
- Recommendations on management of aflatoxin in groundnuts
- 90+ Legume technologies disseminated to SHF
- Formulated cowpea based weaning food
Key Lessons

• Strong involvement of Agricultural extension agencies as partners in implementation was found to be critical to enabled researchers to get feedback

• Hands-on training of farmers increased their interest and knowledge

• Farmers’ trainings were more productive when one topic was handled at a time than several topics
Key Lessons

• Partnerships/networking with CGIAR centres facilitate germplasm acquisition and improved the scientific quality of research.

• A few scientists have had good working experience and as a result they have complemented well in developing technologies within a short space of time.
Key Lessons

• Collaboration among countries and working in multidisciplinary teams is important in achieving the Goals and Objectives of a programme - enhanced learning and diversity in the execution of sub projects hence leading to better results
  – Complementarity
Technology uptake by Private

- Mw: Multi Seeds Company, Mgomera Seeds, Afriseeds, Globle seeds, Pyxus, Rab Processors, Agrocom, ETG, Transglobal,

- Mz: Orwera, Phoenix Seed Company, Dengo Comercial, Klein Karoo Seed Marketing

- Zm: Afriseeds, Good Nature Seeds, Future Seeds, Kamano Seeds, Freshpikit, Standa, Yanza Amansa, Mt Meru Industries, Comaco,
Way Forward

• Continue Dissemination of Technologies developed and make them available to farmers

• Link farmers to markets so as to enhance improved livelihoods among small holder farmers

• Continue work on resilience to heat, drought and low soil fertility in wake of climate change
Way forward

• Continue work on resilience to biotic and abiotic stresses
• Strengthen Pre-basic and Basic seed production so as to address issues of basic seed demand
• Ensure release of technologies under Pre-release/pipeline
Acknowledgements

Small scale Farmers

Research Scientists in all 3 countries
• Zikomokwa mbiri

• Muito obrigado, pela vossa atenção

• Thank you very much for your attention