Zambia - CABI Partnership and Actions

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ZAMBIA

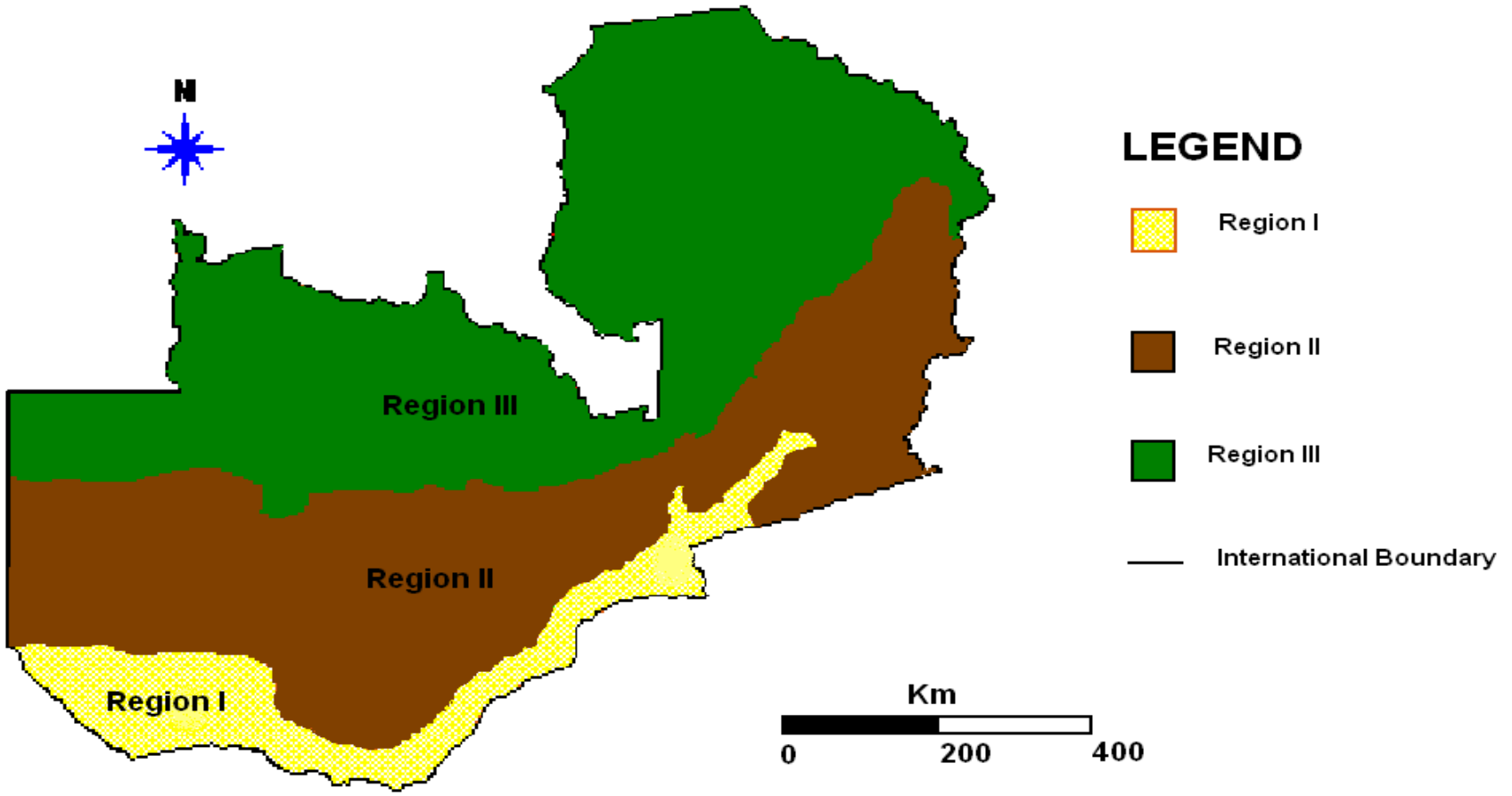
Presentation Outline

- Introduction
- Key Priority Programmes
- Partnerships
- CABI Collaboration
- Way forward

Introduction

- Zambia has an area of 750,000 km^2 with about 15 million people and ample land resources
- Out of 9 million ha cultivable land,
- only 15% is cropped in any year.
- About 55 - 60% of the land area is covered by natural forest and
- 6% of Zambias' land surface is covered by water.
- Agriculture contributes 9% to GDP

AGRO-ECOLOGICAL REGIONS OF ZAMBIA



There are approximately 2,500,000 farmers in Zambia (a guide)

CATEGORY	TOOLS	AREA (ha)	%
Small	Hoe/Oxen	<5	75
Medium	Oxen/Tractor	5 – 20	17
Commercial	Tractor	> 20	8

Our Entry Points

Integrated Soil Fertility, Water, Crop and Pest Management as they influence Livelihoods

Key Priority Areas

- Food and Nutrition Security,
- Production and Productivity,
- Agricultural Diversification,
- Research and Extension Services,
- Sustainable Resource Use,
- Promotion of Irrigation and Mechanization,
- Agro-processing and Value Addition,
- Agricultural Marketing and Trade,
- Livestock and Fisheries Development

GRZ adopted Conservation Agriculture - a sustainable system for increased Crop Production

Residue retention (Water)

Direct seeding

Fertilization and Liming (ISFM)

Crop rotation

Green manure cover crops

Pest control (IPM)

Guided by the following Documents:

- Second National Agriculture Policy (2016-2021)
- National Agriculture Investment Plan (NAIP) (2014-2018)
- Seventh National Development Plan (2016-2021)
  - Anchored on Agriculture
- SADC-Regional Agriculture Policy (2014)

Agricultural Institute of Zambia

- Like Lawyers or Engineers
- We need a body to regulate the activities of Agricultural Professionals
- Agricultural Institute of Zambia (AIZ)

Key Local stakeholders

PAM	Dissemination of research technologies
CDT	Variety development (Cotton)
GART	Information exchange and sharing, Variety development in Maize & Sorghum
UNZA	Capacity building (Human resource) (BSc, MSc and PhD),Technology development
MU	Capacity building (Human resource) (BSc, MSc and PhD), Technology development
CBU	Capacity building(Human resource) (BSc, MSc and PhD), Technology development

Local…

ZEMA	Information exchange and sharing on pesticides.
ZABS	Developing standards for food crops and fertilizers
NSTC	Participation in the development national science agenda, Information exchange and sharing
NTBC	Commercialization of Agriculture research Technologies, Information exchange and sharing
NISIR	Food safety (Aflotoxin mitigation),Information Exchange and Sharing

Local….

Care International	Dissemination of research technologies
Harvest Plus	Variety development in Pro-Vitamin A maize
COMACO	Dissemination of research technologies and commercialization crop varieties (Rice, Groundnuts, Soyabeans)
Share Zambia	Dissemination of research technologies and value addition Variety Development

Local…

- **SNV**
  - **Climate Smart Agriculture and Integrated Soil Fertility Management Studies**
- **ZASTA**
- Information exchange and sharing in seed system
- **World Vison**
  - **Dissemination of research technologies, Information exchange and sharing**

Local…

- **Seed Companies**
  - Promotion of crop varieties
- **CRS**
  - Promotion of research technologies

Key International Stakeholders

Institution	Nature of collaboration
CIAT	Beans Variety development
ICRISAT	Variety development Groundnuts Variety development
IITA	Aflatoxin mitigation in groundnut and Maize Cassava variety development
EMBRAPA	Capacity development Technology transfer and scientific information exchange
AVRDC	Development & promotion.
AGRA	Soil fertility, variety development, capacity building
CIMMYT	Variety Development in Maize and wheat research

International…

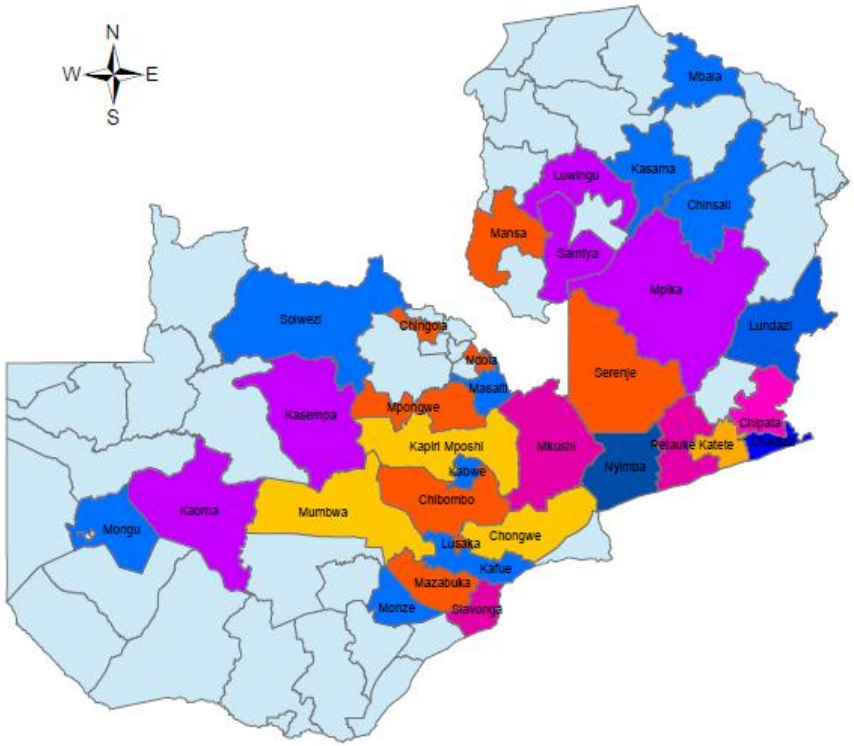
FAO	Capacity building, Climate Change studies Conservation Agriculture
IAEA	Capacity building in Nuclear Technology development
CABI	Capacity building (PlantWise). Plant Protection information exchange
FARA	Innovation Platform studies, Provision ICT equipment, R&D collaboration Farmer innovation contest
CIP	Variety development (Sweet potatoes)

International…

ICIPE	Collaborative research in entomology
CCARDESA	Information exchange and sharing
SPGRC	Germplasm conservation and exchange
COMESA	Capacity building, information exchange and sharing
SADC	Capacity building, Information Exchange and sharing

Collaboration with CABI

Collaborative work with CABI - Plantwise



Districts covered by Plantwise

- The Plantwise initiative was launched in 2013
- Since inception the initiative has seen a growth of plant clinics from 13 to 89
- The clinics are spread in all the 10 provinces of the country
- A total 236 extension officers from government and NGOs have been trained as Plant Doctors

How Zambia has benefited from Plantwise

Clinic Session in Rufunsa

- With funding from CABI 5 scientists have successfully graduated from University of Neuchatel in Switzerland with Advanced MScs in Integrated Crop Management ICM
- One scientist was trained in Pathology techniques at the CABI laboratory in the UK
- Over 100, 000 farmers have been helped by Plantwise through Plant Health Rallies, Plant Clinics, Radio and TV programs

Pest Risk Information Service (PRISE)

Stakeholders consultative meeting

- Together with the UK consortium ZARI is implementing the PRISE initiative in Zambia

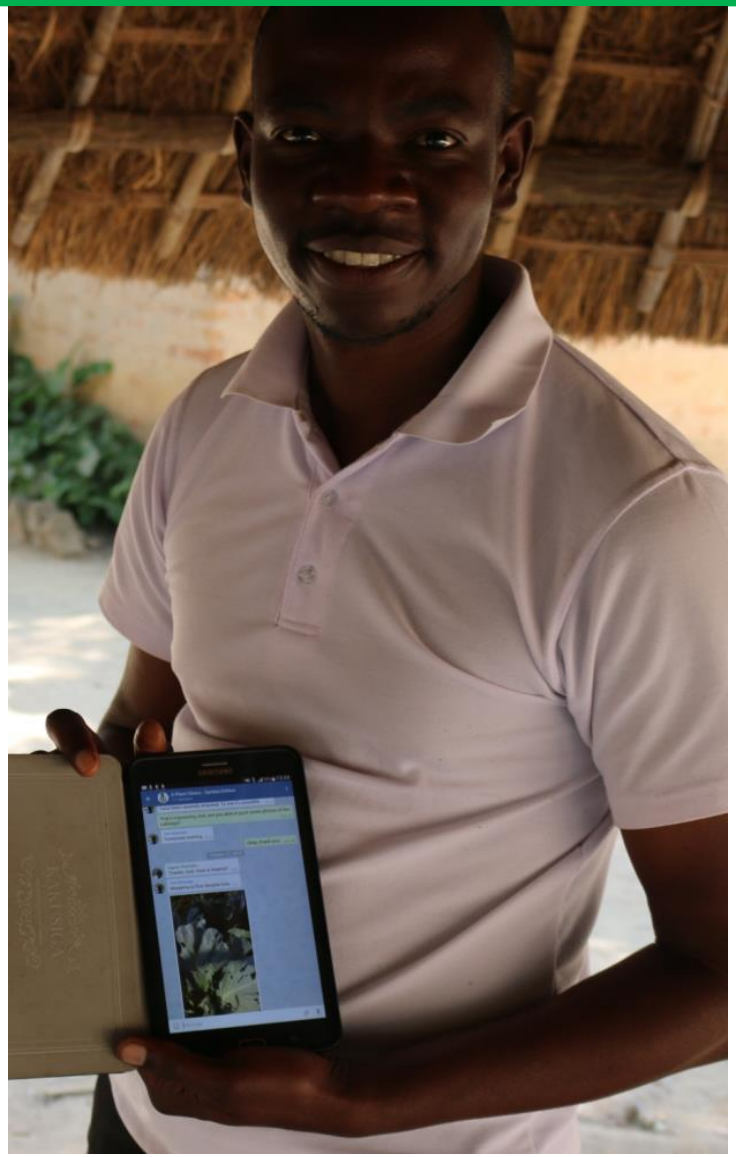
- The initiative launched in 2017 aims at enhancing livelihoods of Zambian smallholder farmers by reducing crop losses caused by pests

Pest Risk Information Service

Plant Doctor Meeting with stakeholders

- Crop losses are reduced through an early warning system that predicts the risks of pests outbreaks
- The PRISE pests in Zambia include;
  - Fall Armyworm
  - Stalk Borers
  - *Tuta absoluta*
  - Leaf miner
- Plant Doctors have been trained to help with prediction of outbreaks of these pests

Pest Risk Information Service



Plant Doctor in Rufunsa

- How it works
  - PRISE system sends an individual message to each plant doctor
  - Plant doctor receives the message
  - Plant doctor relays information to farmers
  - Plant doctor provides feedback to PRISE on accuracy of the message
- PRISE has also set up trials to study life cycles and behavior of pests such as Fall Armyworm, *Tuta absoluta* and leaf miners

Action on Invasives (AoI)

ZARI Scientists with CABI partners

- Became more active in 2018
- The initiative aims at preventing the introduction of pests of plants and plant products is also being implemented by ZARI and Partners

Action on Invasives (AoI)

ZARI Scientists with CABI partners

- Currently there are a number of AoI studies being done by CABI and ZARI in Zambia
- These include;
  - Testing the efficacy of biopesticides and botanicals e.g Fawligen and Neem against FAW
  - Testing of intercropping beans and Maize in management of FAW
  - Determination of range of indigenous Natural Enemies for FAW

How Zambia has benefited from AoI

FAW attack in Kafue

- FAW first seen in 2016
- CABI confirmed the identification of FAW in Zambia
- Samples sent to CABI UK laboratory revealed the presence of both the Maize and Rice strains of FAW in Zambia

Breaking Barriers Facilitating Trade

- This Project implemented by CABI and COMESA is aimed at promoting intra-regional trade
- ZARI through PQPS implements the project
- Some of the activities planned under this project include;
  - Updating the pest lists for participating countries
  - Conducting cross border meeting with the view of improving market access
  - Creating awareness through leaflets and national policy seminars on boarder procedures

The Australia–Africa Plant Biosecurity Partnership

- This initiative is a capacity development program that draws on Australian expertise to strengthen skills and capacity of professionals within sub-Saharan African (SSA) plant biosecurity agencies
- Two scientists from ZARI where attached to different institutions in Australia so that they can gain Biosecurity Knowledge and skills to help back home
- Institutions visited include;
  - Murdoch University –Perth
  - the Centre for Wet Tropical Agriculture -South Johnson
  - Panama Emergency Response Centre –Moresby

The Australia–Africa Plant Biosecurity Partnership

ZARI Scientist visiting experimental fields in Australia

- Capacity has been built in;
  - Diagnosis and management of Panama TR4 disease in banana
  - How to conduct inspections and surveillance for panama TR4 disease
  - Importance of using resistant varieties to manage the pest

Other Collaborative activities

1. mNutrition: Addressing hidden hunger through mobile messaging
   - By dialing 667 on MTN network farmer can access information on crop production, Nutrition and Plant Health Problems on eight different crops including main crops such as cassava, maize and beans
2. GIZ Crop Protection Baseline Study
   - Aims to understand and report on current crop protection practices and identify the most effective, safe and innovative options to integrate into GIZ's programmes in 14 countries including Zambia

Land

- CABI has been given land (about 1ha) by Government on which they can construct a center in Zambia

- Its about 5 km from the airport in Lusaka

Zambia's Expectations From CABI

- Continued collaboration so as to improve Small and Medium scale farmers' livelihoods through different projects being undertaken by ZARI and Partners

Thank you