

SOUTHERN AFRICAN RECONNAISSANCE VISIT REPORT

prepared for the

Southern African Development
Coordination Conference (SADCC)
Agricultural Research Consultative
Technical Committee

May 1983



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A report to members of the Southern African Development Co-ordination Conference (SADCC) by representatives of the Co-operation for Development in Africa (CDA) donors technical committee on its agricultural research initiative.

Submitted to: Southern African Development
Coordination Conference (SADCC)
Agricultural Research Consultative
Technical Committee
Gaborone, Botswana

Submitted by: DEVRES, INC.

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Acknowledgments

The team which prepared this report undertook reconnaissance visits to eight of the nine SADCC countries during the period February 24 to April 9, 1983. This mission could not have been successful without the invaluable assistance rendered by the numerous governments, agencies and individuals.

The team expresses their grateful thanks to all the officials and staff of the CDA member embassies for planning and organizing a wide range of meetings in the countries visited.

Opportunities were provided to the team in each country for fruitful discussions and exchange of ideas with government and university officials on agricultural and livestock research, production and extension as well as manpower training. The team expresses its profound appreciation for the frankness and sincerity which characterized these discussions.

The team was extremely fortunate to have Dr. Vernon Johnson with them in six of the countries visited. His long experience with the CDA concept from its very inception provided greater understanding during all our discussions.

LIST OF ACRONYMS AND ABBREVIATIONS

AAASA	Association for the Advancement of Agricultural Sciences in Africa
ADD	Agricultural Development District (Malawi)
ADMARC	Agricultural Development and Marketing Corporation (Malawi)
ADO	Agricultural Development Officer (USAID)
ARC	Agricultural Research Council
AGRITEX	Department of Agricultural, Technical and Extension Services (Zimbabwe)
BS	Bachelor of Science
CDA	Cooperation for Development in Africa
CGIAR	Consultative Group on International Agricultural Research
CIDA	Canadian International Development Agency
CIMMYT	International Maize and Wheat Improvement Center
CRED	Regional Centers for Research and Development (Mozambique)
CRSP	Collaborative Research Support Program (USAID)
CTC	Consultative Technical Committee (SADCC)
DLFRS	Dryland Farming Research Scheme (Botswana)
DAR	Department of Agricultural Research (Botswana)
ECA	Economic Commission for Africa
EEC	European Economic Commission
EPA	Extension Planning Area (Malawi)
FAO	Food and Agricultural Organisation
FSAR	Farming Systems Approach Research (Botswana)
FSR	Farming Systems Research
IBRD	International Bank for Reconstruction and Development (IBRD)
ICRISAT	International Center for Research in Semi-Arid Tropics
IDRC	International Development Research Center (Canada)
IEMVT	Institut d'Elevage et de Médecine Vétérinaire Tropicales
IFPP	Integrated Farming Pilot Project (Botswana)
INIA	National Institute for Agricultural Research (Mozambique)
INVA	National Institute for Veterinary and Livestock (Mozambique)
IREMA	National Institute for Animal Reproduction and Production (Mozambique)

ISNAR	International Service for National Agricultural Research
LAC	Lesotho Agricultural College
MLD	Ministry of Livestock Development (Tanzania)
MOA	Ministry of Agriculture
MS	Master of Science
MUCIA	Midwest Universities Consortium for International Activities
NCDP	National Commission for Development Planning (Zambia)
NDAT	National Department of Agrarian Techniques (Mozambique)
NUL	National University of Lesotho
OAU/STRC	Scientific, Technical and Research Commission of the Organisation of African Unity
ODA	Overseas Development Agency
ORSTRAM	Organization for International Scientific and Technical Agricultural Research
PhD	Doctor of Philosophy
SAC	Swaziland Agricultural College
SAAR	Strengthening African Agricultural Research
SADCC	Southern African Development Coordination Conference
TARO	Tanzanian Agricultural Research Organisation
UB	University of Botswana
UK	The United Kingdom
USAID	United States Agency for International Development

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I. INTRODUCTION

The Southern African Heads of State at their Lusaka Summit in April 1980 directed that Agricultural Research be an area of cooperation between the Southern-African Development Co-ordination Conference (SADCC) countries. The Resolution gives priority to research related to the agricultural problems of the semi-arid areas.

A team of agricultural research technical experts and research administrators from France, Italy and the United States representing the Cooperation for Development in Africa (CDA) donor group together with an African research scientist nominated by the Organization of African Unity (OAU) Scientific, Technical and Research Commission (STRC) visited all SADCC member countries except Angola during the period from late February 1983 to mid April 1983. The Government of Italy is prepared to undertake the reconnaissance visit to Angola when a schedule can be arranged.

The CDA team wishes to express their sincere appreciation for the excellent cooperation received from SADCC country scientists and officials.

II. BACKGROUND

Cooperation for Development in Africa (CDA) is an informal association of donor countries consisting of Belgium, Canada, the Federal Republic of Germany, France, Italy, the United Kingdom and the United States.

The idea for CDA originated in France where it was noted that certain economic problems could not be solved by one donor country alone. There was duplication and overlapping of some programs among donors. It was also noted that Africans themselves had formed Africa-wide institutions to foster development. These institutions include: The Organization of African Unity, Scientific, Technical and Research Commission (OAU/STRC), the Africa Development Bank (AFDE), the Association for the Advancement of Agricultural Sciences in Africa (AAASA) and the Southern Africa Development Coordination Conference (SADCC). The heads of state and governments of Africa had also given unanimous support to the OAU Lagos Plan of Action. In this, CDA donor countries thought that it would be useful to join African groups to work on sectors considered critical to development in Africa.

On the whole, per capita agricultural production in Africa has been falling while food imports and the corresponding import bill has enlarged, putting a heavy burden on foreign exchange for other development purposes. CDA therefore accorded high priority to agriculture and decided that agricultural research, broadly defined, should receive major attention. Thus in late 1980, CDA member countries began calling meetings of an Ad Hoc Technical Committee for Agricultural Research.

The CDA donor countries framework for developing the agricultural research initiative is very broad. It permits a broad scope of activities and is designed to accommodate a wide range of donor and recipient country funding and administrative styles and procedures. The CDA Ad Hoc Technical Committee on Agricultural Research acts as a consultative and advisory body to ensure individual activities would be initiated by CDA members in concert with and in consultation with African governments and regional entities. Any CDA-supported initiative within any given ecological zone or country would aim to strengthen and complement current research activities. In consultation with African organizations, CDA donor-supported activities would be based on an analysis of the research programs as related to agricultural productivity.

The tentative approaches to agriculture research developed by this technical committee for consideration are:

- o Agricultural research should be beneficial to small farmers and livestock holders who are the primary food producers in most African countries.
- o Research concerns should be confined to Sub-Saharan Africa and tailored to ecological/geographical zones, i.e., the Sahel and Sudan, Coastal Central West Africa, East Africa, Zaire Basin and Southern Africa. While these are referred to as ecological/geographical zones, they in fact represent a myriad of climatic and soil conditions or sub-zones which find commonality in the group of countries that are associated. In Southern Africa, the nine SADCC countries would constitute such a zone.
- o Research should be designed first to strengthen national agricultural research systems and capabilities while recognizing that more progress may be made at less cost by supporting agricultural research problems that spread across national boundaries to several countries in an ecological/geographical zone.
- o In order to spread agricultural technology quickly and ensure expeditious exchange of information, regional research programs should form a network of agricultural scientists representing each country of a zone. The network should meet periodically to exchange information.
- o Research should be tested on farmers' fields, or by livestock producers before being released.
- o Research linkages with extension and training should be strengthened.
- o Research should be conceived of and supported as long-term in nature, in the order of 20-25 years for crops and livestock.

As a result of informal discussions among Africans and CDA donors, the first step proposed for CDA donor countries in Southern Africa would be to initiate preliminary discussions with SADCC officials in Botswana, which is responsible for coordinating agricultural research concerns, and Zimbabwe, which is responsible for coordinating the Food Security Program. Preliminary meetings were held in these two countries where an improved understanding of SADCC operations was obtained. Following these meetings, a CDA donor team began its reconnaissance visits to SADCC countries.

III. PURPOSE OF THE RECONNAISSANCE

The reconnaissance was performed to accomplish limited purposes:

- o to better acquaint the CDA donor countries with the SADCC countries research organizations and programs;
- o to provide SADCC country agricultural research personnel and agricultural ministries with a clear understanding of the CDA agricultural research initiative;
- o to perform a similar function with the several CDA donor field representatives in the SADCC countries;
- o to provide brief and preliminary views of the agricultural research situation in the SADCC countries; and
- o to note and report research issues which may be brought forward by SADCC to CDA donors for future mutual discussions.

IV. SUMMARY OF THE AGRICULTURAL RESEARCH SITUATION
IN THE SADCC MEMBER COUNTRIES

The team contacts in SADCC countries, Angola (not yet complete), Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe were largely with research directors and technical and scientific personnel. These discussions can be summarized in the following key areas affecting agricultural research:

A. Staffing

Every country indicated an urgent need for additional qualified and experienced scientific and technical skills.

B. Facilities

Most countries cited needs for improved facilities. This ranged from countries where major re-habilitation was indicated to countries where only limited requirements were evidenced. Allied with this issue was a frequently expressed requirement for repairs and maintenance which in some cases was linked to foreign exchange shortages.

C. External Funding and National Budget Support

Several countries reported restricted research funding levels to be a serious constraint to effective research. These restricted funding levels of national governments have placed donors in a position where consideration must be given to the need for recurrent costs for project proposals. This may cause some donors to more carefully consider support for agricultural research.

D. Research Focus

All SADCC countries indicated that they are focusing agricultural research to address the cropping problems of small-scale farmers and the research needs of livestock producers.

E. Research - Extension - Faculty of Agricultural Linkages

All countries indicated varying degrees of concern regarding research- extension linkages and several are developing new models for such relationships, frequently allied with a farming systems approach and its related socio-economic interests. There are few structured linkages between Faculties of Agriculture and research institutions in place. Several countries indicated that coincident with upgrading their agriculture training institutions to BS or MS levels (in the future), they have hopes to provide for such relationships and build mutually desirable research programs.

F. Regional Activities

In all countries scientists understand the needs and the advantages of regional networking, coordination of research and regional information sharing.

G. General Observations

The reconnaissance team noted a number of exceptional research activities which are in process in the countries visited. There also appeared to be, in many countries, innovative and effective research management personnel.

V. COMMENT ON SADCC RESEARCH PROPOSALS

The following proposals were discussed with the team by the Chairman of the Agricultural Research CTC. They have been approved by the SADCC Council of Ministers. The team was invited to discuss these proposals with the several SADCC countries and comment on them. All countries visited were supportive of these proposals in Water Management, Sorghum and Millet, Groundnuts and a Research Coordination Cell. The following summary of comments and observations reflects the views of the team and those contacted.

A. Improved Water Management Systems for Agriculture in Southern Africa

In all countries visited the problems of insufficient and poor distribution of rainfall are of major importance, in the entire country or to parts of the country. This research has high priority. It appears possible to develop a strong and important regional program with most of the countries participating. The team believes this proposal merits attention and a plan should be developed for such activity.

B. Sorghum and Millet Program

All countries, with the exception of Swaziland, have considerable acreage in one or both of these crops. Therefore this subject was of importance. Some countries now have research activities on one or both of the crops. It appears possible to develop a regional activity or improved coordination and support to SADCC country research programs for these crops. The team suggests that a plan be developed for this proposal.

C. Groundnut Program

Malawi and Zambia and Zimbabwe are the most important groundnut producing countries in the region. But all other countries grow some groundnuts with the exception of Lesotho. Some countries visited questioned why this was not a grain legume program including cowpeas, pigeon peas and possibly beans. It is the team's belief that consideration should be given to expanding programs to include such crops.

D. A Research Co-Ordination Cell

There was a universal recognition of the need for a SADCC institutional component or unit to co-ordinate regional programs and projects. The team was pleased to hear that a CDA donor had been approached for assistance for a feasibility study for this proposal and that funding is available.

VI. OTHER RESEARCH NEEDS DISCUSSED WITH THE CDA
RECONNAISSANCE TEAM

Several other needs were noted by research scientists in discussions with the team. These are listed for information purposes:

A. Physical and Biological Research Needs

1. Appropriate mechanization and animal power

In all of the SADCC countries visited, small-scale farmers are using traditional tools for plowing, cultivating, planting and weeding and research should be strengthened.

2. Livestock

Most countries report a strong need for livestock research. Major areas include animal nutrition; improved grazing practices; supplemental feeding; better adapted or more productive and nutritious grasses and legumes; expanded use of oxen as a power source, and improved animal health.

3. Erosion and conservation

Soil erosion is a major problem in some countries and is important, in varying degrees, in all countries. Water management, including research in small-scale irrigation was noted as important to most countries particularly in view of their increasing food requirements.

4. Forestry

Forestry research, both determining improved species and in testing cultural practices, allied with socio-economic research and wood lot management, are becoming critical needs in many SADCC countries.

5. Specialty crops

Research in vegetables and fruits is being carried out in limited fashion in several countries but to date at quite modest levels. These nutritious crops are becoming of significant value for both small-scale commercial use as well as family health.

B. Information, Communication and Cooperation

1. An information system for research

The need for collection, retrieval and dissemination of agricultural research information was raised in every country. The Research Coordination Cell already approved by SADCC could serve this purpose.

2. Germ plasm exchange

Scientists in several countries expressed the need for further cooperation in the exchange of germ plasm for crop breeding programs. It was stated there is a reluctance to release breeding materials by some countries.

3. Terms of service for research workers

It was a commonly held view of research scientists and administrators that terms of service for research workers need to be upgraded if secondary school students and university students are to be encouraged to enter this career and if trained staff are to be retained.

VII. POSSIBLE FUTURE STEPS

In addition to support for the initiatives that SADCC countries have already taken to develop strong agricultural research systems, the following points are perceived by the team to be of high priority.

A. Support of National Research Budgets

Almost every national agricultural research organization is short of funds to carry out the research programs the scientists believe are necessary. In developing effective agricultural research systems the team noted recognition of the need for dependable and sustainable budget support which can only be determined by national policy makers based on their appraisal of priorities. A dependable long-term commitment is a necessary condition to obtain agricultural research results and to develop professionally qualified and dedicated scientists and institutions.

B. Manpower and Training

The need for qualified professional personnel in all aspects of agricultural research has been noted by all countries. While the team believes there is a need to develop regional networking for graduate training in agriculture there is no general agreement as yet among the countries on how to allocate this responsibility.

C. A Professional Society of Agricultural and Livestock Scientists of SADCC Countries

The team believes a society of agricultural and livestock scientists could strengthen cooperation in agriculture research among SADCC countries. It could serve to improve communications and transfer of information through its professional meetings and publications. The team suggests the CTC to consider facilitating the creation of such an organization.

D. Research Inventory and Assessment

The team believes there is a constant need for an up-to-date understanding of the agricultural research situation in each country including: research priorities in capabilities; constraints and budget priorities and other appropriate information. Such an inventory/assessment, if concurred in by the Agricultural Research CTC, would assist SADCC in developing a long-term plan for strengthening agricultural research.

E. Farming Systems and National Research

The team notes there are various approaches to farming systems projects in several countries. There is a need for more planning and coordination on a regional basis. The team also wishes to draw attention to the advisability of balancing investment between farming systems research approaches and the on-going need for valid and tested crop and livestock research.

F. A SADCC Research Conference

Most research administrators and scientists expressed a belief that it would be desirable to hold a research conference in the near future. The current chairman of the agricultural research CTC indicated he had already given some thought to such a meeting. The CTC may wish to consider the desirability of having, in addition to Directors of National Research, representation from Faculties of Agriculture and National Extension Services.

VIII. ACTION BY TEAM FOLLOWING CTC MEETING

Those suggestions noted above and acted upon by the agricultural research CTC, will be carried forward to the next regularly scheduled meeting of the CDA Donor Ad Hoc Agricultural Research Technical Committee. It would be the recommendation of the team that CDA donors consider expanding their support for agricultural research in SADCC member countries along the lines highlighted in this report; that CDA donors attempt to improve their coordination of existing agricultural research projects so as to better meet the needs to be identified by SADCC member countries; and also assist SADCC countries to strengthen their capability to coordinate such donor assistance.

ANNEX 1

CDA Reconnaissance Team Members

ANNEX 1

CDA RECONNAISSANCE TEAM MEMBERS

The CDA Team represented experts with a wide range of agricultural research skills and Africa experience from three CDA countries and OAU/STRC. The team members were:

- Dr. Omar Kelley - Team Leader and¹ Devres/MUCIA Deputy Team Leader for Southern Africa; BS, MS, PhD Soil Science (Ohio State University)

Previous positions held include:

Director of the Office of Agriculture, Technical Assistance Bureau, USAID/Washington; U.S. representative to the Technical Advisory Committee of the Consultative Group on International Agricultural Research (CGIAR); Manager of Agricultural Research Center, Stanford Research Institute; and Co-Director, Office of Rural Development which managed national interdisciplinary research in all agricultural areas in Korea.

- Dr. Pietro Antinori - Technical expert in agricultural and rural development in the Italian Department of Cooperation; agro-socio-economist; BS and PhD, Tropical and sub-tropical agriculture (University of Florence).

Participated in several missions and socio-economic studies in Africa in the areas of agricultural extension, mine development and irrigation.

¹Devres is a private Washington, D.C.-based contractor with a contract with the United States Agency for International Development Project, Strengthening African Agricultural Research (SAAR). MUCIA is the Midwest Universities Consortium for International Activities, a seven university sub-contractor for Devres.

- Dr. Jay Artis - MUCIA Team Member and Professor and Chairperson, Department of Sociology and Professor of African Studies, Michigan State University; BA, MA, PhD, Sociology (University of Wisconsin). Africa experience includes: visiting professor at Makerere University and Member of the Makerere Institute of Social Research, Kampala, under the Rockefeller Foundation University Development Program; and several consultancies to Africa in such areas as farming systems research and U.S.-African Universities linkages.
- Prof. Ferdinando Bigi- Professor of tropical and sub-tropical agriculture at the University of Florence. Previous experience includes: Director General of the Institute of Tropical and Sub-Tropical Agriculture (Post University) at Florence; Director of many private and government agricultural and development activities throughout Africa over the past 52 years with 27 of these years continuously in Africa.
- Dr. Vernon Johnson - Senior Agricultural Economist, Office of Technical Resources, Africa Bureau, USAID, Washington; PhD, Agricultural Economics (University of Wisconsin). Previous positions include: Director and Deputy Director posts in USAID; field missions in Nigeria, Uganda and Tanzania; Chief Economics Officer, Africa Bureau, Department of State. Dr. Johnson has also served on numerous high level agricultural and development missions throughout Africa and worldwide during the past 25 years.
- Dr. Joseph Menyonga - OAU/STRC nominated Team Member; Secretary General for Administration, Association for the Advancement of Agricultural Sciences in Africa (AAASA), Addis Ababa; BS, MS, PhD, Plant Pathology (University of California, Davis). Previous experience includes: Member of Board of Directors, International Institute for Tropical Agriculture (IITA); Research Station Director in the Cameroons and numerous consultancies and conferences in agriculture and agricultural research involving U.N. agencies.

- Dr. Andre Robinet - Controller-General of Veterinary Services and Deputy Director for Scientific Research, Department of Cooperation and Development, Ministry of External Relations, France; PhD, Veterinary Medicine. Previous experience includes: District Officer for Animal Health and Deputy Director and Director, Ministry of Livestock and Veterinary Services and Rural Economic Advisor in Niger; and as advisor on consultancies in Africa. Dr. Robinet has been associated with Africa for 30 years, 18 of which he served in Niger.
- Dr. Patrice Roederer - Director for Agricultural Research in Africa, Organization for International Scientific and Technical Agricultural Research (ORSTRAM), Paris; PhD, Agronomy (Plant Pathology). Dr. Roederer was director for ORSTROM overseas in Madagascar. He has worked for 30 years in agricultural research in Africa and in Tunisia and Morocco.
- Dr. John Slattery - International Cooperation Specialist, Office of Regional Affairs, Africa Bureau, USAID, Washington; BA, MS, PhD, Anthropology, Agricultural Decision-Making (University of Hawaii). Previous experience includes: design, implementation and management of agricultural (including poultry and fisheries) projects in Africa, India and Western Samoa.