



# Zimbabwe and ICRISAT

*Innovation Platforms improve livelihoods*



Photo: S Sriharan, ICRISAT

Zimbabwe was once known as the breadbasket of the southern African region. About 7.6 million people live in rural areas and depend mainly on agriculture, which contributes about 20% of the country's GDP.

## ICRISAT's work with Zimbabwe partners



**The Sorghum and Millet Improvement Program** was formally launched in the early 1980s at ICRISAT's Matopos Research Station near Bulawayo, Zimbabwe in collaboration with the Southern African Development Community (SADC) with funding from USAID.



Test-marketing **small seed packs** of improved varieties of millets, sorghum, groundnut and other semi-arid area crops are being undertaken.



Research and promotion of applying fertilizer microdosing and adopting soil and water conservation practices has improved the yields of **300,000 farmers** in the drought-prone regions of Masvingo and Matabeleland.



To build farmers' adaptation strategies to climate change, a **climate analogue location concept** is being developed by ICRISAT and national climate and agriculture research institutions in Zimbabwe and Kenya.



Supporting the setting up of **Food Testing facilities** to build Zimbabwe's capacity in food safety, quality control and certification, essential to tackle hazards like aflatoxin contamination under the South-South cooperation initiative between India and Africa.



Photo: S Sridharan, ICRISAT

## Innovation Platforms – Improved value chain for goats

ICRISAT and partners are working on strengthening the livelihoods of farmers who combine agriculture and livestock rearing in the semi-arid regions of the country, particularly in Nhwali and Gwanda. Improving and establishing new markets for farmers to sell their goats, has generated both the incentives for farmers to invest in their care and the much-needed cash for them to do so. Farmers who participate in goat markets are reinvesting the income generated into broader agriculture production – to purchase food when their own harvest falls short, educate their children, for health care, hire labor and to purchase inputs for both crops and livestock.

*The visit of the Governing Board Chair, Dr Chandra Madramootoo in August 2014 to the country helped strengthen relationships with the government, international development agencies, farmers and private companies.*

*The Governing Board has committed increased funding for ICRISAT's work in Africa.*

## Selected ongoing projects

### Livelihoods and Food Security Program – Agricultural Production and Nutrition

**Donor organization/country:** Welthungerhilfe-Harare

**Grant Period:** 2014 - 2016

The focus of the current program is facilitation of linkages between farmers and viable commodity value chains in both the local and export market. Marketing challenges that stakeholders faced in the previous program will be addressed through regular dialogue sessions with stakeholders. Community based micro-finance institutions (ISALs) will be strengthened/ formed to improve investment in commercial agriculture production by farmers so that they meet the market requirements in terms of quality and quantity.

### AgMIP Phase II. The Future of Food and Farming in South Asia and Sub Saharan Africa

**Donor Organization:** Department for International Development (DFID)

**Grant Period:** 2014- 2016

The Agricultural Model Intercomparison and Improvement Project (AgMIP) is a major international effort linking the climate, crop, and economic modeling communities with cutting-edge information technology to produce next generation of climate impact projections for the agricultural sector. The goals of AgMIP are to improve substantially the characterization of world food security due to climate change and to enhance adaptation capacity in both developing and developed countries.

AgMIP Phase II aims at reducing poverty and enhancing resilience to climate change, building pathways for sustainable futures for smallholder crop-livestock systems in semi-arid regions.

### Integrating crop and livestock production for improved food security and livelihoods in rural Zimbabwe

**Donor organization/country:** Australian Centre for International Agricultural Research (ACIAR)

**Grant Period:** Jul 2012 - Jun 2015



Photo: S Sridharan, ICRISAT

Mr Murairo Madzvamuse (left), Soil Lab Manager and Dr Paul Mugoni (right) ICRISAT-Zimbabwe Country Administrator, give Dr Madramootoo a tour of the facilities.



Photo: S Sridharan, ICRISAT

*Elizabeth Msimanga and her granddaughter Promise hoe weeds on their conservation agriculture plot in Nkayi district, Zimbabwe.*

The project objectives are to increase productivity of smallholder crop-livestock farming systems in four districts in two contrasting agro-ecological regions of Zimbabwe by identifying and adapting technologies and associated management practices.

### **Increasing irrigation water productivity in Mozambique, Tanzania and Zimbabwe**

**Donor organization/country:** Australian Centre for International Agricultural Research (ACIAR)

**Grant Period:** Jun 2013 - Jun 2017

The project's objectives are to develop, test and deploy innovative water and solute monitoring systems to stimulate farmer learning toward greater water productivity; evaluate whether Agricultural Innovation Platforms, based on existing community organisations can identify and overcome institutional and market barriers to greater water productivity; and identify and communicate economic and policy incentive mechanisms for greater water productivity.

### **Implementing Agency for setting up Food Testing Laboratories (FTLs) in 5 African countries (Republic of Congo, Rwanda, Zimbabwe, Gambia and Nigeria) under India-Africa Forum Summit (IAFS-II)**

**Donor organization/country:** Ministry of Food Processing Industries, Govt. of India

**Grant Period:** Nov 2012 – Nov 2015

With food safety and health gaining importance in Africa, The ICRISAT Agribusiness and Innovation Platform (AIP) through its NutriPlus Knowledge Program (NPK) will facilitate the setting up of a Food Testing Laboratory in Zimbabwe.

## **Conservation agriculture puts farmers on firmer footing**

Elizabeth Msimanga, a farmer in Zimbabwe's Nkayi District, practices conservation agriculture on one plot of 82 by 75 metres of her land. "I can see the difference in soil structure and fertility," Msimanga says. "My farm is on sandy soil, but on the field where I have been using conservation agriculture, the soil structure has really improved."

Poor soil fertility and degradation severely limit food security for many smallholder farmers in southern Africa. Productivity on rain-fed farms is low due to infertile soils, unreliable rainfall patterns often associated with prolonged dry spells, sparse infrastructure and restricted access to markets.

Msimanga says practising conservation agriculture on part of her land has increased her yields and income. She heard of these soil and water conservation techniques in 2007 from the local AGRITEX (national extension agency) office, which provides farmers with extension support in Duha village.

"In the past I used to harvest about 450 kg of maize from my whole farm but now I get around 2,250-3,150 kg of grain. The conservation agriculture field contributes to most of this yield," she says.

**“Before, I would only have one meal and water (a day). But now I have three meals.”**

Farmers using conservation agriculture methods have often achieved yields that are 15 to 75 percent higher than with conventional practices.

Since 2004, ICRISAT, with funding from the UK's Department for International Development (DFID), has been promoting conservation techniques with partners like AGRITEX and NGOs including CARE, CAFOD, CRS, World Vision, Oxfam GB, Save the Children UK, Action Contre la Faim, Christian AID and Concern Worldwide.

Excerpts from an article written by ICRISAT researchers Kizito Mazvimavi and Martin Moyo, and communications officer Swathi Sridharan for Thomson Reuters Foundation.

<http://www.trust.org/item/20130801093521-fwckx/?source=hpblogs>



Photo: S. Sridharan, ICRISAT

Promoting better crop-livestock integration can make a difference to farmers' livelihoods and food security in Zimbabwe.

### ENSURE Food Security Program

**Donor organization:** USAID through World Vision Zimbabwe

**Grant Period:** 2014 - 2018

### Ensuring Nutrition, Transforming and Empowering Rural Farmers and Promoting resilience (ENTERPRIZE)

**Donor organization:** World Vision International, Zimbabwe

**Grant Period:** 2014 - 2016

### Completed projects

#### Improving the livelihoods of smallholder farmers in drought-prone areas of sub-Saharan Africa and South Asia through enhanced grain legume production and productivity (TLII Phase 2)

**Donor organization:** Bill & Melinda Gates Foundation

**Grant Period:** 2011- 2014

The goal of the TLII project is to enhance productivity by at least 20% for six legume crops (chickpea, common bean, cowpea, groundnut, pigeonpea and soybean) in drought-prone areas of sub-Saharan Africa (including Zimbabwe) and South Asia.

### Crop-Livestock Intensification in the Face of Climate Change: Exploring Opportunities to Reduce Risk and Increase Resilience in Southern Africa using an Integrated Multi-Modeling Approach.

**Donor organization:** Columbia University (USDA funded)

**Grant Period:** 2012 - 2014

The project identified pathways to improve food security in southern Africa's mixed crop livestock systems and develop adaptive management strategies to reduce climate induced risks and to increase systems resilience (Zimbabwe, Malawi, Mozambique, South Africa).

### Moving forward

The ICRISAT Governing Board in September 2014 made a decision to boost its research in Sub-Saharan Africa (SSA) by investing US\$ 5 million towards upgrading research infrastructure and building scientific skills on the African continent. This investment will be across SSA where ICRISAT has its offices and will focus on harnessing the required resources to further advance the productivity of smallholder agriculture in SSA for greater self-reliance and resilience, particularly in light of climate change, and for increased participation in the market economy. These new investments will provide greater opportunities for collaborative research and strengthen partnerships along the whole value chain.