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## INTEGRATED AGRICULTURAL RESEARCH

PROCEEDINGS OF THE SACCAR/WINROCK  
WORKSHOP, HELD IN LILONGWE, MALAWI,  
26 NOVEMBER – 1 DECEMBER 1989

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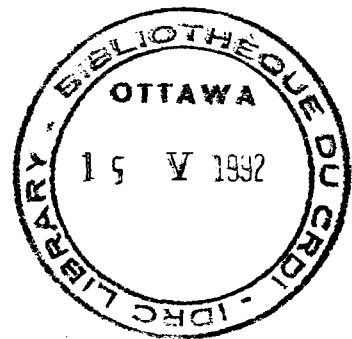
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Esta serie incluye ponencias de reuniones, informes internos y documentos técnicos que pueden posteriormente conformar la base de una publicación formal. El informe recibe distribución limitada entre una audiencia altamente especializada.

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# Integrated agricultural research



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# **Integrated agricultural research**

**Proceedings of the SACCAR/WINROCK Workshop  
held in Lilongwe, Malawi,  
26 November - 1 December 1989**

**Editors**

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# **THE STRUCTURE AND FUNCTION OF CIMMYT'S MAIZE PROGRAM IN THE SADCC REGION**

**Bantayehu Gelaw**

## **Structure**

On the recommendations of the Consultative Group for International Agricultural Research (CGIAR), the International Maize and Wheat Improvement Centre (CIMMYT) with headquarters at El Batan, Mexico has been involved in a research program designed to increase maize production in Africa. A memorandum of understanding (MOU) between the Government of Zimbabwe and CIMMYT was signed on 6 March 1985 establishing a CIMMYT regional base in Zimbabwe to better serve the Southern African Development Coordinating Conference (SADCC) region. Three resident regional staff, a maize breeder, a maize agronomist, and an agricultural economist, were posted to the base. The University of Zimbabwe provided office space and logistical support for these scientists.

In addition to the general MOU signed between the Government of Zimbabwe and CIMMYT, a separate tripartite agreement was signed between the University of Zimbabwe, CIMMYT, and International Institute for Tropical Agriculture (IITA) on 2 March, 1985. This agreement allows CIMMYT and IITA to jointly establish a Mid-Altitude Maize Research Station (MAMRS) at the University farm. The station was initially established with the posting of a CIMMYT maize breeder and an IITA entomologist. In 1987 CIMMYT and IITA agreed to concentrate their efforts in areas where they have a comparative advantage. This led to IITA withdrawing its entomologist from Zimbabwe. A tripartite agreement between the University of Zimbabwe, CIMMYT, and IITA was also amended and a revised agreement between the University of Zimbabwe and CIMMYT was signed on 6 April 1988.

CIMMYT posted three maize scientists, an entomologist, and two breeders to MAMRS in order to accelerate the maize germplasm development process. One of the two maize breeders was assigned by CIMMYT to develop materials adapted to the lowland tropical environments while the other breeder continued to concentrate on developing germplasm for the mid-altitude ecologies. Again, the MOU between the University of Zimbabwe and CIMMYT was amended to enable CIMMYT to develop maize germplasms for both mid-altitude and tropical ecologies. CIMMYT also posted an agricultural economist to Malawi to support the maize research program there.

By mutual agreement between the donors and CIMMYT, Tanzania, a SADCC member, falls under CIMMYT's East African Regional Program located in Nairobi, Kenya. However, Tanzania can still collaborate with CIMMYT's Southern African Regional Program. In fact, this arrangement allows CIMMYT Tanzania to have the best of the two worlds.

## **Aim**

The concept of regional research networks is to facilitate the exchange of germplasm, information, ideas, and skills, so that accumulated experience and useful materials can be shared. The paucity of skilled manpower in the region makes it imperative that countries collaborate and learn from each other's strengths and weaknesses.

CIMMYT's activities in the region are geared toward strengthening research capabilities of national programs without duplicating existing activities. It was possible to achieve this goal by encouraging collaboration on maize trials and nurseries, project preparation, information exchange, and various types of training. Fellowships, workshops, conferences, seminars, field tours, newsletters, and scientific literature were shared. Essential items of equipment and supplies to conduct useful research were provided, facilitating discussion on policy issues related to increased production. Linkages between research and extension and as between research institutions and universities were improved.

The following examples illustrate CIMMYT's regional research network activities:

### **Germplasm**

CIMMYT has been collaborating with national programs in distributing and conducting maize progeny, variety, and elite variety trials. It has also provided segregating lines and populations to National Agricultural Research Systems (NARS). This has enabled the release of a number of maize varieties based on CIMMYT germplasm in Malawi, Zambia, Tanzania, Mozambique, Lesotho, and Swaziland.

### **Project Preparation**

CIMMYT has continuously provided information to NARS through maize abstracts, scientific literature, a newsletter, workshop proceedings, annual reports, workshops, seminars, conferences, and field tours.

### **Workshops**

CIMMYT has organized and financed a number of workshops in the region. These include:

- The East, Central, and Southern African Regional Maize Workshops which drew participants from the nine SADCC member countries, plus others. Three such workshops have been held since 1985. 5 000 and 2 500 copies of proceedings of the first and second workshops have been distributed to participants and collaborators.
- Eastern and Southern African Regional On-Farm Research (OFR) training workshops jointly conducted with the University of Zimbabwe every year.
- Research and Extension Administrators' Workshops.
- Research and Extension Linkage Workshops.



- Workshops on Research Methods for Cereal/Legume Intercropping jointly organized with CIAT.
- OFR Trial Data Analysis, Interpretation and Reporting Workshops.
- Extension Diagnostic Training Workshops.
- Workshop on the Economic Analysis of Trial Results.
- Introduction of OFR Concepts and Methods Workshops.
- Networkshop on Crop/Livestock Interactions in OFR.
- National Maize Research Workshops.

### **Newsletter**

A Farming Systems Newsletter (now referred to as Bulletin) is published by CIMMYT four times a year and is distributed to over 500 readers and institutions.

### **Scientific Literature**

CIMMYT has, for the last several years, distributed maize abstracts, annual reports, bibliographies, and abstracts of selected articles to cooperators in the region.

### **Equipment and Supplies**

From time to time CIMMYT has provided supplies and minor equipment such as pollinating bags, moisture testing meters, sprayers, motor-bikes, etc., to NARS to help their research activities.

### **Training**

CIMMYT has provided various types of training to NARS over the last twenty years. These include: in-service training in Mexico, in-country training, regional training, and visiting scientists. CIMMYT is now involved in undergraduate training in cooperation with certain donors.

### **Interactions with other IARCs and Organizations**

A number of CIMMYT's regional workshops and training activities are jointly conducted with other IARCs or organizations. CIMMYT has collaborated with CIAT, ILCA, ICRISAT, IITA, ICIPE, WINROCK, ISNAR, and IBPGR whenever it was feasible. CIMMYT cooperates closely with SACCAR and has kept it fully informed of all its regional activities.

## **Harare Maize Research Station**

Originally, this station was established to develop maize materials for the mid-altitude ecologies. Realizing the importance of maize in the lowland tropics, the agreement between the University of Zimbabwe and CIMMYT was amended to include the development of maize germplasm for lowland tropical environments. Its activities include incorporating resistance to streak virus, breeding for resistance to the major diseases such as *H. turcicum*, *H. maydis*, *P. polysora*, *P. sorghi*, *Diplodia*, and *Fusarium* ssp. Breeding efforts are also directed towards improving agronomic characteristics, grain yield and stability, earliness, and harder grain types.

All products at this station are freely available to all NARS. The station is also being used as a training site for national program researchers and visiting scientists.

## **Future Plans**

- CIMMYT plans to establish a global drought and insect network with one possible site within the SADCC region.
- CIMMYT has developed a pre-proposal for a maize seed production and training project for Eastern and Southern Africa. The best option would be to attach it to the Harare Maize Research Station. As the concept is regional in nature, CIMMYT plans to take it up with SACCAR.
- CIMMYT participated in the SADCC Maize and Wheat Network Feasibility Study and assigned its Regional Maize Breeder to lead the consultancy group. It is waiting for the response of the Board of SACCAR for a possible follow-up action.
- CIMMYT is in the process of devolution of its Crop Management Research Training (CMRT) from Mexico to selected regions. SACCAR seems to offer an excellent opportunity for the devolution of CMRT to SADCC region.