PD-AAZ-125
XD-AAZ-125-A

SOUTHERN AFRICA REGIONAL PROGRAM

REGIONAL AGRICULTURAL RESEARCH COORDINATION

Interim Evaluation (Revised Version)

(690-0225)

Prepared by USAID/Botswana
and the Ministry of Agriculture,
Republic of Botswana
September 1988

PD-AAZ-125

A.I.D. EVALUATION SUMMARY – PART I

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA

A. Reporting A.I.D. Unit:
Mission or AID/W Office USAID/Botswana
(ES# 89-1)

B. Was Evaluation Scheduled In Current FY Annual Evaluation Plan?
Yes ☐ Slipped ☒ Ad Hoc ☐
Evaluation Plan Submission Date: FY 89 Q 1

C. Evaluation Timing
Interim ☒ Final ☐
Ex Post ☐ Other ☐

D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)

Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
690-0225	Regional Agricultural Research Coordination	FY84	April'90	5,300,000	5,300,000
				AID:	1.5 mil
				CIDA:	1.5 mil
				NORAD:	1.5 mil
				SAREC:	.6 mil
				SADCC:	.2 mil

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AFR/PD/SA

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director

Action(s) Required	Name of Officer Responsible for Action	Date Action to be Completed
There are a number of specific recommendations (Section VII) of which major ones are enumerated here.		
1. Annual donors meetings should be held, and donors participate to the greatest possible extent in SACCAR board meetings and sub-project management oversight.	USAID/B	April 1989
2. Support signing of MOUs among EAs, SACCAR, donors and participating countries.	USAID/B	Dec. 1989
3. Direct research, training and extension assistance to countries of SADCC region through SACCAR	AID	Dec. 1989
4. Consider a two year no-cost extension of SACCAR and delay the next formal evaluation by at least one year.	USAID/Z&B	April 1989
5. Concentrate on coordination role and reduce operational involvements such as direct project management, publication, library and information work.	SACCAR Board	Dec. 1988
6. Integrate IARC's into long-term regional training plans.	Deans	April 1989
7. Establish regional accreditation and articulation structure for ease of movement among centers of learning within SADCC.	Deans	April 1989
8. Expand mandate and responsibilities to include Extension Service linkages and the training of Subject Matter Specialists.	Board	April 1989
9. Concentrate on developing a SACCAR management system for coordination of sub-projects in research, extension and training.	SACCAR	April 1989
10. Require annual workplan and budget presentation to and approval by SACCAR Board, and donors.	SADCC/AID	Dec. 1988

(Attach extra sheet if necessary)

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: (Month) November (Day) (Year) 1988

G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	Paul A. Daly	Dr. M. Kyomo	John E. Roberts	John P. Hummon
Signature	Paul A. Daly	M. Kyomo	John E. Roberts	John P. Hummon
Date	13 Feb. 89	Feb 6 1989		

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Mission or AID/W Office _____
(ES# _____)

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Yes ☐ Slipped ☐ Ad Hoc ☐

Evaluation Plan Submission Date: FY ____ Q ____

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	CONTINUATION				

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director

Action(s) Required	Name of Officer Responsible for Action	Date Action to be Completed
11. Assign management of regional sub-projects to host NARS or regional centers of excellence.	SACCAR	April 1989
12. Delegate to the present SACCAR staff three coordinating officer positions, research, training and extension linkages.	SACCAR	April 1989
13. Appoint an assistant director to develop policies and programs.	Board	Dec. 1988
14. Assign operational responsibility for maintaining information systems, publishing, literature search services information archiving, library services and other similar operational roles to national institutions, universities or libraries.	SACCAR	Dec. 1989
15. Organize administration on services basis - office, accounting, information, publishing.	SACCAR	April 1989
16. Timeliness of publications needs to be given special attention, especially SACCAR workshop reports.	SACCAR	Dec. 1988

(Attach extra sheet if necessary)

APPROVALS

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G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	Paul A. Daly	Dr. M. Kyomo	John E. Roberts	John P. Hummon
Signature				
Date				

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The project was designed to assist the Southern African Development Coordination Conference (SADCC) in the establishment of a Center or unit which could serve as a focal point for cooperation in the Southern African region and coordinate activities in agriculture and natural resource research and manpower development among the nine SADCC Member States. This unit, the Southern African Center for Cooperation in Agricultural Research (SACCAR), was established in 1984 through the joint efforts of the Botswana Government (GOB), the other SADCC Member States with the assistance of cooperating partners, namely Canada, Norway, Sweden and the United States. The program had been fully functional for about 18 months at the time of the evaluation and is being implemented, through the GOB, by SACCAR's technical staff. The evaluation was conducted jointly by two agriculturists and a sociologist from three Member States of Botswana, Lesotho, and Swaziland together with donor representatives from CIDA Harare, USAID Botswana and REDSO/ESA Nairobi. The evaluation was based on a review of project documents, site visits to 3 member countries (Botswana, Lesotho and Zimbabwe) and interviews with project personnel, host government officials, national research leaders, university professors, scientists and persons trained or assisted by the project. The purpose of the evaluation was to: (1) review the effectiveness of policies, systems, procedures and long-term strategies established thus far and recommend mid-course corrections; (2) assess the adequacy of staff in relation to work load, annual work plans, service requests and the manner of their execution; and (3) consider the amount and extent of direct and indirect financial contributions of SADCC Member States to the general operating costs of SACCAR in terms of institutionalization and sustainability.

- The project is well implemented and the Center has become a real focal point for coordination of regional and national research and training activities for SADCC priority areas in the agriculture and natural resource sector.
- Exchanges to include networking among members of institutions and agencies has produced a spirit of cooperation and cohesiveness as individuals in member countries get to know each other and develop a sense of ownership in SACCAR.
- SACCAR should concentrate on developing a strong effective coordinating structure based on utilizing collaborating national staff and resources to the greatest possible extent. SACCAR should not become an operational organization which is seen to compete with national systems for scarce resources. No additional staff should be added during the LOP.
- Donors can beneficially respect and support the coordinating role of SACCAR through the use of better designed, coordinated and controlled project activities in the SADCC region; especially requiring their regional sub-project's executing agencies to sign operational MOU's with SACCAR.
- SACCAR should include Agricultural Extension linkages in its coordination and training mandate.
- Donors should consider a two year no-cost extension of the project.

COSTS

I. Evaluation Costs

1. Evaluation Team Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. $)	Source of Funds
R.E.McColaugh, Team Leader	REDSO/ESA	22 days		
J.P. Sikhulu, Min. of Agr.& Coops,	Swaziland	20 days		
T. Matobo, Min. of Agrc.	Lesotho	20 days	$7378.00	U.S.
L. Setshwaelo, Min. of Agrc.	Botswana	21 days	4310.00	Donor
P.A. Daly,	USAID/Botswana	12 days	$11,688	
J.S. Clark,	CIDA/Harare	21 days		

2. Mission/Office Professional Staff Person-Days (Estimate) 10

3. Borrower/Grantee Professional Staff Person-Days (Estimate) 10

A.I.D. EVALUATION SUMMARY – PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)
Address the following items:

- Purpose of evaluation and methodology used
- Purpose of activity(ies) evaluated
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office:	Date This Summary Prepared:	Title And Date Of Full Evaluation Report:
USAID/Botswana	September 1988	Regional Agricultural Research Coordination Project No. 690-0225 September 9, 1988

BACKGROUND - A collaborative Interim Evaluation of the Southern African Centre for Cooperation in Agricultural Research (SACCAR) program was successfully conducted by a six person team consisting of Member State agricultural specialists from Botswana, Lesotho, and Swaziland together with donor representatives from CIDA Harare, USAID Botswana and REDSO/ESA Nairobi. AID supports and assists SACCAR, a five year, five million dollar jointly designed regional agriculture and natural resource research and training coordination project that is co-financed with the Canadian International Development Agency (CIDA), International Development Research Centre (IDRC), Swedish Agency for Research Cooperation with Developing Countries (SAREC), Norwegian Overseas Agency for Development (NORAD) and Southern African Development Coordination Conference (SADCC).

PURPOSE OF ACTIVITY - At its inception in 1980, SADCC selected agricultural research as one of the areas in which there could be productive cooperation among its Member States. It requested the Government of Botswana (GOB) to coordinate this activity. It was later felt that it was necessary to have a separate unit to coordinate this function. The SACCAR Unit was established in 1984 through Memoranda of Understanding with the GOB, the other SADCC Member States and the financial assistance of cooperating partners, namely Canada, Norway, Sweden and the United States of America.

The purpose of the Regional Agricultural Research Coordination Project is to assist in the establishment of an institution which serves as a focal point for cooperation in the region and coordination of activities in agricultural research, natural resources and manpower development among the SADCC Member States. SACCAR's strategy has been to provide a continuous forum for national agricultural planners, professoriate, researchers, managers an administrators. This forum, clearly one of the most successful elements of the project, has helped key personnel work together, has provided access to information and technical assistance for research and is providing graduate level training and educational opportunities for appropriate personnel working in the Agricultural and Natural Resources Sector in the nine Member States.

In order to facilitate SACCAR implementation and encourage regional cooperation the donors and Member States are funding six principal project activities:

(1) Capital Investment and Construction - An office block has been constructed and equipped at Sebele Research Station, as well as four SACCAR staff homes.

(2) Promotion of Coordination and Cooperation in Agricultural Research - Some seven regional sub-projects covering a wide range of agriculture and natural resource activities are now in operation and represent donor commitment in excess of 60 million dollars. Five of the International Agricultural Research Centers (IARC) are also collaborating with SADCC in this area.

(3) Workshops, Training and Networking - The project has sponsored ten workshops providing over 315 person weeks of in-service training, five new regional projects have resulted from these events. In addition to formal training, Technical Advisory Panels and Steering Committee activities have also provided opportunities for scientific linkag establishment and network development.

(4) Information, Documentation and Publications - As a key element in networking and information exchange, SACCAR is actively involved in production of newsletters, workshop proceedings, special papers and in publication of a regional research journal. SACCAR's research and manpower development data systems will also provide services to Member States.

(5) Grants and Special Studies - Twenty three travel grants have been awarded since the inception of SACCAR, 28 research grants and 4 special studies were also funded during th past three years.

(6) Graduate Level Manpower Development - Programs in Agriculture Research and Manpower Training and Strengthening Faculties of Agriculture and Natural Resources are now in operation, these together with SADCC regional research programs will train over 100 degree students during the LOP.

Resource allocations provided through this project in the above six areas are assisting SADCC and SACCAR to initiate programs of cooperation and coordination in the Food, Agriculture and Natural Resource Sector. Additionally, through regional sub-projects, a number of related research and manpower development projects are being coordinated by SACCAR. These regional programs are being implemented by selected Executing Agencies (EAs) working together with local research and training institutions.

PURPOSE OF THE EVALUATION - The project evaluation plan called for a collaborative interim review with three objectives. First, review the effectiveness of policies, systems, procedures and long-term strategies established thus far and recommend mid-course correction, as necessary. Secondly, assess the adequacy of staff in relation to work load, annual work plans, service requests and the manner of their execution and ways to streamline them, as appropriate. Thirdly, consider the amount and extent of direct and indirect financial contributions of SADCC Member States to the general operating costs of SACCAR in terms of institutionalization and sustainability.

The majority of the evaluation team attended the August workshop on strengthening Faculties of Agriculture, Forestry and Veterinary Medicine held in Maseru, Lesotho in conjunction with the SACCAR Board meeting. Additionally, the team visited both Zimbabwe and Botswana where research institutions, universities and donors were interviewed. Site visits were made to sub-projects, IARC representatives were contacted and SACCAR study and travel grantees questioned on their research and training experiences. Formal meetings were held with the Government of Botswana, SADCC and other collaborators. Secondary data and pertinent documentation furnished by the donors, SACCAR and sub-projects were also reviewed by the evaluators.

The SACCAR headquarters is located in newly constructed facilities at the GOB Agricultural Research Station in Sebele outside Gaborone, the capital of Botswana. The technical and administrative staff live on the same station and service the other eight member countries from Botswana, also the country assigned responsibility for coordination of agricultural research for the SADDC region.

FINDINGS AND CONCLUSIONS - The interim evaluation of the SACCAR program concluded that the project is being well implemented and that its assistance and coordination is contributing to strengthening national agriculture and natural resource research and training institutions. The networking activities of SACCAR through its workshops, seminars and steering committees were universally praised by administrators and technicians alike. Participants involved in in-country training programs and graduates of regional workshops spoke highly of their experiences and of the contacts and linkages they had established with other scientists and technicians in the region as a result of these networking programs. Similarly the graduate training and manpower development programs were highly regarded, both those directly funded by SACCAR and those coordinated through its regional sub-projects.

EAs for the regional sub-projects felt that the Technical Advisory Panels (TAPs) served a useful function by providing for project monitoring and strategy guidance. SACCAR is promoting this body as well as commodity specific steering committees as vehicles and channels for regional and national coordination. Through this kind of networking, SACCAR has been able to identify effectively areas of priority in research and training which are of regional and national importance and interest. The involvement of national scientists in setting these priorities and developing strategies for action have ensured that all or most Member States do benefit from the projects developed. The concept of networking though complicated is a good one and can be effective if extended to other SADCC sub-sectors. The Center has provided a focal point and forum for reviewing national programs as originally conceived in the Project Paper.

The evaluation team felt that much more effort during the remaining Life of Project (LOP) should be given to development of mid and long-term planning and strategy development. Formalization of operational guide lines and delegation of more coordination responsibilities to national collaborators needs to be made. The evaluation team feels the institutionalization of a system for the development of yearly workplans and budgets by regional sub-projects for SACCAR approval is of the highest priority. The team also strongly

felt that the Sociological, Cultural and Impact Project be reconsidered for funding. The team was extremely critical of the lack of signed Memorandum of Understandings (MOUs) between EAs and SACCAR and the evaluators wish to emphasize that donors must play the key role in bringing these two parties together. In this regard, donors should be encouraged to hold joint annual meetings, as required of AID in its Project Agreement, in order to review SACCAR annual work plans and budgets and be in a better position to adjust support and assist in other ways as needed or required.

The evaluation team was highly complementary of the Center, its staff and accomplishments and fully endorses further donor commitment to this program and its projects. Member States are to be congratulated and encouraged in their efforts to support the operational costs of SACCAR and promote its sustainability as their regional coordinator and service organization.

LESSONS LEARNED

A. Project Design Implications:

1. A formal and uniform regional coordinating system is necessary to efficiently and effectively coordinate and control both the activities of donors and EAs as well as those of national systems.
2. SACCAR should concentrate on developing a strong effective coordinating structure based on utilizing national staff and resources to the greatest possible extent. SACCAR should not become an operational organization which is seen to compete with national systems for resources.
3. Donors can beneficially respect and support the coordinating role of SACCAR because of better designed, cooperation and controlled project activities.
4. The use of EAs has been positive and welcomed. However many national technical support services are approaching the stage when they could effectively take responsibility for "executing" projects on behalf of the region.
5. The size of individual regional operations should be scaled down over time to a level where they can be absorbed and supported within national systems and institutions.

B. Broad Action Implications:

1. Strong support in all member countries for cooperation on scientific and technical matters related to natural resources.
2. Exchanges to include networking among members of institutions and agencies has produced a spirit of cooperation and cohesiveness
as individuals in member countries get to know each other and develop a sense of ownership of SACCAR.
3. Realization by member states that they have greater control and influence over donor assistance if there is cohesiveness and unity.
4. Concerted efforts to coordinate activities has gained respect and support of donors - advantages due to defined priorities, avoidance of duplication and economies of scale.
5. Cooperation and coordination must be based on strengthening national capabilities so that they can contribute on the one hand, use assistance effectively on the other.
6. A coordinated cooperative approach has led to better definition of priority needs and directing of assistance to areas of greatest need.

It is interesting to note the conditions suggested to USAID, in the World Bank's recent Managing Agriculture Development in Africa Report series No. 13, for continuing support to projects in Sub-Sahara Africa. SACCAR seems to meet these funding qualifications quite nicely:

1. Research by African scientists on many aspects of agriculture and rural development including: natural resources, energy, environment, population and health.
2. Workshops, publications, travel networks, mid-career and in-service training to maintain performance, competence and morale.
3. Policy relevant applied research and the inter-change of information between political leaders, administrators and African technical experts to inform government decisions and institutionalize the process of technically informed dissent.

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

Full 99 page Report, plus Eight (8) Annexes

1. SACCAR Evaluation Scope of Work
2. Acronyms
3. Evaluation Agenda
4. Persons Interviewed
5. SACCAR's Program of Action
6. Staff Time Allocation
7. Publications & Training Materials
8. Summary of Sub-Projects of the Sector of Agricultural Research & Training of SADCC

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

This SACCAR Evaluation represents a thorough and extensive review of a very effective regional institution, SACCAR. USAID/Botswana endorses this report and is generally supportive of all recommendations. The composition and approach of the Evaluation team was outstanding and reflected the international/regional nature of SACCAR itself.

Current AID funding ($1.5 million) represents only 28% of all contributions to SACCAR to date. The very nature of international cooperation and support to SACCAR also reflects positively on the institution, and its assured future contributions to interregional cooperation in agricultural research and extension. The USAID Mission to Botswana hopes that SADCC (the Parent Coordinating Institution), SACCAR, all member nations and all donors will find this evaluation of value, and will actively assist SACCAR in successfully achieving all of its objectives and goals.

9

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REGIONAL AGRICULTURAL RESEARCH COORDINATION PROJECT NUMBER 690-0225

SACCAR INTERIM EVALUATION (Revised Version 10/24/88)

September 1988

REGIONAL AGRICULTURAL RESEARCH COORDINATION

PROJECT NUMBER 690-0225

SACCAR

INTERIM EVALUATION

(Revised Version 10/24/88)

SEPTEMBER 1988

OUTLINE OF BASIC PROJECT IDENTIFICATION DATA

1. Country: Southern Africa Regional

2. Project Title: Regional Agricultural Research Coordination

3. Project Number: 690-0225

4. Project Dates:
   (a) First Project Agreement: September 27, 1984
   (b) Final Obligation Date: April 1, 1990
   (c) Most recent Project Assistance Completion Date: April 1, 1990

5. Project Funding: (amounts obligated to date in dollars or dollar equivalent from the following sources):

(a) A.I.D. Regional Funding (grant)	U.S.$	1,500,000.00
(b) CIDA Canada		1,500,000.00
(c) NORAD		1,500,000.00
(d) SAREC		600,000.00
(e) SADCC		200,000.00
Total	U.S.$	5,300,000.00

6. Mode of Implementation: A.I.D. Direct Contractor - Grantee (Southern African Centre for Cooperation in Agricultural Research via The Government of Botswana)

7. Project Designers: USAID in Collaboration with CIDA, IDRC, and EMBRAPA

8. Responsible Mission Officials: (Redelegation as of 1987)
   (a) Mission Director: Director, USAID/Botswana
   (b) Project Officers: Agriculture and Natural Resources Development Officer, USAID/Botswana
   A/NR Development Officer, USAID/Zimbabwe
   Director, SACCAR Botswana

9. Previous Evaluation(s): N/A

TABLE OF CONTENTS
SACCAR INTERIM EVALUATION

	Page No.
EXECUTIVE SUMMARY:	i
I. BACKGROUND TO PROJECT EVALUATION	
A. Project Objectives, Modifications and Refinements	1
B. SACCAR Revised Activities	2
C. Project Setting	3
D. Scope of Work and Methodology for this Evaluation.	3
II. PROJECT ACTIVITIES AND COMPONENTS	
A. Comparison of Project Achievements with SACCAR's Original Objectives (Inputs/Outputs)	6
B. SACCAR's Role in SADCC	8
C. SACCAR Organization	9
D. SACCAR Regional Research Coordination Activities	
1. Promotion and Coordination of Agricultural Research	12
2. Technology Development, Dissemination and Farmer Adoption	19
E. SACCAR Regional Training Activities	
1. Workshops, Seminars and Short courses	37
2. Strengthening Agricultural Universities	41
3. Graduate Level Training	46
F. Networking Coordination	
1. Information Data Bases	50
2. Documentation and Publications	52
3. Coordination of Commodity Research Program	53
4. University Collaboration	54
G. Institutionalization of the Center and Generation of Additional Resources	58
H. Sociological Dimensions	64
III. PROJECT MANAGEMENT	
A. SACCAR Coordination	70
B. Sub-Project Administration	71
C. Project Planning	74
D. USAID Management	75
E. SADCC Management	76
IV. FINANCIAL MANAGEMENT AND CONTROL	
A. Accounting and Financial Records	78
B. Budgets	79
C. Audits	80
D. Member States and Other Donors Contributions	81

Page No.

V. CONSTRUCTION AND CAPITAL PROJECTS
A. SACCAR Office Block 83
B. Staff Houses 83
C. Equipment and Vehicle Purchases 83

VI. LESSONS LEARNED 85

VII. EXPANDED LIST OF RECOMMENDATIONS
A. SACCAR Coordination Activities 87
o Research Coordination 87
o Technology Department 88
o Special Studies and Grants 88

B. Operation of Regional Research Projects 89

C. SACCAR Training and Manpower Development 89
o Workshops, Seminars and Short Courses 89
o Strengthening Agricultural Universities 90
o Graduate Training 92

D. Networking Coordination 93
E. Institutionalization of the Center 94
F. Sociological Dimensions 97
G. Project Management 97
o SACCAR Coordination 97
o Sub-Project Administration 98
o Regional Project Planning 99
o USAID and Donor Management 99
o SADCC/SACCAR Management 99

H. Financial Management 100
o Accounting and Financial Records 100
o Budgets 100
o Audits 100
o Member States Contribution 101

I. Construction and Capital Projects 101

ANNEXES

Annex 1 Issues Included in Scope of Work
Annex 2 Acronyms
Annex 3 Itinerary for Evaluation Team
Annex 4 Persons and Institutions Interviewed
Annex 5 Organizational Charts
Annex 6 Staff Time Allocations
Annex 7 Training Materials and Publications
Annex 8 Sub-Projects
Annex 9 SACCAR Comments

EXECUTIVE SUMMARY

AGENCY FOR INTERNATIONAL DEVELOPMENT
BOTSWANA MISSION

INTERIM EVALUATION OF THE SOUTHERN AFRICAN CENTRE FOR COOPERATION IN AGRICULTURE RESEARCH - SACCAR

SEPTEMBER 1988

PURPOSE OF PROJECT ACTIVITY

A collaborative Interim Evaluation of the Southern African Centre for Cooperation in Agricultural Research (SACCAR) program was successfully conducted by a six person team consisting of Member State agricultural specialists from Botswana, Lesotho, and Swaziland together with donor representatives from CIDA Harare, USAID Botswana and REDSO/ESA Nairobi. AID supports and assists SACCAR, a five year, five million dollar jointly designed regional agriculture and natural resource research and training coordination project that is co-financed with the Canadian International Development Agency (CIDA), International Development Research Centre (IDRC), Swedish Agency for Research Cooperation with Developing Countries (SAREC), Norwegian Overseas Agency for Development (NORAD) and Southern African Development Coordination Conference (SADCC).

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The purpose of the Regional Agricultural Research Coordination Project is to assist in the establishment of an institution which serves as a focal point for cooperation in the region and coordination of activities in agricultural research, natural resources and manpower development among the SADCC Member States. SACCAR's strategy has been to provide a continuous forum for national agricultural planners, professoriat, researchers, managers and administrators. This forum, clearly one of the most successful elements of the project, has helped key personnel work together, has provided access to information and technical assistance for research and is providing graduate level training and educational opportunities for appropriate personnel working in the Agricultural and Natural Resources Sector in the nine Member States.

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(3) Workshops, Training and Networking - The project has sponsored ten workshops providing over 315 person weeks of in-service training, five new regional projects have resulted from these events. In addition to formal training, Technical Advisory Panels and Steering Committee activities have also provided opportunities for scientific linkage establishment and network development.

(4) Information, Documentation and Publications - As a key element in networking and information exchange, SACCAR is actively involved in production of newsletters, workshop proceedings, special papers and in publication of a regional research journal. SACCAR's research and manpower development data systems, installed as internal management tools, can also provide limited services to Member States.

(5) Grants and Special Studies - Twenty three travel grants have been awarded since the inception of SACCAR, 28 research grants and 4 special studies were also funded during the past three years.

(6) Graduate Level Manpower Development - Programs in Agriculture Research and Manpower Training and Strengthening Faculties of Agriculture and Natural Resources are now in operation, these together with SADCC regional research programs will train over 100 degree students during the LOP.

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PURPOSE OF THE EVALUATION

The project evaluation plan called for a collaborative interim review with three objectives. First, review the effectiveness of policies, systems, procedures and long-term strategies established thus far and recommend mid-course correction, as necessary. Secondly, assess the adequacy of staff in relation to work load, annual work plans, service requests and the manner of their execution and ways to streamline them, as appropriate.

Thirdly, consider the amount and extent of direct and indirect financial contributions of SADCC Member States to the general operating costs of SACCAR in terms of institutionalization and sustainability.

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The SACCAR headquarters is located in newly constructed facilities at the GOB's Sebele Agricultural Research Station outside Gaborone, the capital of Botswana. The technical and administrative staff live on the same station and service the other eight member countries from Botswana, also the country assigned responsibility for coordination of agricultural research for the SADDC region.

FINDINGS AND CONCLUSIONS

The interim evaluation of the SACCAR program concluded that the project is being well implemented and that its assistance and coordination is contributing to strengthening national agriculture and natural resource research and training institutions. The networking activities of SACCAR through its workshops, seminars and steering committees were universally praised by administrators and technicians alike. Participants involved in in-country training programs and graduates of regional workshops spoke highly of their experiences and of the contacts and linkages they had established with other scientists and technicians in the region as a result of these networking programs. Similarly the graduate training and

manpower development programs were highly regarded, both those directly funded by SACCAR and those coordinated through its regional sub-projects. EAs for the regional sub-projects felt that the Technical Advisory Panels (TAPs) served a useful function by providing for project monitoring and strategy guidance. SACCAR is promoting this body as well as commodity specific steering committees as vehicles and channels for regional and national coordination. Through this kind of networking, SACCAR has been able to identify effectively areas of priority in research and training which are of regional and national importance and interest. The involvement of national scientists in setting these priorities and developing strategies for action have ensured that all or most Member States do benefit from the projects developed. The concept of networking though complicated is a good one and can be effective if extended to other SADCC sub-sectors. The Center has provided a focal point and forum for reviewing national programs as originally conceived in the Project Paper.

The evaluation team felt that much more effort during the remaining Life of Project (LOP) should be given to mid- and long-term planning and strategy development. Formalization of operational guidelines and delegation of more coordination responsibilities to national collaborators needs to be made. The evaluation team feels the institutionalization of a system for the development of yearly workplans and budgets by regional sub-projects for SACCAR approval is of the highest priority. The team also strongly felt that the Sociological, Cultural and Impact Project be reconsidered for funding.

The team was extremely critical of the lack of signed Memorandum of Understandings (MOUs) between EAs and SACCAR and the evaluators wish to emphasize that donors must play the key role in bringing these two parties together. In this regard, donors should be encouraged to hold joint annual meetings, as required of AID in its Project Agreement, in order to review SACCAR annual work plans and budgets and be in a better position to adjust support and assist in other ways as needed or required.

The evaluation team was highly complementary of the Center, its staff and accomplishments and fully endorses further donor commitmentto this program and its projects. Member States are to be congratulated and encouraged in their efforts to support the operational costs of SACCAR and promote its sustainability as their regional coordinator and service organization.

It is interesting to note the conditions suggested to USAID, in the World Bank's recent Managing Agriculture Development in Africa Report series No. 13, for continuing support to projects in Sub-Sahara Africa. SACCAR seems to meet these funding qualifications quite nicely:

1. Research by African scientists on many aspects of agriculture and rural development including: natural resources, energy, environment, population and health.

2. Workshops, publications, travel, networks, mid-career and in-service training to maintain performance, competence and morale.

3. Policy relevant applied research and the interchange of information between political leaders, administrators and African technical experts to inform government decision makers and institutionalize the process of technically informed dissent.

RECOMMENDATIONS

The team makes a number of specific recommendations in the text of this document which are outlined in Section VII. The major recommendations are enumerated here.

Mandate

1. Concentrate on Coordination role:

a. formalization of coordination committees

b. integrate with national systems

c. assign planning and coordination to nationalworking groups

d. establish project management system as a coordinating tool

e. use nationals to operate the coordinating system

f. reduce operational involvements in direct project management, publications, library and information center.

2. Expand mandate to include a coordination structure for human resource development for agriculture and natural resources:

a. establish coordinating committee structure

b. develop long- and short-term plans

c. prepare project proposals for donors

d. integrate IARCs into long-term regional training plan

e. establish regional accreditation and articulation structure.

3. Expand mandate and responsibilities to include extension linkages:

a. seek expanded mandate from Committee of Ministers

b. establish coordinating committee structure

c. develop regional masterplan to include all sub-projects

d. propose linkage and SMS training projects for donor support.

Management and Administration

1. Concentrate on coordination system for management of regional research, training and extension linkages:

a. develop regionally consistent project management systems

b. assist with strengthening of national coordination systems

c. establish a regional project system and data base

d. develop operational and financial accounting systems which include donor and national system contributions

e. establish consistent and formal process for project planning, approval and reporting.

2. Establish management and administration procedures for regional sub-projects:

a. standardized MOU for all projects

b. establish long- and short-term workplans for projects

c. include budgets

d. require annual workplan presentation to and approval by SACCAR Board, Donors and EAs

e. require signed MOUs (EA, SACCAR, host country and donors) before projects are implemented

f. assign management of regional projects to host or regional center National Agricultural Research Systems (NARS).

3. Reorganize Administration of SACCAR:

a. delegate to present staff three coordinating officer positions - research, training and extension linkage

b. appoint deputy director to develop policies and programs

c. organize administration on services basis - office, accounting, information, publishing

d. assign operational responsibility for maintaining information systems, publishing, literature search services, information archiving, library services and other similar operational roles to national institutions (NARS, universities, libraries)

e. provide assistance for obtaining donor support where required

f. timeliness of SACCAR workshop's publications needs to be given special effort.

Donors

1. Hold annual donors' meeting.

2. Support signing of MOUs among EAs, SACCAR, donors and participating countries.

3. Participate to the greatest possible extent in SACCAR board meetings and sub-project management oversight.

4. Direct research, training and extension assistance to countries of SADCC region only through SACCAR.

5. Consider a two year no-cost extension of SACCAR and delay the next formal evaluation at least one year.

LESSONS LEARNED

1. There is strong support in all member countries for cooperation on scientific and technical matters related to natural resources.

2. Exchanges, including networking among members of institutions and agencies, have produced a spirit of cooperation and cohesiveness as individuals in member countries get to know each other and develop a sense of ownership of SACCAR.

3. Member States have realized that they have greater control and influence over donor assistance when there is cohesiveness and unity.

4. Concerted efforts to coordinate activities have gained respect and support of donors - positive advantages due to defined priorities, avoidance of duplication and economies of scale.

5. Cooperation and coordination must be based on strengthening national capabilities so that they can contribute on the one hand and use assistance effectively on the other.

6. A coordinated cooperative approach has led to a better definition of priority needs and directing of assistance to areas of greatest need.

7. A formal and uniform regional coordinating system is necessary to efficiently and effectively coordinate and control both the activities of donors and EAs as well as those of national systems.

8. SACCAR should concentrate on developing a strong effective coordinating structure based on utilizing national staff and resources to the greatest possible extent. SACCAR should not become an operational organization which is seen to compete with national systems for resources.

9. Donors can benefit from respecting and supporting the coordinating role of SACCAR to assure better designed, cooperation and controlled project activities.

10. The use of EAs has been positive and welcomed. However many national technical support services are approaching the stage when they could effectively take responsibility for "executing" projects on behalf of the region.

11. The size of individual regional sub-projects should be scaled down overtime to a level where they can be absorbed and supported within national systems and institutions.

I. BACKGROUND TO PROJECT EVALUATION

A. Project Objectives, Modifications and Refinements

In 1980 the SADCC was formed as an economic and technical cooperation body to foster mutual development in the key sectors of agriculture, communications, industry, transport and other fields and to reduce Member States' dependence on external economic and political factors. Member countries are Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. Activities for mutual development and reduced dependence were allocated to individual countries. Botswana was chosen to help facilitate the coordination of agricultural and natural resources research and training efforts in the region.

Subsequently SADCC approved the formation of SACCAR. Requests for support for SACCAR were made to the donor community at the annual SADCC/Donors meeting, in Lusaka, in late January of 1984. The 5.3 million dollar project being evaluated, Cooperation in Agricultural Research, was initiated in 1984 and is jointly funded by CIDA, SAREC, NORAD, SADCC and the U.S. Agency for International Development USAID.

The primary goal or objective of the project is to improve agricultural research systems in the region, leading to more effective land use, improved agricultural productivity, and growth in farmer income. The purpose of both SACCAR and the project is to establish an institution which serves as a focal point for regional cooperation and coordination of activities in agricultural research and training among SADCC members. The strategy used is to provide a continuous forum for national agriculture planners, researchers, professoriate and administrators.

The project was modified in a major way when the Council of Ministers assigned responsibility for coordinating manpower development and training in the Agriculture and Natural Resources sector to SACCAR in 1987.

B. SACCAR Revised Activities

SACCAR was established in 1985 to coordinate regional efforts in the field of agricultural research and teaching, with the following objectives:

- o strengthening national agricultural research systems and capabilities;

- o promotion, rapid and continuous provision, interchange and utilization of scientific and technical information;

- o the generation of new technologies needed by farmers to raise the productivity of food and non-food crops, livestock, fisheries and forestry through regional collaborative projects and inter-country liaison;

- o the promotion and dissemination of available technology;

- o the promotion and development of human resources necessary to man the agricultural research systems;

- o the promotion and implementation of studies of problems common to all or to several Member States and the initiation of cooperative research to overcome them; and

- o provision of such regional supportive services and functions as may be necessary to assist and inform national and regional research activities.

In February, of 1987, the SADCC Ministers added to the responsibilities of SACCAR by including manpower development and training for all seven subsectors within the Food, Agriculture and Natural Resources Sector. At that same meeting it was decided to further widen the original SACCAR mandate to treat cash crops on the same basis as food crops.

C. Project Setting

SADCC is primarily an economic grouping that resulted from the 1980 Lusaka Summit meeting where the nine Member States declared their commitment "to pursue policies aimed at economic liberation and integrated development of national economies". SADCC programs and projects are focused in the following sectors: Energy Conservation and Development, Food/Agriculture and Natural Resources, Industry and Trade, Manpower Development, Mining, Tourism, Transport and Communications. SADCC's food and agriculture programs are designed towards regional food security through increased production and to raise farmer income levels. SACCAR, based in Botswana, is the sector coordinator for programs in Agriculture Research and Manpower Development.

SACCAR has sought to address in its programs the recurrent regional problems of low crop and animal productivity, inefficient use of land resources, economic shortfalls, and erosion of the natural resource base. Efforts to improve performance in the agriculture and natural resource sector have involved focusing regional and national projects, or programs, in research, extension, training, and institutional development on identified constraints to production.

D. Scope of Work and Methodology for this Evaluation

The detailed scope of work for the interim evaluation is presented in Annex No. 1. The purpose of the evaluation was to: (i) review the effectiveness of SACCAR policies, systems, procedures and long-term strategies established thus far and recommend mid-course corrections, as necessary; (ii) assess the adequacy of staff in relation to internal work load, and to service requests and the manner of their execution; and (iii) in terms of institutionalization and sustainability consider the amount and extent of direct and indirect financial contributions of SADCC Member States to the general operating costs of SACCAR.

The evaluation took place from 28 August through 16 September, 1988. The evaluation team was composed of Dr. L. Setshwaelo

(SADCC, Botswana), Mrs. T. Matobo (SADCC, Lesotho), Dr. J. Pali Shikulu (SADCC, Swaziland), Dr. J.S. Clark (CIDA, Harare), Mr. P.A. Daly (USAID, Gaborone) and Mr. R. McColaugh (REDSO/ESA, Nairobi).

The evaluation team reviewed project documents, met with SADCC and SACCAR staff, and visited sub-project locations in Zimbabwe and Botswana. Discussions were held with donor representatives, study and research grantees, Member States' research and extension organizations and collaborating universities.

The team was asked to address a wide range of issues, derived from three sources: (i) the evaluation scope of work (Section Four, Statement of Work) listed seven "study areas" and seven "key issues" to be considered in the evaluation; (ii) the Grant Agreement Evaluation Plan; (iii) the Project Paper and SACCAR documentation. Issues proposed in these sources addressed common concerns and for the purpose of introducing this evaluation can be summarized in the following items:

1. Evaluate the overall management, administrative and technical capabilities of SACCAR to establish and maintain the necessary policies, systems, and procedures of an effective regional coordination center.

2. Determine if project inputs are creating the organizational capability to provide regional leadership and to service the following activities:

- Promotion and Coordination of Agricultural Research
- Workshops and Training
- Documentation and Publication
- Information and Data System Development and Maintenance
- Grants and Special Studies
- Graduate Level Manpower Development, and
- Strengthening Faculties of Agriculture, Forestry and Veterinary Medicine

3. Conduct an initial assessment of the impact of identified direct project outputs, on the institutionalization of SACCAR

and on the improvement of research coordination and cooperation in the SADCC region.

4. Assess the role and extent of SACCAR involvement in generating additional resource allocations for the institutionalization of the Center and for its regional research initiatives and training projects.

5 Review the several regional baseline inventories, data banks, and internal monitoring system that were to be developed or maintained by the project and determine what uses are being made of these by SACCAR and by Member States.

6. Determine if the role and actual Mandate of SACCAR as the coordinator of regional programs are still valid and clearly understood by research projects operating in the SADCC region. Enumerate those that have signed a Memorandum of Agreement with SACCAR, those that have not, and major reasons for non signatories.

7. Assess if the inclusion of strengthening Agricultural Universities, graduate level manpower development and cash crops into the program will necessitate project changes or Grant amendments.

8. Determine if the donors are receiving the information and data they require for internal reporting and fiscal management needs.

II. PROJECT ACTIVITIES AND COMPONENTS

A. Comparison of Project Achievements with SACCAR's Original Objectives (Inputs/Outputs)

The Project Paper, the AID Grant Agreement, and the SADCC multi-donor SACCAR establishment project Regional Agricultural Research Coordination present the following goals, purposes, and outputs to be achieved during the first, five year, phase of the program.

Goal: To improve and develop agriculture research systems and human resources in the region in order to lead to more effective land use, improved agricultural productivity, and enhanced growth of farmer income.

Purposes: To establish an institution which serves as a focal point for cooperation in the region and coordination of activities in agricultural research among SADCC members. The strategy used is to provide a continuous forum for national agriculture planners, researchers, and administrators.

Project Outputs: The program is expected to make significant contributions to improved agricultural research practices, reductions in redundant research efforts, improved relevance of research, better utilization of local and limited resources for research, increased regional interest in research efforts, and ultimately improved crop, agroforestry and livestock production throughout the SADCC countries.

1. Five Principal Project Activities

Program results, directly linked to inputs provided through donor assistance, can be grouped by project activity under these general headings, which also served as a basis for evaluation quantification.

- Promotion of Coordination in Agricultural Research
- Workshops and Training

- Documentation and Publications
- Grants and Special Studies
- Graduate Level Manpower Development

Promotion of Coordination in Agricultural Research: Activities are divided into assistance to promote coordination within each member country, coordination between member countries, linkages with other research organizations, universities and donors, and identification of areas of special attention for cooperation. The areas of special attention include maintenance of inventory of the research capacity of member countries, natural resource and ecological information, and new regional research initiatives.

Workshops and Training: Support is provided to promote and sponsor workshops, seminars and conferences. These gatherings are expected to fulfill specific training needs for agricultural research systems, address common and high priority agricultural research problems, serve as a mechanism for enhancing multi-disciplinary approaches, and help compile and synthesize information on priority topics.

Documentation and Publications: Funds are available for an annual update of the inventory on national and regional research programs, a regional newsletter, agricultural research data systems, an agricultural research journal, and publication of special SACCAR papers and seminar reports.

Grants and Special Studies: The multi-donor program will provide assistance for small research grants, regional travel grants and funding for special studies and consultancies. These activities are to help promote coordination in agricultural research and assist in career development of junior and mid-level scientists, as well as provide valuable agricultural research.

Graduate Level Manpower Development: Efforts are being made to develop projects and programs aimed at training, especially at the post-graduate level, and strengthening faculties of agriculture, forestry and veterinary medicine so that they may share facilities and avoid duplication. It has been agreed to nominate individual

faculties as specialized regional post-graduate centers providing training in basic agricultural subjects, to train their own nationals and students from other SADCC member states on a scholarship basis.

2. Project Status and Progress

In following sections of this document the present status and progress of these goals, purposes, outputs, major activities and other project support functions are discussed in detail.

II.B SACCAR's Role in SADCC

The basis for the regional economic programs of the Southern Africa Development Coordination Conference stem from the 1980 Lusaka Declaration. At that point the Heads of State ratified the key sectors covered in the declaration, those of Food and Agriculture, Industry, Manpower Development and Energy. Further, they identified Transport and Communication as their main priority. At present SADCC programs of economic action and regional development projects can be found in the following sectors:

- Energy Conservation and Development
  Coordinated by Angola
- Food, Agriculture and Natural Resources
  Coordinated by Zimbabwe
- Industry and Trade
  Coordinated by Tanzania
- Manpower Development
  Coordinated by Swaziland
- Mining
  Coordinated by Zambia
- Tourism
  Coordinated by Lesotho
- Transport and Communications
  Coordinated by Mozambique

The Food, Agriculture and Natural Resource sector is viewed as key to regional food security, employment and income generation through increased production of food and cash crops. Additionally, SADCC is

quite interested in full exploitation of its natural resource base, but in a manner that safeguards ecosystems and protects the overall environment.

Considerable attention and resources have been allocated to the Agricultural sector. For ease of management and for fuller participation of Member States in the implementation of SADCC regional programs the sector has been subdivided by topics with country coordinators appointed as follows:

- o Overall Sector Coordination - Zimbabwe
- o Agriculture and Natural Resource Research, Training and Manpower Development - Botswana
- o Fisheries, Forestry and Wildlife - Malawi
- o Food Security - Zimbabwe
- o Livestock Production and Animal Disease Control - Botswana
- o Soil and Water Conservation and Land Use - Lesotho

II.C. SACCAR's Organization

The SADCC Council of Ministers approved the formation of SACCAR based upon the recommendations of a report and project proposal titled Cooperation in Agricultural Research written in 1983 by the International Agricultural Development Services Inc. which was financed by USAID/Zimbabwe. A MOU establishing SACCAR was drawn up stating the goals, objectives and functions of the organization giving it legal status as a non-profit inter-governmental organization with headquarters in Botswana at the Sebele Agricultural Research Station. SACCAR was initially headed with an interim Director, Dr. Howard Steppler. In 1985 he was succeeded by the present Director, Dr. Martin Kyomo. The initial emphasis of the Center was the coordination of agricultural research among the Member States, with an emphasis on food crops and on regional manpower and training resources in agricultural research. The manpower and training mandate was changed in 1987, by the Council of Ministers, to include all sub-sectors within the Food, Agriculture and Natural Resources sector, and to include research on cash crops.

The Council of Ministers, in line with SACCAR mandate approved four senior staff positions to assist the Director carry out his coordinating role and functions. Three have been filled these are a Manpower and Training Officer, a Documentation and Information Officer and a Finance and Administrative Officer. These positions were staffed regionally, but not until 1987. The Project Officer position is still open. The MOU that established SACCAR also names a Deputy Director's position, not yet nominated. In addition to secretaries, typists, office orderlies, general workers and drivers SACCAR has two senior advisors in Information Sciences (IDRC supported) and Manpower and Training (USAID supported) for a total of thirteen positions.

SACCAR is responsible to a Board of Governors for approval of its activities and programs. The Board is composed of the Directors of Agricultural Research from the Member States and three Governors from among the Deans of the Faculties of Agriculture and two Extension Service Directors. The Director of SACCAR is an ex-officio member of the Board and serves as the Secretary to the Board of Governors. The Board is required to report annually to the committee of Ministers of Agriculture and Natural Resources.

It is the view of AID, CIDA, NORAD and SIDA that SACCAR has contributed in a major way to the objectives of SADCC in respect to the Agriculture Food and Natural Resources Sector. SACCAR has functioned actively as the secretariat for the SACCAR Board which has been changed with the coordination of sector activities in research and manpower development.

The program and activities developed and implemented by SACCAR staff have resulted in the creation of a spirit of cooperation among the NARS directors and scientists and of the Deans and teaching staff of Faculties of Agriculture, Forestry and Veterinary Medicine in the SADCC region.

This program to date has, besides regular and special Board meeting, consisted of workshops and special study groups brought together to establish priorities for research and training on a regional basis. An effective coordination of activities has been achieved which has

contributed to more effective use of resources, including donor support.

Perhaps a major reason for the successful level of coordination that has been realized is the finances made available to the SACCAR coordinating unit to staff and operate the sector support center. A major part of the funding for all aspects of center has been supplied by donors to this date. It is considered that an adequate level of financial support and the center's independent administrative structure have enabled it to function in this effective way.

SACCAR (and its executive body the Board) has thus been able to establish a coordinated and cohesive approach to agriculture and natural resources research and sector manpower development among the Member States of SADCC.

II.D. SACCAR Regional Research Coordination Activities

1. Promotion and Coordination of Agricultural Research Description of Activities

1.1 Regional Research Coordination

The regional coordination of research and the encouragement of cooperation among the national agricultural research systems is the primary purpose underlying the establishment of SACCAR. The objectives assigned to the center at its establishment were:

(a) - to promote cooperation in agricultural research among the national agricultural research systems of the Member States;

(b) - to facilitate the exchange of information among the national research systems;

(c) - to promote the development of the human resources necessary to man the agricultural research systems; and

(d) - to promote coordination of SADCC agricultural research activities.

These objectives were to be achieved by undertaking a number of activities and these were to include:

(a) - maintenance of up-to-date information on the agricultural research, training and extension resources in the SADCC region;

(b) - the promotion and/or publication of research materials;

(c) - the convening of workshops, seminars and meetings on topics of central concern;

(d) - the promotion of training both within and outside the research programs of the various national agricultural

research systems, in consultation with the Member State responsible for coordinating manpower;

(e) - the promotion of effective use of research agencies external to the SADCC countries;

(f) - the coordination of the work of donors in support of agricultural research cum technology generation within the region;

(g) - identification of regional research programs, negotiating their funding and appointing executing agencies. Control of such programs is vested in SACCAR, which is responsible for monitoring and reporting on their progress and direction to SADCC through the GOB.

In setting forth these activities it was specifically stated that SACCAR will not engage in research per se except that which relates directly to its objectives.

SACCAR became operational in 1985-1986 and the activities that have been undertaken to further its objectives have included:

(a) - serving as the Secretariat for the SACCAR Board which is comprised of the national directors of research in the region, and of representatives from the faculties of agriculture and (according to SACCAR) extension agencies;

(b) - installation of a computerized databank on the agricultural research resources in the region (Agricultural Research Resource Assessment, ARRA);

(c) - the collection and cataloguing of documents on agricultural research policies, planning and feasibility studies and other material related to research in the region;

(d) - publishing information on research which has included a newsletter but will also involve assuming responsibility for the publication of a regional journal of agricultural research;

(e) - sponsoring workshops and seminars on a number of topics including various research priorities and, means of meeting the technical manpower requirements for the region;

(f) - undertaking feasibility studies to plan regional research and training projects;

(g) - participating in international and regional conferences, visiting scientific establishments in other countries in order to promote assistance or benefit from their experience;

(h) - coordinating regional research projects which now include sorghum and millet, grain legume, agroforestry, crops and forest seeds genebank and soil and water management projects;

(i) - sponsoring travel and study grants provides the center with additional means of supporting scientific exchange and cooperation as well as priority research needs for the region.

Achievements in Relation to Coordination Objectives

The center has had an active program since its formal inception. In 1986/87 for example its research coordinating activities included:

(a) - sponsoring and organizing four regional workshops on research and professional development;

(b) - publishing two newsletters;

(c) - participating in eight regional and international conferences;

(d) - coordinating the work of five regional research projects;

(e) - providing secretarial and other supporting services for SACCAR Board and for regional ministers meetings;

(f) - developing and maintaining the regional research information system;

(g) - supporting travel and research awards.

An even more ambitious program of activities is being undertaken in the current year. This has been done even though the center has not attained its planned complement of officer level staff. Thus it is clear that the center has had to fulfill a demanding number of responsibilities. Under current circumstances the center's Director has had to be involved directly in most of these coordinating functions.

In spite of the fact that the capacity of the center has been severely strained to carry out these responsibilities a great deal of progress has been made. The primary achievements of this effort have been to:

(a) - establish a cohesive and effective working cooperation among the national directors of agricultural research and the deans of agriculture, forestry and veterinary medicine;

(b) - provide recommendations and advice to ministers of agriculture on regional research priorities;

(c) - bring about the acceptance in principle of a regional approach to the manpower development and training needs of the natural resources sector;

(d) - develop the framework for a regional information capability for research activities and manpower in the region;

(e) - serve as a focal point for donor research support in the region. In this regard a total of over U.S. $60 million has been pledged for regional research projects over the current five year period through the SADCC system.

SACCAR, its staff and particularly its Director have gained a great deal of respect in the region. Perhaps the center's most important

achievement has been to establish a spirit of goodwill and cooperation among the national directors of research in the Member States and the Faculties of Agriculture, Forestry and Veterinary Medicine. This cooperative attitude is an essential base for establishing a functional system for regional coordination. The Board of SACCAR has itself served as the venue for achieving this cohesiveness and cooperation among the National Directors of Research and the Deans. The regional research projects have provided a working situation for developing regional coordinating structures both at a technical and strategic level.

Furthermore both regionally and internationally SACCAR is perceived to have represented the agricultural research interests of the SADCC region well to the international scientific community and to donors. Consequently it is foreseen that an increasing proportion of funding for research will be channeled by donors through the SADCC regional system. The reasons for this trend is the perception that SACCAR can serve to define regional research priorities and that coordination of research on a regional basis will serve to reduce duplication and costly competition for leadership roles and resources and achieve economies of scale.

It is recognized that SACCAR has emerged as one of the two regional sector coordinating bodies that has been formally institutionalized with a charter, independent financial support and its own facilities. It is considered that this institutionalization has contributed in large measure to the operational success of the center. On the other hand the regional research coordinating role itself has not been fully structured or formalized; it has been led by the Director and based up to the present on an informal network among the senior national research coordinators, and arises from the involvement of national research directors and others as members of the Board of Directors for the Center. For this reason the coordinating role has been primarily related to research on those commodities (sorghum, millet, beans, ground nuts etc.) and activities (soil and water management, regional genebank etc) being dealt with under funded regional projects. The regional workshops supported by the projects are an integral part of the new and developing coordination arrangements.

It is the assessment of the evaluation team that the benefits in terms of efficiencies and economies to be derived from effectively coordinated regional agricultural research and other services make an attractively supportable function. Furthermore a carefully structured SACCAR project management and coordinating system will be essential if research and other agricultural service activities are to be managed and operated regionally on a integrated basis.

By virtue of the fact that it has served at the focal point for attracting donor support for regional research projects, SACCAR's active research coordinating role has been restricted largely to those commodity or activity areas involved in the various regional projects. These have involved mainly sorghum and millet and beans as these projects are organized on a regional project model and include the nine Member States. As well funding includes provision for regional coordinating workshops and provide the means for SACCAR to carry out its coordinating function.

It would appear advantageous, in the near-term, to extend the coordinating support role of SACCAR to include all agricultural research in the region so that it can serve effectively to focus research effort on those areas that will prove of greatest benefit to the Member States.

Analysis Recommendations: Research Coordination

It is the opinion of the evaluation team that the coordination of agricultural research and development as well as the associated activities (human resource development, extension and information) is the most important function for SACCAR. To undertake this task effectively the center will require some kind of formal mandate from the national agricultural research services (NARS) and the required resources (primarily staff). It is also considered that SACCAR should avoid undertaking those kinds of direct research management functions that can more effectively be undertaken by the NARS.

SACCAR would then function as a regional agricultural research and services coordinating center serving as the secretariat of the Board of SACCAR which is essentially a committee or council of national directors of agricultural research and other members. The SACCAR

board thus serves as an advisory body to the committee of officials of agriculture and natural resources. Thus SACCAR derives its real authority for coordinating regional research and other services by consensus from the committee, not necessarily through its formal charter.

It is the recommendation of the team that all research in the region be considered as components of a regional system and that:

(a) A formally structured regional research coordinating system be established with SACCAR serving as the secretariat for the coordinating system.

(b) The regional coordinating system be an aggregation of national research coordinating systems.

(c) Where no national systems exist SACCAR assist with their establishment; where national structures do exist that SACCAR assist with their strengthening.

(d) That the research coordinating structures do be developed in each of the Member States be compatible regionally.

(e) The function of the national systems as well as the aggregated regional coordinating system is to report and review the previous year's activities and plan and propose research activities for the forthcoming year.

(f) All public sector research in the region be planned and controlled on a project management system requiring the preparation of annual workplans and budgets which must be formally approved at the national or regional levels as appropriate.

(g) The SACCAR board be the approval body for sub-projects involving more than one country.

(h) The national research service in which research activities serving more than one country are centered be assigned responsibility for directing and coordinating that regional research activity on behalf of SACCAR.

This arrangement is proposed so that SACCAR does not undertake to direct or manage research. This will avoid the establishment of a costly regional research organization with separate and distinct staff.

In those instances where it might prove advantageous to aggregate scientists to undertake team research on a specific problem it is recommended that this be done by the secondment of national staff to serve with a regional activity or project. The secondments can be either for short or longer term assignments and the SACCAR role should be to facilitate and perhaps seek funding for these special arrangements.

As part of the formalized regional coordinating role SACCAR could then undertake special studies to define particular research needs and priorities, design regional or cooperative research projects leading toward recommendations for agricultural practices applicable to the region or some agroclimatic zone and other similar technology transfer activities. In a formal coordinating structure these various study groups would report to the Board of SACCAR, the members of a working group would be drawn from the agricultural research and extension services or perhaps universities of member countries as required.

SACCAR would be responsible for seeking the required funding for facilitating such regional research activities either from Member States or from donors.

2. Technology Development, Dissemination and Farmer Adoption

In the minutes of the February 1987 Gaborone SADCC meeting and in the 1988 Handbook on SADCC it is clearly stated that in addition to the coordination of efforts to strengthen research capabilities in the region SACCAR was "to promote the continuous provision,

interchange and utilization of scientific and technical information as well as promoting the dissemination of available technology". The objectives of SACCAR relate almost exclusively to various aspects and functions of research including development of the human resources necessary to staff agricultural research systems. There is no specific reference in the objectives to a role in disseminating or applying research. Perhaps the restriction of the objectives of SACCAR was a conscious decision not to burden the center with responsibilities that might not be realizable in its early stages of development.

Analysis and Recommendation

The evaluation team considered that the adaptation and application of the technologies developed by agricultural systems is a critical but weak link in the SADCC region. Without strong effective extension linkages and services the improvement of the agricultural production system in the region will be delayed with serious consequences in respect to the food and overall social security of the peoples of the region.

SACCAR cannot be faulted for not assuming a responsibility that was not included in its original objectives.

It is strongly recommended that:

(a) SACCAR be authorized and supported to expand its mandate to include the promotion and coordination of extension linkages and training of subject matter specialists (SMS) in the region.

To do this would give SACCAR responsibility for three areas of agricultural services:

(1) human resource development for both research and extension SMS;

(2) research services;

(3) extension linkage mechanisms.

It is suggested that SACCAR undertake to organize its activities in terms of these three functions.

3. Special Studies, Research and Travel Grants

As the section title indicates that category includes the three activities:

(a) Special Studies appear to be of several kinds: assessment of research needs, feasibility studies to define new research or other projects, initial or exploratory research work and assessing the impact and benefits of research. Presumably however special studies are not restricted to these purposes.

The source of funding for special studies is varied and can be directly from the SACCAR budget, but funds apparently may also be supplied directly by a donor.

Achievements. A number of special studies were planned in 1986-87 but it is not clear if the required funding was assigned or obtained case by case. Progress made with the special studies seemed not to be given in the annual progress report.

The SACCAR board gave approval for the commissioning of four impact studies of agricultural research for two commercial crops in the region. The reason for undertaking the studies and their results were as follows:

(a) To find the state of the art in Monitoring and Evaluation of Agricultural Research, a three man team undertook the study in 1986. As a result all Directors of Research and Deans were urged to institutionalize small units in their offices to enable them to monitor and evaluate, performances of their departments better. (US$5,515.00 was provided by IDRC for the study)

(b) With the assistance of the RTC in Swaziland, a six-man team of professors (three from FRG and three from SADCC)

visited Universities in SADCC, in May-June 1987, and recommended the start of four regional post-graduate courses which are now being implemented. (US$10,000 was used)

(c) A three-man team including SACCAR and IITA appointees visited Mozambique to draw up the requirements of the Cowpea Project. The report, after some modifications at SACCAR, was submitted to the EEC for possible funding. (SACCAR spent US$5,000)

(d) The Manpower and Training Officer participated in a three man team in 1987 to work out a more effective relationship between the IARCs and NARS in SADCC. The study took about one month. (SACCAR contributed US$5,000)

Recommendations. The planning of special studies appears to need some improvement and study purposes be more clearly defined. Similarly progress made with study projects should be reported as well. It is frequently not clear from project documentation if projects were started, are underway or have terminated.

(b) Travel Grants. The purpose of travel grants is evident and there has been good interest in the program with 14 grants awarded so far. Travel Grant awards appear to have been made largely on a responsive basis with the applicant determining the purpose of the visit.

It is recognized travel awards encourage cooperation and exchanges among scientists in the region. It is considered that a more directive approach by SACCAR for travel awards may be advantageous. The travel awards could be used by the NARS or universities to exchange priority scientific information, to allow their staff to acquire special skills and techniques, and to encourage and promote cooperative work among the research services. The travel awards could thus serve to initiate or reinforce regional research projects.

(c) Research Grants

The research grant program operated by SACCAR is funded by Sweden through the national research center. The grants are open

to all scientists in the region. They amount to US$10,000 per applicant and are for a two year period. The grants are awarded on a responsive basis but approval is determined by relation of proposed work to regional priorities and the general caliber of the proposal submitted. Each proposal is reviewed by a research specialist familiar with the field of work. The terms of the grants require regular reporting of progress and a final report for the study which SACCAR proposes to publish.

The response to the research grant program has fallen short of the annual target of 15 per year. The reasons for this were attributed to the failure of some organizations to circulate information and applications to their research staff. Efforts are being made to rectify the situation.

The grants appear to be well managed and fairly awarded. The review of the grants by peer scientists has improved the quality of the proposals and benefit applicants. Some delays were encountered with the processing of grant applications earlier but this situation has now been corrected. They are awarded in relation to regional priorities.

The grants were originally restricted to an expenditure of no more than 50% on equipment. However the review team feels each request should be reviewed on an individual basis and special needs considered. All capital and other purchases requiring foreign exchange are made by SACCAR as a service to the grant holders. This is an important service to grant holders, but requires considerable effort and time on the part of SACCAR administrative staff.

Recommendations

Few suggestions can be offered that would improve the operation of research grants awarded by SACCAR.

An alternative means of stimulating the use of the research grants would be to take a directive approach and offer grants to a research center or a university to undertake new research initiatives or to

promote cooperative work in the region. The research initiatives supported in this way could conform to priorities established by the Board of SACCAR.

1.2 Regional Research Projects

The following section is a review of the regional research projects coordinated by SACCAR. The review will be undertaken from the perspective of SACCAR's role to coordinate regional research activities and serving as the focal point for donor research support. Only those projects involving research are included in this section; other projects relating to training will be reviewed separately.

The regional research projects were reviewed and assessed only from the perspective of SACCAR's mandate to coordinate regional research activities. Their technical merit is considered a matter for separate review.

SADCC/SACCAR Project 3.0.1 Land and Water Research Management Program

The aim of this sub-project is to carry out research aimed at developing technologies to maximize the retention and utilization of rainfall received in the drier parts of the region. It is limited to the 400-600 mm rainfall region.

The project started operating in early 1987 with the arrival of the Team Leader. The other staff members arrived early this year. The team is made up of a Team Leader, a Soil Physicist, a Hydrologist and an Agronomist all of whom are British scientists.

Overseas Development Assistance (ODA) is funding Phase I of the Project which is to continue for four years. The project budget is 1.2 million US dollars over the period of the project and is for operational costs and for salaries of the expatriate staff which so far have no local or regional counterparts. The EA is the Land Resources Department of Britain. EEC has been approached by SACCAR to contribute research equipment and a building for the project. Staff is still housed in SACCAR offices in Botswana. The research

laboratory which will serve the regional purposes is going to be constructed adjacent to SACCAR. IDRC has been requested by SACCAR to fund training of the SADCC nationals who will eventually work for the project.

The survival of this project depends on proper coordination between SACCAR and the EA which is now lacking. The cooperation between this program and SACCAR so far depends on the spirit of cooperation between the Land and Water Management Team Leader and the Director of SACCAR. Replacement of one of them might disrupt the running of the project.

The Land and Water Research Management Program has not signed a MOU with SACCAR so that the respective responsibilities of ODA and SACCAR are not defined although there is a good working relationship. This project is supposed to develop a regional center of research on water management which also means that regional staff needs to be recruited.

Because there is no MOU, SACCAR finds it difficult to demand budgetary statements or even the progress report from the project. The signing of the Memorandum is of crucial importance to this project to avoid more confusion and to set the direction.

SADCC/SACCAR Project 3.0.2 Sorghum and Millet Improvement Program

The Project is made up of a ten man team of international scientists which were either core staff or specifically contracted for the project. These include the Executive Director, Administrative Officer, Sorghum Breeder, Millet Breeder, Pathologist, Entomologist, Agronomist, Economist, Food Technologist and Station Development Officer. With the exception of the last, all the positions are international scientist positions.

The program was established in 1984 in Matopos in Zimbabwe. It is a 50 million US Dollar project (20 million Phase I, 30 million Phase II) funded by USAID, CIDA, Federal Republic of Germany (FRG) and

SADCC. It is now in Phase II and its total planned duration is 20-25 years.

The EA is International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). The Director of SACCAR is the Chairman of the Technical Advisory Panel (TAP) for this program. A positive collaborative interim evaluation was conducted in 1988.

This is a regional research program which is seen to be conforming to the needs of the region in as far as the improvement of sorghum and millet is concerned. ICRISAT has not signed a MOU with SACCAR. SACCAR's role of coordinating this project even without its signature has proved to be successful. One of the reasons for the success of the program was attributed to support coordination provided by the SACCAR Board and the Sorghum Millet TAP.

ICRISAT has embarked on a successful long-term training of regional scientists. About 40 scientists are undergoing or have completed their graduate program. This project takes post graduates for further in-service training on the project. It also accepts internships from the University of Zimbabwe.

Planning workshops (Steering Committee?) involving national program leaders are held each year. This is where scientists prepare their annual regional workplans. Another workshop is held to monitor or examine the crop performance at different locations. SACCAR is always represented in these workshops. However, the Team felt a much more structured steering committee arrangement and workplan approval system needs to be developed for all regional sub-projects.

SADCC/SACCAR Project 3.0.2.1 Plant Breeding in relation to the Utilization of Sorghum and Millet for Food Beverages and Animal Feeds

This is another ICRISAT project which was started in 1987. It was established as a component of the Regional Sorghum and Millet Research Project. A Food Technologist was added to the team to undertake research on the utilization of sorghum and millet. A food technology laboratory at Matopos Research Center is nearing completion. All the activities which are taking place for this

project are coordinated by SACCAR. The same problems detailed for the improvement of sorghum and millet sub-project apply for this project.

SADCC/SACCAR Project 3.0.3 Grain Legume Improvement

The regional grain legume improvement project really consists of three sub-projects executed by 3 IARCs funded by 3 different donors:

Project	Budget (US M)	Donor	EA	Location
Bean	6.0	CIDA	CIAT*	Arusha, Tz
Groundnut	1.5	FRG	ICRISAT	Chitedzi, Mal.
Cowpea	5.0	EEC	IITA*	Maputo, Moz.

*CIAT - Centro Internacional de Agricultura Tropical
*IITA - International Institute of Tropical Agriculture

The groundnut sub-project has been operating since 1982, the bean studies started in 1986 and the cowpea work is scheduled to begin in Maputo shortly.

Bean Project

The bean project activities began in 1986. The project core staff are located at Arusha, Tanzania where laboratory and field house facilities are in process of construction. There are plans to have up to five scientific staff at Arusha including the project coordinator, plant breeder agronomist, entomologist, economist, training officer and associated administrative staff. A substation is to be located in Malawi where a plant breeder to serve the southern part of the region will be located, but the position has not yet been staffed.

Groundnut Project

The FRG supported groundnut project was initiated in Malawi in 1986. The primary activities appears to have been the construction of research facilities and the other services required to establish a core research function. It is anticipated that the FRG will

reinstitute funding of the project in 1988 at a budget of US$ 4.8 million for the period 1988-1992. The new project activities will be modelled on other regional projects with greater emphasis on supporting and improving groundnut work in the NARS.

Cowpea Project

It is expected that the cowpea project will be beginning operations with EEC funding shortly. After some initial uncertainty it has now been decided that project activities will be centered at Maputo. This project conforms to the general structure of regional projects with a significant part of project funding for training and other support for the national systems.

All three projects are coordinated by SACCAR through a steering committee and a TAP or an equivalent body. There would, however, be some justification for the technical coordination of the three sub-projects as a single unit from a technical or scientific point of view. This is due to the similarities of problems and staff expertise required for the three "commodities". In many countries it is difficult to justify assignment of staff full time to any one of the crops so that the same staff may have responsibility for two or all three of the crops.

Problems have developed in connection with project staffing largely because of the SACCAR requirement for EAs to recruit sub-project staff from outside SADCC only if it is established that the professional and technical staff cannot be found in the region. Some of the IARC executing regional projects have not considered this to be a reasonable requirement although they are prepared to consider regional candidates for project positions. The matter of staffing now appears to have been partially resolved by acceptance of the SADCC/SACCAR requirement to consider regional candidates for regional project positions on the one hand and the establishment of fellowships to allow national staff to work at regional centers after completing graduate training.

As yet no MOUs have been signed between the EAs and SACCAR for these projects. This is considered to be a serious matter because, without the MOUs involving SACCAR, the projects are not clearly

established as regional ones and the regional coordinating role of the center is not defined and formalized.

SADCC/SACCAR Project 3.0.6 Agroforestry Research

The Agroforestry Research Project is a five year project funded by CIDA with a budget of US$5.2 million. The project started regional activities in April 1988. The executing agency for the project is the International Centre for Research in Agroforestry (ICRAF) in Nairobi. The project involves four fields of activity which are centered in four countries of the region as follows:

Multipurpose Tree Selection - Malawi
Enriched Fallow & Soil Sustainability - Zambia
Hedgerow and Mixed Intercropping - Tanzania
Shrub-grasslands Systems - Zimbabwe

The organization of the Agroforestry Project differs from some other regional projects. The regional coordinator is located at the Makoka Research Station in Malawi as is the specialist responsible for the manpower training selection component. The other research specialists are located at the centers indicated above. Thus, there is no core center as is the case with the sorghum and millet and the bean projects. As well there is no established agroforestry unit or expertise in any of the four countries, therefore the project has a major task in respect to training and institution building. With its dispersed organization and the lack of local expertise, adequate coordination of the regional activities in agroforestry will be critical. Furthermore, who has responsibility for agroforestry activities in the various countries is not clear and it may involve both ministries of agriculture and forestry so additional attention will have to be given to coordination.

The Agroforestry project was formally initiated in April 1988 so that assessments based on performance are not warranted at this juncture. However, the fact that Zimbabwe has not yet "joined" the project is a major concern. Although the participation of Member States in regional activities may be "voluntary" projects are funded on the basis of a given level of participation. Thus, if one of

four planned participating countries does not join project activities a serious gap is created. This is particularly true in a dispersed project like the Agroforestry project where the various component activities are centered in different countries.

The regional Agroforestry project appears to be based on the assumption that each of the four countries will establish an agroforestry section or unit consisting of three scientists (fodder crops, horticulture and farming systems) presumably supported with technical staff, operating and equipment support and the necessary physical facilities. The regional project plan however does not specifically state the contributions apparently expected to be made by the participating countries. Nor are these countries included in the memoranda of understanding between Canada and SACCAR or the other countries involved. There appears to be no regional project workplan and budget that delineates that respective contributions to be made by the projects "cooperating partners".

SADCC/SACCAR Project 3.0.7 Crops and Forest Seeds Genebank

The Genebank will be located in Zambia. Its purpose will be to collect, characterize, store, maintain and supply germ plasm to the national and regional programs and projects for breeding purposes.

SADCC Member States have been requested by the Board of SACCAR to:

i. Form a National Plant Genetic Resources Committee, the Chairman of which will be a member of the Board of the Regional Genebank.

ii. Identify national plant genetic seed storage sites which will receive funding from the Regional Genebank.

iii. Identify trainees for instruction in plant seed collection characterization and storage.

This project is planned to take twenty (20) years for completion. The Swedish International Development Authority (SIDA) will contribute 11.5 million U.S. dollars for the first phase of the

project and the Nordic Genebank is the EA. SADCC is expected to take over responsibility of some of the project's activities in the 11th year of implementation. The project was scheduled to have started in January, 1988; however it was not clear if it actually started nor if progress has been made.

The National Genetic Resource Centers (NGRC) will submit technical progress reports quarterly to SADCC Regional Genebank (SRG). SRG will submit these reports together with their quarterly report to Nordic Genebank (NGB). In turn NGB will analyze and synthesize these reports and report semi-annually to Nordic Council of Ministers (NMC). The NMC reports to the donor agencies and SACCAR annually.

Monitoring will be done by the liaison officer of the NGB at least bi-annually in the first 5-year period and once a year in the following 5-year periods. The project manager is to visit each NGRC at least once a year.

The reviewers of this project will be selected by NMC in consultation with SACCAR, International Board for Plant Genetic Resources (IBPGR) and the Donor Agencies. Review should take place five times in the lifetime of the project.

Supervision of this project has been planned in detail though still it is not clear if it will adhere to the regional management requirements expected by SACCAR. Arrangements still have to be made to ensure that a MOU of SACCAR is signed by the EA and the management arrangements specified.

SADCC/SACCAR Project 3.0.10 Livestock Improvement in SADCC

As a preamble to the project, a workshop on livestock production in the region was organized by SACCAR in 1985 to look at the livestock research systems and production. As a result of this meeting in Maseru, a recommendation was made to the Council of Ministers, who subsequently gave SACCAR authority to develop the livestock project for the region. Particular emphasis was to be put on smallholder dairy, meat, fiber and draft power production from ruminant livestock.

It was then suggested that a feasibility study be carried out to identify project components for research in the above areas. Funds were secured from United Nations Development Program (UNDP) to carry out this study (US $0.1 million) for one year. However, the International Livestock Centre for Africa (ILCA), which was nominated as the EA for the overall project, later proposed that the duration of the feasibility study be shortened. A short-term consultant was then engaged by ILCA through IDRC to look at present livestock research programs and resources in the region. The consultancy started in July 1988 and the report has just been received by SACCAR in August 1988. This report will then be used by ILCA, SACCAR and national livestock research scientists as a basis for developing objectives of the livestock research in the region. A planning workshop will be held in Zimbabwe on November 30 - 2 December, 1988.

Analysis and Recommendations for Research Project Operations

There were some serious concerns regarding the management of regional research projects. These included:

(a) MOU between SACCAR and the IARCs or agencies responsible for executing the projects had not been signed.

(b) The MOUs between the donors and the EAs do not specify the role of SACCAR in respect to the direction and management of regional research projects.

(c) There is no formal consistent work planning structure for regional projects. The work planning system should conform to the proposed regional project management system and include the contributions of the national research systems.

(d) The management and coordinating structures for the various projects are not consistent and do not provide for adequate control of regional project activities by SACCAR.

(e) There was some concern that SACCAR headquarters staff were too involved in the direction, coordination and management of regional research projects. To be involved in the workshop, TAP or other management functions as well as liaising with donors could require 15 to 18 staff days for each project, in addition to the present involvement of the director. This involvement diverts SACCAR headquarters staff from its primary role of regional coordination of research and other services.

(f) It was evident that there was no consistent workplan, budget approval, monitoring and reporting system for all projects. It was also a concern that the present work-planning system did not include national contributions. Therefore, it also appeared that there was no formal procedure for approval of workplans and budget by the national directors of research or the SACCAR Board as a whole.

(g) It was the assessment of the team that the IARCs and other EAs consider they are responsible to the donors or their headquarters and not to SACCAR. It is believed that a formal workplanning and approval system would give SACCAR clearer control over regional research projects and better working relations with donors.

1.2 Recommendations: Operation of Regional Research Projects

The basic premise of the SADCC system is based on a coordinated or cooperative regional research system which must build on the strength of the NARS in the member countries. Thus a regional project is a coordinated set of activities involving a number of NARS. The outputs of this coordinated set of scientific activities will benefit not only the country in which they may be undertaken but will benefit the other countries in the region as well. Indeed it is possible that the capability to carry out research in some particular specialty may exist only in one center in the region. Therefore that center should be used as the one to most effectively service the region's needs for research in that specialty.

SACCAR provides a mechanism by which the various research activities in the region may be coordinated and directed. The present arrangement for donor funding of sub-projects through SACCAR is one means of operating regional projects. In virtually all existing sub-projects, regional "centers of specialization" are being developed with the construction of physical facilities, including staff housing, with donor funds. The regional centers are presently staffed largely with international scientists. In all cases the centers are funded by a donor and operated by an executing agency usually an IARC. However, in most instances it is not clear if the centers are a regional operation of the IARC or are a SADCC regional center being developed with IARC support. It has been stated that the facilities constructed under donor funded regional projects will revert to the NARS of the country in which they are located when donor funding is withdrawn. Yet it is not clear how the facilities will be staffed or indeed even if it is planned to continue the kinds of regional activities performed by IARC/donor funded staff under the current arrangements after donor funding stops.

In the view of the evaluation team it is important that long-term plans for research projects be established without delay so that the future direction for regional research can be made known and the coordinated activities can be developed and organized accordingly.

Three options are suggested:

(a) Creation of a regional research service with separate staff and facilities. The service would be funded by contributions from Member States and possibly supplemented by donor contributions. Presumably such a service would be directed and operated by SACCAR or some similar research organization.

(b) Operation of regional research services by the NARS. The participation of the NARS in a "regional project" would be an integral and defined part of the NARS participating in the various regional projects. Funding of regional activities would also have to be a regular part of a cooperating country's national budget. This kind of a cooperative arrangement would require clearly defined and costed

activities on the part of all the NARS involved. To undertake a regionally integrated program of this kind would require careful and thorough planning, and the development of well defined and specific working arrangement among the participating countries.

It would be most logical for the NARS of one country to take responsibility for coordinating the regional project and reporting to SACCAR.

(c) The third possibility would be central funding of regional research projects through SACCAR but with actual operations carried out by the NARS with one of the NARS undertaking to direct and coordinate the project on behalf of the region. The coordination of regional projects and their funding would be the responsibility of SACCAR. The working arrangements would essentially involve "contracting" with the national systems to undertake regional work.

The third possibility would also require the development of a defined and costed-out understanding among the countries participating in a regional project.

Recommendation

It is considered that the second option of operating the region's projects directly through the NARS of the participating countries provides the most effective way of operating regional research projects. As has been pointed out, the NARS of the country in which the regional coordinating activities or center of specialization is located would be responsible to SACCAR for planning, coordinating and reporting on the research activities in the regional project. Under this kind of an arrangement there would be a minimum transfer of funds between countries. The regional activities would be an integral part of national research activities thereby offering the greatest possibility of being sustained by member countries. Accounting for contributions by Member States for regional projects could be done on a reciprocal basis and overall responsibilities assigned on some prorated or equalizing basis.

Donor funding for regional projects could similarly be channeled through this kind of a nationally coordinated arrangement instead of going to some regional body which is then required to set up the management and administrative bureaucracy to undertake this role.

For this kind of cooperative and coordinated regional research approach to function, it will require (a) a full commitment to regional cooperation in research, (b) a costed uniform project management system for planning, directing and accounting for all research in the region, and (c) the development of a strong coordinating role for SACCAR.

It is on the basis of these considerations that it is recommended that second option become the model used for coordinating and operating a regionally coordinated cooperative research system. The advantages of a regionally coordinated approach to research in terms of economies of scale and the avoidance of duplication are obvious.

Furthermore the NARS in the region are rapidly approaching the stage where collectively they will have the expertise and capacity to meet the region's research needs. Provision of direct support to the Member States NARS to carry out the required research would offer a more direct and efficient way of providing support to meet the needs of the region. The evaluation team would certainly encourage donors to fund research on a regional basis, but in doing so it will be necessary to respect and support the role of SACCAR for providing overall direction and coordination for agricultural research in the region.

II.E. SACCAR Regional Training Activities

The global responsibility of SACCAR is to improve the regional agricultural research systems as well as the human resources to man them. This in turn is expected to increase agricultural productivity as a result of better and more effective land and other production resource utilization. Some of the training functions of SACCAR are: (i) organization of workshops, seminars and conferences that address specific problems that are of regional importance and (ii) promotion of training within and outside national agricultural research systems in order to improve the manpower base in NARS and universities.

To oversee and supervise these activities, a position of manpower and training officer was provided for in the SACCAR establishment and charged with certain responsibilities that include:

(a) Assessment of regional and national manpower and training resources and needs for agricultural research sub-sector. This responsibility has since been modified and expanded to include the whole SADCC Food, Agriculture and Natural Resources Sector.

(b) Appraisal of the impact of regional and national plans and strategies for agricultural research on training requirements.

(c) Promotion of training and career development of manpower for research in agriculture and other related fields.

This section will discuss issues related to the activities of SACCAR that address training and manpower development programs:

1. Workshops, Seminars and Short Courses.

This program was conceived with the following aims:

(1) To upgrade the knowledge of research personnel and to provide for a mechanism for the scientists in the region to acquire new techniques and special skills.

(2) To bring together scientists from the region to (i) address specific research problems that need concerted and coordinated regional efforts, (ii) define regional priority research endeavors and (iii) draw plans and programs for SACCAR's implementation.

(3) To provide a forum for the interaction of the regional scientists and exchange of information.

This program was not implemented as soon as SACCAR was constituted mainly because of the late recruitment of the responsible officer. This in effect meant that there was considerable pressure on SACCAR to conduct the many workshops, conferences and short courses that had been originally planned.

Despite the delay SACCAR made considerable progress not only in identifying areas of priority for regional focus but also in actually conducting these workshops/conferences. To this end ten workshops have been organized at various venues in the SADCC region. That these workshops were successful is evidenced not only by the number of participants, high caliber of presentations and the numerous recommendations made but more importantly by the number of regional projects that have been formulated, many of which can be traced back to these workshops. Some of the projects that are a result of SACCAR's initiatives are:

(1) SADCC Crops and Forest Seeds Genebank project: This aims at creating a genebank for the region and developing the capability in the region through appropriate training and facilities to explore, characterize, improve and conserve genetic resources. The project has secured funding from the NORDIC countries.

(2) Strengthening Faculties of Agriculture, Forestry and Veterinary Medicine in SADCC: This project arose out of two workshops held in 1985/1987 to discuss ways and means by which the region could improve the manpower requirements of SADCC. This project was formulated to address the issue of undergraduate training as well as specialized post-graduate

training. Plans for its implementation are at an advanced stage and universities have already been identified to start the graduate training programs.

(3) Livestock Improvement in SADCC: This project arose out of a consultancy report prepared by ILCA and a follow up workshop is planned for November to draw up an implementation plan. Funding has been promised by UNDP.

(4) Regional Vegetable Research Project: This project is a result of the Blantyre Workshop which was held in 1987. It is understood that an initial feasibility study will be sponsored by Japan.

(5) Farm Power and Equipment for Small Holder and Large Scale Farming Systems in SADCC: This project is a feasibility study. It has a fairly wide range of objectives and was developed from the recommendations of the Maputo Workshop that was held in 1988.

From the foregoing it is evident that despite the late start of this program considerable progress has been made not only in identifying study areas that needed a regional focus but also in bringing scientists in the region together to discuss and develop appropriate recommendations. At the time of this review ten workshops, seminars or conferences had been successfully concluded with an estimated attendance of 315 person weeks, which represents 70% of the projected attendance for the first 5 years of the project. These workshops have also been effective in bringing together scientists not only from the region but beyond SADCC and a considerable amount of interactions among the scientists appear to have taken place. It is not clear, however, how many of these participants were social scientists or biological scientists. Finally, as a result of these workshops, several high priority regional projects have been formulated and funding already obtained.

Analysis and Recommendations for Regional Training Workshops

Without sounding prejudicial, the team noted that SACCAR needs

to address certain issues if this program of activities is to be strengthened.

(1) It is the evaluation team's understanding that SACCAR is under considerable pressure from the donors and regional supervising bodies to hold a minimum of five workshops per year; the evaluation team's concern is that such a large number of workshops could compromise the quality of these workshops and could conflict with national plans and programs, as the regional projects also hold workshops and tours which require scientist involvement.

(2) The preparation and timely publication of workshop proceedings and their distribution to national programs is considered not only a important output of SACCAR but a priority support activity for national programs especially as there is at present no regional agricultural research journal. Publication of workshop proceedings is very slow and to date only 3 have been published out of the ten workshops held. This delay, it is felt, has resulted in delayed follow-up action on workshop recommendations by national programs.

In view of the foregoing, the team recommends that:

(a) In developing plans for workshops, SACCAR should take cognizance of training and workshop plans for the various SACCAR sponsored sub-projects, particularly those having steering committees and large training components in which many national scientists are also committed, in addition to their own national programs of work. In view of these sometimes conflicting demands SACCAR should develop an annual masterplan for the region's training activities and seek the necessary approvals from the Board.

(b) Attempts be made to publish and distribute all workshop proceedings that are in arrears before the end of this calendar year. Proceedings from future workshops should thereafter be speedily published. This should be possible if the number of workshops is reduced and scheduled at suitable intervals throughout the year.

(c) Workshops need to focus on specific issues or themes and should have clearly defined objectives. Recommendations and/or resolutions should be clearly defined, practical and be of regional importance.

(d) The field of post harvest research needs focus in future workshops mainly because it is a new field in the region but yet an important one in the regional Food Security Project.

2. Strengthening of Agricultural Universities

The Agricultural Research Resource Assessment ARRA project (1984) identified that the SADCC region faced a critical shortage of trained agricultural personnel. According to a more recent survey of the manpower supply and demand for trained agricultural personnel carried out by the World Bank, SADCC like most other regions in Africa, faces an acute shortage of trained agricultural manpower at the present time and will in the future. It is estimated that by year 2000 the shortfall between supply and demand will be 4000. This indicates that at least 275 persons, beyond the present levels of output for the various categories of agricultural personnel above and below the BSc level, need to be trained every year.

The report also indicates that the gap between supply and demand was more serious at the higher levels of training (BSc and above), in the smaller member countries of SADCC (Lesotho and Swaziland) and in the more specialized fields of agriculture. At the BSc level additional demand is projected at 27% of all training requirements, 21% at the MSc and 3-7% at the PhD; the disaggregated demand by study fields indicates that the highest demand is in agronomy, animal science, technology and social sciences. This report concludes that SADCC's attempts to attain self-sufficiency were constrained by a lack of institutional capacity to produce the quantity and quality of trained manpower adequate to meet these demands. Again the situation was relatively more serious in the smaller countries and at the higher levels of training in specialized fields.

From the above analyses of the manpower requirements, it is evident that SADCC urgently needs to address the situation. SACCAR as an institution mandated to do this for SADCC has a leading role to play in the coordination and implementation of its expanded professional manpower training mandate.

SACCAR has attempted to address this problem. In 1987 a meeting in Harare of heads of Faculties of Agriculture, Forestry and Veterinary Science and National Research Systems was convened to discuss and develop recommendations for manpower development programs. At this meeting it was agreed that:

(1) Training at the BSc level be confined to the region. Any donor support which would normally be provided for such overseas training could be diverted to strengthen and enhance local undergraduate programs.

(2) The region needed to strengthen postgraduate training programs in the region. This it was agreed was to be undertaken at a selected number of faculties and in certain specialized fields. Donor funding could then be used to strengthen these specific programs for the region as a whole.

In the August, 1987 Maseru meeting it was agreed that the regional graduate training program would be confined to MSc training in the fields of Animal Science, Agricultural Engineering and Land Use, Agricultural Economics and Crop Production.

At this same workshop SACCAR was also directed to undertake more studies to determine postgraduate training requirements in other fields of study in the region. These studies would form the basis for new programs for regional cooperation involving training and research. It was also proposed that SACCAR foster collaboration between universities in the region, other universities outside the region, national research institutes, and IARCs.

The recent, August 1988, Maseru workshop was organized to assess the progress achieved and to develop further action plans. Among other things the workshop recommended that certain new fields of study

needed to be addressed. These were identified as Horticulture (at both BSc and MSc), Tropical Animal Health, Plant Protection, Soil Sciences, Natural Sciences and Environmental Sciences. This workshop was, however, apprehensive about the capacity of the training facilities within the region to support new programs but felt that with careful deployment of resources on a regional basis it was possible to initiate such courses.

In evolving a regional manpower development plan, it appears that SACCAR needs better analyze its data to ascertain the manpower demand and supply situation as well as relevant fields of study and levels of study. SACCAR also needs to obtain an inventory of the available training institutions and their capabilities to undertake specific fields of study. Such an information database can then be used to identify fields as well as levels of training that SACCAR needs to develop within the region if the demand justifies such a regional effort.

SACCAR attempts to address this problem appear to be based on the Winrock report on Training Agricultural Scientists in Southern Africa, the World Bank report, ARRA data and two subsequent workshops. SACCAR's initiatives in this regard include:

(a) Agricultural Research and Manpower Training Project: in 1987 SACCAR initiated this training program in research management for various audience levels, research institutions and in universities pertaining to management of research institutions, resource allocation, personnel management, budgeting, planning, monitoring and evaluation of research projects. This project has been organized in conjunction with International Service for National Agricultural Research (ISNAR).

(b) SACCAR has attempted to evaluate training programs in the Faculties of Agriculture within the region to determine their complementarity and possibilities of student exchanges.

(c) SACCAR has also made attempts to determine ways and means of integrating research and extension activities.

(d) SACCAR has also developed linkages with IARCs and other international organizations within the region and elsewhere with a view to developing training programs and/or facilities for academic and/or in-service training.

SACCAR's efforts at improving and strengthening the regional training capability have been modest but successful in many ways, though there is still a great deal more that is required of SACCAR. Some of the achievements from the programs are:

(1) Directors of NARS and Deans of Faculties of Agriculture, Forestry and Veterinary Medicine have been brought together under initiatives of SACCAR to discuss the very important issues of manpower development in the region. This has established an effective working network among educators and science managers.

(2) Following discussions between Directors of NARS and Deans, various donor agencies, IARCs and SACCAR a considerable amount of funding has been obtained to support national universities and NARS in strengthening their training programs.

(3) SACCAR has successfully coordinated a training program in research management. This program is executed by ISNAR and to date two courses have been conducted in Zimbabwe, one in Malawi, one in Maseru for Botswana, Lesotho and Swaziland, two for Zambia and one for Tanzania. Similar courses are to be given in Angola and Mozambique. The coordinator is based outside the region which presents critical problems to SACCAR particularly with regards to planning these courses and other related activities.

(4) Initial steps have been taken to coordinate activities of NARS and National Agricultural Extension Services (NAES) but it appears to the team that more concerted effort will be required if a fully coordinated program is to be achieved.

(5) SACCAR has made significant contributions by promoting and coordinating training programs within the regional projects not

only for scientists but also at the technical support level for all agricultural personnel. Thus the ICRISAT Sorghum and Millet Project is expected to train at least 65 scientists at the BSc, MSc and Phd levels; the IITA Cowpea Project will provide 18 fellowships whilst CIAT Bean Program will train a similar number. These projects have also provided training opportunities to the middle-level personnel as well as technicians. However, it would appear that these opportunities for training are not adequately advertised and as such not many institutions outside NARS have made use of them.

Analysis and Recommendations for Strengthening of Agricultural Faculties of Universities in the Region

SACCAR's expanded mandate to coordinate manpower development for the entire natural resources sector has introduced a new dimension to the center's regional roles. The conclusion of the Team was that:

(a) More attention be given to strengthening of undergraduate programs in order to meet the manpower needs for the sector.

(b) In recognition of the importance of extension services in all aspects of natural resource development and particularly for developing the human resource capability, SACCAR could beneficially take a more active role in the regional training of extensionists in the natural resources sector.

(c) The question of articulation and accreditation was examined at some length by the Team. It is evident that greater effort has to be made to resolve these issues in order to allow the exchange of students between universities and colleges in the region.

(d) The team supports the decision taken by the Heads of Faculties of Agriculture and NARS to establish centers of specialization for graduate training. SACCAR should, however, continue to solicit funds to strengthen and support undergraduate training programs. To achieve some economies of scale it is proposed that such funds be disbursed to support

specific undergraduate training programs that address fields of study that are of a regional priority such as Soil Science and Horticulture as pointed out in the SADCC Gaborone report of 6 February 1987.

(e) From a regional perspective the whole question of articulation and accreditation particularly at the undergraduate level needs to be re-addressed immediately. Regional resources are being lost because of different entrance level requirements between countries, not granting credits for diploma or certificate holders working towards a degree and duplication of training facilities within the region. It is therefore recommended that SACCAR sets up a Working Group to examine this question and recommend solutions to the Deans and SACCAR for further action e.g student exchange.

(f) The Technology transfer capabilities in the region need strengthening. To this end it is recommended that SACCAR in collaboration the IARCs in the region mount a Working Group to assess each member country's efforts in this field and formulate plans of action for improving extension linkages.

(g) SACCAR encourage NARS and regional projects to provide training opportunities to personnel involved in the extension services including Socio-Economists, Subject Matter Specialists and Seed Technologists.

(h) The ISNAR course coordinator be located in Botswana to achieve closer integration with regional activities in research management.

3. Graduate Level Training

Because its original training mandate was restricted to assuring the manpower development needs for research SACCAR had, until 1987, emphasized the strengthening of graduate training capabilities in the region. SACCAR's efforts to strengthen capabilities at the graduate level have resulted in the concept of development centers of specialization in the region. The recently

implemented German Agency for Technical Cooperation (GTZ) supports programs to establish centers of specialization in Animal Science (Malawi), Plant Science (Zambia), Agricultural Engineering and Land Management (Tanzania) and Agricultural Economics (Zimbabwe) is an initial phase of an overall program to strengthen graduate level training in the region.

It is clear, however, that graduate level training must take into account the need to ensure that there is an adequate regional undergraduate training capacity since the research training represents a relatively minor part of the overall needs in the region. The Team considers that a thorough study of regional training requirements at all levels needs to be made before embarking on specific programs at universities and other training institutions in the region. It is also important that diploma and certificate level training requirements also be included in any general regional plan. It is understood that SACCAR is currently embarking on such an analysis.

Analysis and Recommendations for Graduate Level Training

In the evaluation of SACCAR's activities in the field of graduate level manpower development and the need to strengthen the Faculties of Agriculture, Forestry and Veterinary Medicine, it is recommended that SACCAR take note of the following:

(a) SACCAR needs to ascertain national and ultimately regional manpower requirements for the Food, Agriculture and Natural Resources Sector of SADCC. This should be or could be undertaken as a Special Study and the report should form a basis for a workshop to determine how best to deploy the available resources.

(b) In the analyses of demand in the agricultural manpower requirements, SACCAR should take special note of the relatively low demand of the smaller SADCC countries (Botswana, Lesotho and Swaziland) that arise because of their smaller populations. The demand for trained agricultural personnel in proportional terms remains lower but similar to that projected

for the rest of SADCC. It would appear tnat one way these countries can benefit from SACCAR's training programs is to assist in the development of their Departments of Agriculture probably as regional centers for specific fields of study. Soil science could be based in Botswana to take advantage of the Land and Water Management Project, Horticulture in Lesotho and Agricultural Education/Food Technology in Swaziland.

(c) Initially specific fields of graduate study and their supporting components should be established at one university. Thus all engineering should be concentrated at Sokione University, all Plant Sciences at the University of Zambia (UNZA), all Social Sciences at the University of Zimbabwe and Animal Sciences at Bunda College, Malawi.

(d) SACCAR should encourage closer cooperation between IARCs and Faculties of Agriculture so that the later can draw on the expertise available in these regional centers, such as teaching, supervision of graduate students, and research projects.

II.F Networking Coordination

Introduction

One of the original and major objectives of SACCAR is to promote cooperation through networking among NARS, Universities and the regional research sub-projects. SACCAR is therefore not only charged with the responsibility of developing specific action strategies to achieve this objective but also to act as a forum through which communication can be facilitated. SACCAR's action strategies have included (i) organizing commodity or disciplinary workshops either directly or through regional commodity sub-projects which are working very closely with the national scientists. The people participating in these workshops have found them very informative and have also provided them with an opportunity to exchange ideas and technological developments with their counterparts in other Member States. Through collaborative research between NARS and IARCs executing agencies it has been possible to coordinate national research work on specific commodities; (ii) awarding travel grants to national scientists to visit counterparts in other Member States. Scientists have taken advantage of these grants and found the study tours academically rewarding; (iii) publishing of the SACCAR newsletter which is regarded by scientists in the region as a good communication media. However there is still an outcry for an agricultural journal through which advanced scientific communication can be made; (iv) SACCAR has at times acted as a middle man in recruitment needs for scientists in the region.

The job of coordination and networking is a difficult, expensive and time consuming one. SACCAR, in order to do this efficiently, will require full support and cooperation of NARS and universities. The aim is not to replace all national projects with regional work but to ensure that projects carried out are of national and regional relevance and complimentarity of each is formally recognized.

Data Information Services, Documentation and Publications

BACKGROUND

Among other things, SACCAR has been charged with the responsibility of assembling, maintaining and disseminating all relevant information pertaining to agricultural research, training and extension in the SADCC region, in order to provide a comprehensive information source which can be used by researchers, trainers and planners to set priorities for agricultural research, assess manpower training and development needs for the regional and national systems and also to facilitate the exchange of scientific and technological information on agricultural development among the agricultural institutions. This would make much information now present only in national systems, more generally available in the region. SACCAR was assigned responsibility for establishing a comprehensive documentation and publication system to facilitate the exchange of information within the region.

ASSESSMENT

1. Information Data Bases

Agricultural Research Resource Assessment (ARRA)

In preparation for the establishment of the Center, a regional program financed by USAID to develop the regional ARRA system data base was initiated in 1983 through a private data systems consultant (Devres) to provide information on agricultural resources in the region. In 1984 resource data was produced for all of the SADCC Member States except Angola, which because of war problems was not able to collect the resource data required. The data for Angola has now been collected and is still being compiled. The information was to be used for planning and implementing agricultural programs. It was planned that the data base be updated annually. However, it has not been possible to update the data base because of a management problem. It was reported that when the system was installed, the

Devres company made a demonstration in Botswana of how the system worked and how data could be retrieved but no one in the documentation section was actually trained to operate and update the system. It was also apparent that a great deal of the information collected may not be required by users, hence some editing to restrict the data base only to information actually required would be advantageous.

In addition to getting the Angolan data into the system, it is also important that data on other Member States be updated. It is the belief of the documentation section that the required data to do this is already available in the national systems.

Directory of Researchers and Trainers

This is a new data base set up by SACCAR listing all researchers and professional personnel in agricultural teaching institutes in the region and giving their speciality.

Information from Swaziland and Mozambique has not yet become available. This information is of great potential value particularly to researchers in that they could then know who to contact when necessary. Cooperation from the nationals in responding to requests for information will be very helpful in keeping the data base up to date.

Abstract Service for Agricultural Literature

A pilot study to assess the possibility of establishing a regional literature search service was undertaken by the information section. The test was made using disks containing literature abstracts prepared by the Commonwealth Agricultural Bureau of Information (CABI) and the Compact Disk Read Only Memory (CDROM) system for the literature searches. The system was well received and was considered to be extremely useful because of the limited library and reference facilities available in the region. Agricola and Agrindex are already selling the disks so that they could be readily made available.

SACCAR is also presently making arrangements to collect, catalog and index all documents (i.e. National Development Plans, Reports etc.) in the region concerning agriculture and natural resources. A computer package developed by United Nations Education, Scientific, and Cultural Organization (UNESCO) specifically for this purpose will be used. This information would be an important resource of the Member States which because of its present limited circulation is not always available to people who could use it.

2. Documentation and Publications

The information section, among its other duties, is expected to (i) edit, compile and publish proceedings of the SACCAR workshops held in the region, (ii) publish 18 issues of the newsletter on research programs, and (iii) take co-responsibility for publishing 8 issues of the SADCC-Zimbabwe Journal of Agricultural Research in the five years of the project.

So far about 10 workshops have been held by SACCAR on various subject matters starting in 1985. Proceedings for three of the workshops have been prepared and distributed to research and educational institutes. Six issues of the newsletter have also been published and distributed. No progress has as yet been made in publishing the Journal of Agricultural Research because of the large backlog of work at the Zimbabwe Government Printers. The journal is at present four issues behind in spite of efforts made by SACCAR to have the backlog of journals printed. Approval was then sought and granted by the Zimbabwe Government to take the journal to private printers, however, tendering for printing ran into difficulties and printing has been further delayed. There has been considerable concern over the printing delays and it is generally agreed that it is critical that the journal be operational without delay.

There are currently three officers in Information and Documentation Section, the Information and Documentation Officer, Technical Officer level II and the Senior Information Sciences Advisor, who is from IDRC and will be leaving in February, 1989. It is obvious that

the amount of work to be done in order to achieve the project's objectives can not be efficiently handled by two people.

3. Coordination of Commodity Research Program

BACKGROUND

One of the major objectives of SACCAR is to promote cooperation between national agricultural research systems and provide a forum for scientists to work together, to promote linkages with international research organizations and donors and identify research areas of regional interest.

ASSESSMENT

To execute it's role of coordinating national research systems, SACCAR has:

(i) Organized regional workshops for specific disciplines and commodities directly and through executing agencies for regional commodity projects. The workshops have provided a forum for research scientists where they could meet and exchange ideas and set regional research priorities in specific fields. It is through some of these workshop recommendations that SACCAR has proceeded on working out strategies that should be followed for specific projects. Scientists in the region have found these workshops very informative and rewarding in relation to their own in-country projects.

(ii) Regional travel grants have also been awarded on request to 23 individual scientists, educators and administrators to date, to allow them to learn and exchange ideas with their colleagues carrying out similar research work in the region. Recipients have prepared and submitted positive reports to SACCAR and the host institutes at the end of the tours. In view of the 120 travel grants estimated for the five year project period, a relatively small number of people have applied and received the grants. It is apparent that probably

most scientists in the region are either not aware that the grants are available to anyone who could benefit professionally from the tours.

(iii) Small research grants of US$10,000 each are made available to scientists in the region to enable them to carry out research work in certain priority areas which are of national and regional relevance. The objective is to assist beginning and middle-level scientists to develop their research capabilities and careers which may be limited by lack of funds in the national systems. It is planned that a total of 90 awards be made at the rate of 10 grants per year. The program started in 1985/86, in the three years 28 grants have already been awarded to scientists in various disciplines. Individual research proposals sent to SACCAR are forwarded to three referee scientists within the region for peer review. Comments from referees are then used by the awards committee to make the final decisions. The committee is composed of the Director of SACCAR, Manpower and Training Officer, Technical Officer (Manpower and Training), Director of Agricultural Research, Botswana, Dean of Faculty of Agriculture University of Botswana, the Donor (SAREC) representative and the Chief Arable Research Officer Botswana. Due to delays in responding by some of the referees, it sometimes takes longer for some applications to be considered and at times the comments of only one referees have to be used by the committee. It would then be helpful and time saving if all referees could respond promptly to the evaluation requests. Individual research projects are monitored through progress reports sent to SACCAR and visits by SACCAR staff.

4. University Collaboration

One of the drafters' basic underlying reasons for the formation of an organization like SACCAR, although not specifically written, was for the effect of the pooling and meshing of the efforts, ideas and knowledge of many people as a means to foster

coordination and the cooperation of the group to open the lines of communication for the transfer of knowledge. Considering that SACCAR has only recently become fully operational, they have been very effective in opening channels of communications across national lines through networking. SACCAR provides people with similar interest a forum to speak and exchange ideas, namely through the many special interest and commodity groups within the agricultural community. Networking, or the provision of a forum for similar interest groups, has proved to be an effective means for the group to deal with a single problem or an opportunity. The common goals among the Member States of SADCC to improve human capital, land use, crop and animal productivity create the common thread among the States for successful networking as they pool resources and knowledge through networking groups.

Collaboration among the Faculties of Agriculture, Forestry and Veterinary Medicine bringing the Deans of the Faculties together provided a means to bring significant issues into much sharper focus and has thus far set the stage for communications that is essential for the SADCC Member States if they are to produce the needed professional manpower for the food, agriculture and natural resources sector. There have been two workshops for the Deans of Faculties and Directors of Research dealing with manpower development and training. Attendance and participation at these workshops has been excellent. The group has recognized that the shortage of manpower to undertake agricultural research remains a major bottleneck to raising agricultural productivity for the region. Efforts are being made to develop projects aimed at strengthening the faculties so that they can share resources and avoid duplication. Emphasis will be first on strengthening the under-graduate training programs with the realization that post-graduate training is not the greatest constraint to manpower development in the region. An inventory of resources and needs is being developed.

RECOMMENDATIONS

In view of the amount of work and funding required for overall coordination and networking, the committee recommends that:

(a) A separate fund be set aside to be controlled directly by SACCAR for its networking activities, or the member countries must undertake to fully support coordinating activities. EAs for regional projects would do the coordination for specific commodities which would be built into their own programs. However, there will always be those projects which will remain within the national systems even though they may be of regional interest, these and national projects could then be coordinated and networked from the proposed fund.

(b) SACCAR should make arrangements for someone from Devres to visit for a short period to train the Information and Documentation staff to operate the ARRA system. Some inquiries have already been made by SACCAR on this possibility and therefore a follow up can be made.

(c) SACCAR should collect current information from the other countries and update their ARRA data file.

(d) The information in the Directory of Researchers and Trainers should be expanded to indicate briefly the type of research people are currently engaged in. Such information may be obtained directly from national research systems.

(e) SACCAR should seek funds to purchase the literature abstracts on CDROM to enable the information section to operate a literature search service for scientists in the region.

(f) If the current problems with the proposed regional journal can not be resolved within the year, SACCAR should seek Board permission and donor resources to start a

documentation and publishing sub-project for a regional research journal to be implemented through an EA.

(g) Another technical officer be recruited for the Information and Documentation section. The responsibilities of this officer would be mainly editing and publishing of workshop proceedings, the newsletter and perhaps the regional journal.

II.G Institutionalization of the Center and Generation of Additional Resources

The institutionalization of the Center will be considered in the broadest terms and will be taken to include the mandate as well as the responsibilities and authorities assigned to SACCAR. Thus staff and facilities are determined by the roles that have been or may be assigned to the Center.

The underlying principle followed by the SADCC countries when the cooperating conference was established was to avoid the creation of a regional bureaucracy. The cooperation among Member States was to be attained through a regional coordinating structure under the Council of Ministers.

In the case of agriculture the Sectoral Committee of Ministers of Agriculture and Natural Resources supported by coordinating committees of officials in the Ministries of Agriculture and Natural Resources of Member States were to provide the "offices" by which coordination was to be achieved.

The responsibility for coordinating agricultural research was assigned to the Botswana Ministry of Agriculture. The original coordinating body was the Coordinating Technical Committee (CTC) for Agricultural Research made up of the National Directors of Agricultural Research of the member countries. The CTC thus had responsibility for coordinating agricultural research in the region in accordance with the instructions provided by the Sectoral Committee of Ministers of Agriculture and Natural Resources supported by the Committee of Officials for the Sector. The authorities to undertake coordinated research and establish the institutional structures to facilitate coordination are derived from the collective authorities assigned to the members of the Committees of Ministers and Senior Officials and are to be exercised through the CTC. Originally the supporting secretarial services for the CTC were furnished through the Botswana Department of Agricultural Research.

Thus, SACCAR is essentially an expanded CTC that has been institutionalized by a Memorandum of Understanding providing for certain administrative authorities to allow SACCAR to support the regional research coordinating role assigned to the SACCAR Board and who are the Directors of National Research Service, representative Deans of Agriculture and Directors of Extension services. The SACCAR staff are essentially the secretariat for the Board of Directors (which was formerly the CTC). The authorities for SACCAR to carry out its functions are derived in the same way as those of its antecedent the CTC.

The evaluation team considers that the way in which the authorities and responsibilities of SACCAR are derived is an important factor determining the roles and functions to be undertaken by SACCAR. SACCAR is thus a collectivity of national agricultural research and other services and not a separate regional research or service institution. The objectives for the Center make it clear that it is not to undertake "research per se except that which relates directly to its objectives".

The team considers it important to emphasize that the primary role of SACCAR is to function as a secretariat to support the SACCAR Board in carrying out its coordinating functions. As has already been pointed out the role SACCAR has assumed in coordinating research, and more recently graduate education, has been effectively received in the region. The center and its staff have functioned well in drawing attention to the needs for research and training at all levels. It is the assessment of the team that there is also a recognized need to strengthen extension services in the countries of the region to support agricultural development, although not specified in the present mandate, extension is certainly implied. The evaluation team believes that there would be considerable support on the part of Member States for SACCAR to undertake a regional coordinating role in strengthening linkages and other agricultural support services in the region. It is also believed that assumption of responsibility for coordinating extension linkage activities would be welcomed by donors as well. SACCAR could establish priorities, define projects and coordinate support for strengthening national extension and other support services. This

coordinating role is a potentially important one in view of the increasing emphasis being given to agroforestry, wildlife exploitation and resource management in the region. In most member countries only the ministries of agriculture have the extension or advisory service structure to support the "resource manager."

Analysis and Recommendations for the Institutionalization of SACCAR

It is recommended that SACCAR capitalize on the excellent cooperative working arrangements that have been initiated for a coordinated approach in the region. It is considered that the most effective way to achieve this is to strengthen and formalize the regional coordinating structures for research and training and to obtain a formal mandate to coordinate extension linkages and advisory services in the region as well. Research, Training and Extension are closely related from a technical, professional, and developmental point of view and are advantageously closely integrated. In all three areas strengthening of regional capabilities has its foundation in ensuring that there are functioning national capabilities and formalized coordinating structures.

It is recommended that the institutionalization of SACCAR takes place along the following lines:

(a) A consistent coordinating structure be established in all Member States. As has been recommended, a consistent committee system for coordinating research can usefully be established in each Member State based on commodities and other activities (e.g. soil and water management) as deemed necessary to provide the required coordinating structure. The national committees should meet yearly, receive reports of research and prepare plans for the forthcoming year. The annual reports will include workplans and budgets plus and the results of research.

SACCAR should undertake to assist these national coordinating committees with the development of systems of coordination and with the publication of reports.

(b) A consistent project system initially for all commodities or subject areas covered by regional sub-projects be established in all member countries. The project system will be the basis for work planning and budgeting as well as forming the basis for implementing, monitoring and reporting. Workplans including budgets will be prepared for all research carried out in the subject area for approval by the National Directors of Research Services or the SACCAR Board depending on whether the project activity is national or regional in scope. The project plan will be the approval document for all cooperative studies and will imply a commitment of resources (staff and support funds) for the achievement of defined objectives by participants.

(c) A long-term objective would be the extension of the project planning and reporting system to all research. training and linkage activities in the region. The project management system will serve as a basis for assessing research needs and priorities, for inventorying scientific technical and developmental activities in the region and for costing and accounting these activities in the region.

(d) The role of SACCAR for coordinating training services for the National Resource Sector has been confirmed by the Council of Agriculture and Natural Resource Ministers. This role can be most effectively carried out by a coordinating committee of Deans, Principals and Senior officials representing the various sub-sectors. The Coordinating Committee on Training Services will report to SACCAR. It will be assigned responsible for coordinating the Natural Resources Manpower development plans for the region including Strengthening of Faculties of Agriculture, Forestry and Veterinary medicine.

(e) SACCAR should be assigned responsibility for coordinating extension linkages and advisory services in the Natural Resources Sector for the region. The coordinating role in extension linkages and training of subject matter specialists would parallel those for research and manpower development.

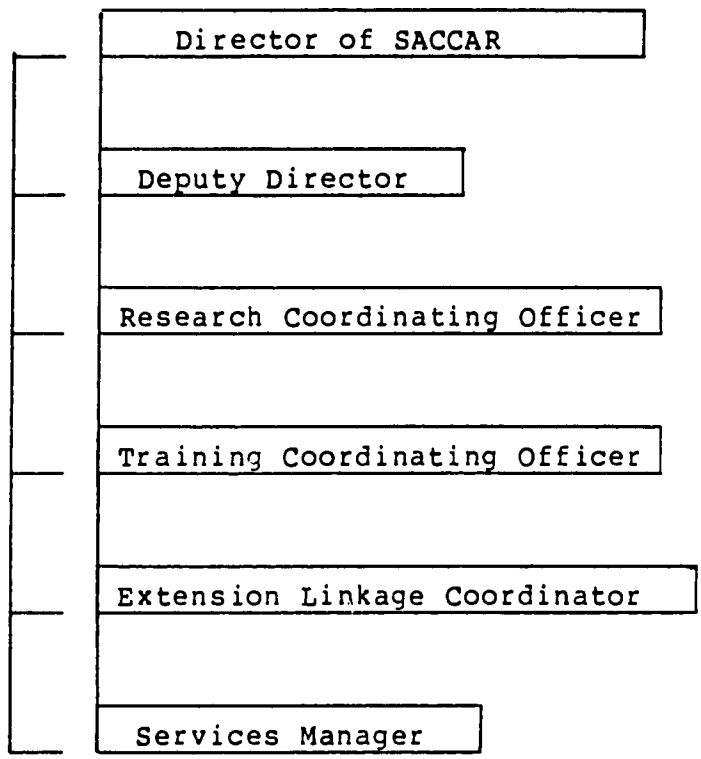
(f) The composition and structure of SACCAR and its board should be reviewed. Expanded representation and adjusted mandate may be required if SACCAR is to carry out its newly assigned sector wide responsibility for coordinating manpower development and its proposed role for coordinating extension and advisory services in the national resources sector as well. New or changed responsibilities must be reconciled within the SADCC coordinating system (Forestry, Wildlife, Fisheries, Land Use and Soil Conservation)

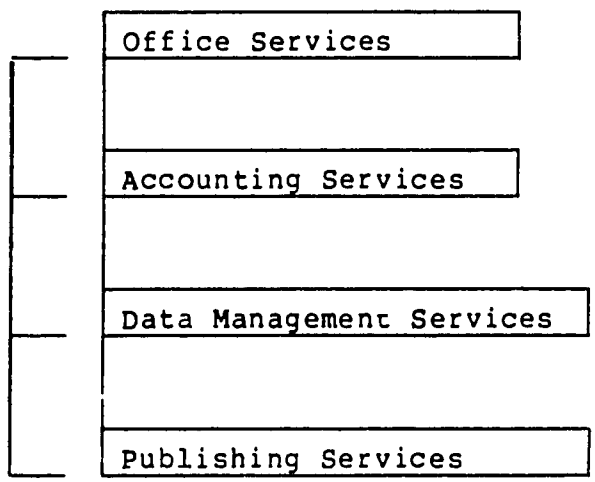
(g) The coordinating systems of SACCAR should be formalized and structured. Thus there should be national and a regional coordinating committee system instead of workshops based on a concept of individual scientific contributions. Working groups or task forces should be struck under the authority of SACCAR to carry out specific assignments and prepare recommendations for the SACCAR board.

(h) SACCAR's information and documentation role should be restricted to coordination of a regional system based on strengthening national capabilities. SACCAR can effectively define priorities and requirements, assess suitable systems and coordinate the establishment of services in the appropriate institutions of Member States. This responsibility should include solicitation and coordination of donor support. SACCAR should not undertake regional operating responsibilities such as archiving information and scientific literature and reports, operating literature search system, publishing journals and other similar functions. Most information work should be for internal management needs.

(i) SACCAR should not undertake the direction and management of research but function as a coordinating body for defining regional projects in support of research, training and extension. In this role SACCAR might serve as a coordinating clearing house for funding regional activities by donors. SACCAR's role in this respect should be restricted to a project coordinating role including possibly the overall advise on financial resources to be allocated to national institutions.

(j) SACCAR should undertake to organize and staff according to the three coordinating roles that have been proposed. The staffing of the deputy director's post is recommended to reduce the extensive demands placed on the Director under the present structure. It is proposed that the center be organized as follows:





II.H. Sociological Dimensions

SACCAR effectiveness in the SADCC region in carrying out its agricultural research mandate will depend upon an equitable distribution of high caliber human resources within the region, including national research systems and regional research projects. Knowledge of the existing manpower to carry out research is of crucial importance to SACCAR as well as to the other scientists of the region.

In realizing this need, the Information and Documentation Unit of SACCAR has conducted studies on the manpower status within the region. This was in line with SACCAR's mandate in that these studies were directly related to its objectives which are:

(a) To facilitate the exchange of information among the national research systems.

(b) To promote the development of the human resources necessary to man the agricultural research systems.

The manpower information which has been compiled was submitted by Directors of Research and Deans of Faculties of Agriculture. They were requested to gather this data in their respective countries and submit it to SACCAR early in 1988. The information requested included scientist's age or date of birth, nationality, highest degree qualification obtained, areas of specialization and consultancy interests. Seven out of nine countries have made their submissions. This descriptive information has been computerized to enable access to anybody requiring it though it has not been analyzed. Submissions differ. Respondents have reported in any one of these forms namely:

(a) Agricultural Research Staff only

(b) Ministry of Agriculture Staff

(c) Agricultural Research Staff and Faculty of Agriculture Staff

(d) Faculty of Agriculture Staff

These submissions are therefore not adequate in that some have left out important information, which is required to make decisions.

Regional Scientists by Country *

Country	Total Number
Angola	50
Botswana	31
Lesotho	30
Malawi	110
Tanzania	302
Zambia	400
Zimbabwe	246

The above figures do reflect the size of the national research systems in terms of manpower. They also reflect on the capabilities of such systems.

*Numbers include expatriate or supernumerary scientists. There were no submissions from Mozambique and Swaziland.

Regional scientists by country and degree qualifications*

		Qualifications		
Country	Report**	Bachelors	Masters	PhD
Angola	A	49	0	1
Botswana	A	2	19	10
Lesotho	A	6	14	10
Malawi	C	32	49	29
Tanzania	D	163	159	80
Zambia	B	272	100	27
Zimbabwe	C	114	80	52

*The technical levels have been left out.
**Refer to submissions above.

Although some of the submissions did not include scientist's date of birth, in general most scientists are relatively young with an average estimated to be approximately 35 years. Most of the young scientists have either a bachelors or masters degree. This indicates that there is potential to further educate those who are at these levels in order to improve on their research capabilities. This technical staff can also be trained as subject matter specialists necessary in technology dissemination.

Donors still require that scientists' gender be included in the analysis to ensure equitable distribution of resources across gender. It is also of importance to know women's contribution to agricultural research as opposed to agricultural production. This information is lacking in the submission, maybe that was not included in the SACCAR request to Deans and Directors. Zambia alone has indicated the sex of its scientists, where less than twenty-five percent (25%) of the reported scientists are female. This issue is important in that it can generate more research in women as researchers versus women in production. Whether the same percentage is true in other research institutions is not known. This information is pertinent to donors who want to ensure that there are no biases. They would want to direct their funds where equity is given top priority. It is therefore necessary to have scientists compiled by gender. SACCAR can therefore make another request or even consult with the rural sociologists within the region to find out more about which information should be included in the request.

Scientists tend to work in the national research institutions within their own countries. More than sixty percent (60%) of the scientists within an institution tend to be nationals. This is a positive aspect to the SADCC region. It means that they can carry out research in the absence of the expatriate staff. Unfortunately most of these nationals have only acquired the bachelors degree which makes them less capable to carry out effective research. It is this incapability which SACCAR is attempting to address through training workshops and long-term training. Both technical and professional staff participate in the workshops. Gender is neither a limiting factor in participation at the training workshops, nor is

it so for nomination for long-term training. Extension and social scientists involved with technology dissemination also receive training opportunities.

Research and Travel Grants

In total 28 research grants have been awarded to individual scientists over a 3-year period starting in 1985/86. Of these only 6 were given to women scientists. This is a very small number. SACCAR has to ensure encouragement of such scientists since their contribution to research is as valuable as that made by their fellow male scientists. The decline in the number of research grants awarded pose more sociological questions which need to be looked into. Of the 23 travel grants that were awarded over the same period, only two (2) were awarded to women. To ensure equity SACCAR will have to encourage female scientists to apply for these grants also. But on the whole SACCAR cannot be blamed if female scientists do not apply.

Socioeconomic Aspects Addressed by International Projects

SACCAR does not necessarily conduct but coordinates research. Through its technical advisory panels (TAP) it coordinates even those functions that deal with the identification of socioeconomic constraints to agricultural development in the region. The dissemination of agricultural technology for the acceptability and actual adoption by farmers depends partly on the inclusion of social scientists and extensionists in the research team. SACCAR through it Memorandum of Agreement with the regional International Projects can ensure that these projects fulfill those aspects that will benefit the farmer. It is unfortunate that none of the projects have so far signed the Memorandum.

The inclusion of social scientists and SMS in the research team is inevitable especially when the final product will have to be communicated to the farmer. Most of these projects start without the social scientists though they later incorporate them. The inclusion of an Economist to the ICRISAT team in Zimbabwe confirms this. Some national research systems that received the ICRISAT

sorghum packages are already testing them for acceptability at farmer level.

The Board of SACCAR has commissioned two impact studies of agricultural research to assess the investment on agricultural research and economic return. The studies will be selected from the following:

i. Maize Research in Zimbabwe
ii. Cotton Research in Tanzania
iii. Tobacco Research in Zimbabwe
iv. Tea Research in Malawi

Analysis and Recommendations

There is pertinent information in the region about scientists, extension personnel and farmers that is unknown. The innovations resulting from all the projects which SACCAR is coordinating, which will require dissemination to the farmers. Their acceptability, rate of adoption and diffusion will have to be assessed for the whole region. This will also enable SACCAR to measure the success of various projects within the region. A compilation of all research projects or studies conducted by national systems and regional projects will be important also.

The review team therefore recommends that:

(a) Study of the Sociological and Cultural Impacts Project on changes in farm practice be reconsidered for funding. SACCAR should seek donor support for this program.

(b) If funded the above project should sign a Memorandum of Understanding with SACCAR.

(c) More information of a sociological nature be compiled on the scientists, as well as the extension personnel, in the SADCC region. This should also include scientists in the other ministries. This will facilitate further establishment of

projects which will spill over to the different sectors or ministries. SACCAR should coordinate this effort in collaboration with the rural sociologists in the region.

(d) SACCAR should continue encouraging the participation of women scientists in applying for both research and travel grants.

(e) Training of technical staff as extension subject matter specialists should also be reinforced.

(f) Extension personnel together with the support disciplines should also receive equal consideration for long-term training.

(g) The decline in awarding scientific study grants should also be investigated to find out its antecedents.

III. PROJECT MANAGEMENT

A. SACCAR Coordination

The amended SACCAR mandate provides direction for regional programs and initiatives sponsored or coordinated by the Center. The Center acts as the secretariat to the Governing Board and transforms their instructions into plans of actions and programs of work to strengthen and support national agricultural systems and institutions. With only a short history of operations the Center has made exceptional progress in laying down a firm foundation for its present activities and for developing both mid- and long-term strategies and plans for priority programs in research, extension and manpower development.

Because its regional role is still evolving SACCAR's coordination efforts to date, both internal and external, have been more ad hoc than formalized or institutionalized, with the Director carrying the major responsibility for defining the Center's direction. However, with increased staffing at the Center, formal steering committees at work, TAPs in place for most regional projects, and a more experienced Board to provide leadership and guidance the need for the Director to assume the role of coordinator for the sector, will hopefully diminish in the near future.

Internal project coordination follows the Center's approved annual workplan, with the SACCAR Director assuming the administrative leadership and technical overview of his line and technical officers. Service personnel are supervised by department leaders, but also fall under the general review of the Director. The team notes that additional staff contemplated for this next year will require a rethinking on Center organization and delegations of authority.

Progress monitoring is provided through twice yearly Board meetings, consultation with SADCC administration and their various committees plus the Council of Ministers. No formalized SADCC review system was made known to the evaluation team, or any plan to develop one.

Analysis and Recommendations

The evaluation team was impressed with the achievements made to date in the development of the Center, recruitment of staff, sub-project coordination and training activities now ongoing in the region. This speaks highly of the organization, the staff and the administrative leadership of SACCAR. During the remainder of Phase I, extensive effort will be required to formalize operational systems, develop standard procedures and institutionalize coordination roles with an emphasis on national organizations and program leaders doing the coordinating. Equally important will be the need for the Center to review its staffing patterns, job descriptions, delegations of authority and assignment of personnel roles within SACCAR.

The team recommends that:

(a) No new senior positions be created in the near term, however the actual position of deputy director and the two technical officers needed in administration and information be filled.

(b) Reorganize information and data personnel into a service division that responds to the technical needs of SACCAR and Member States.

(c) The Director reduce regional and external travel to a minimum and concentrate on developing a structure and linkage mechanisms so that the NARS begin to assume the majority of all ongoing coordination activities and tasks.

(d) The Center develop a standard set of operational and internal monitoring procedures.

B. Sub-Project Administration

In the view of the evaluation team there was considerable uncertainty and confusion surrounding the operation of SACCAR regional projects. The uncertainty was due in some measure to the failure on the part of SACCAR and the executing agencies to sign a MOU, thereby providing a clear framework for operating regional projects.

In addition, however, it was found that the draft memoranda that have been put forward for regional projects do not specify the work to be carried out in operational terms, such as:

(a) The actual research to be undertaken is not defined.

(b) The project budget does not appear to be an integral part of the agreement and the annual budget planning and approval process are not specified.

(c) The location of the project and the contributions to be made by cooperating partners are not specified.

(d) Management requirements (workplanning and budgeting, project organization, coordinating and managing committees relationship to SACCAR etc) are not specified.

(e) An annual workplan and budget approval process involving the executing agency, SACCAR and the donors should be key management requirements.

(f) A project management committee be established which should consist of the Director of National Research Service of the host/coordinating country (chairman), research coordinating officer (project officer), SACCAR (secretary), the EA project leader and representatives of the donors and would meet at least annually to receive project reports, forthcoming year's work plan (including budget) for review and approval.

(g) Technical review of experimental work and plans for the following year's research activities should be developed under the auspices of the regional coordinating committee for the commodity/activity area.

(h) The exact role of SACCAR is not clear because the memoranda include undertakings by SACCAR to facilitate project operation in the region such as exemption from taxes and

duties, freedom to transfer funds and other privileges which the center cannot deliver at the present time.

(i) The significance and the legality of the clause regarding termination of the agreement is not clear in view of the fact that funding goes directly from donors to the various executing agencies.

Analysis and Recommendations Regarding Memoranda of Understanding for Regional Sub-Projects

Considering the importance of a memorandum of understanding (MOU) to establish SACCAR's role in coordinating regional research projects it is recommended that:

(a) A generalized format for a memorandum of understanding be developed that defines (i) the general nature of the project and its components; (ii) the executing agency and the source of funding; (iii) the general organization and management arrangements including SACCAR's roles and responsibilities and those assigned to the EA and donor(s); (iv) a long-term work plan for the project which includes planned activities and budgets not only for the EA but the cooperating NARS as well; and (v) the work planning and approval arrangements.

(b) The privileges accorded the project in respect to taxes, duties and exemptions be specified and that they are to be accorded by SACCAR on behalf of the cooperating countries.

(c) The Memorandum of Understanding be signed by the Chairman of the SACCAR Board, representatives of the donor(s) and the executing agency. A minuted statement that the SACCAR Board has reviewed the statement should be an attachment to confirm member country approval.

(d) No project activities be started until the Memorandum of Understanding involving SACCAR has been signed.

(e) Donors presently financing regional projects move to comply with the above recommendations before the end of 1988.

C. Project Planning

In the present structure planning of regional activities and especially research appears to have been somewhat an informal and ad hoc process. However, what is becoming increasingly evident is that planning has been a directed process in many instances. For example, it was the Committee of Ministers of Agriculture and Natural Resources that "instructed" SACCAR to assume responsibility for coordinating regional manpower development for the sector. Thus SACCAR has consequent responsibility to develop the necessary plans for a coordinated regional training structure at all levels.

It is generally recognized that all regional activities have their base in national institutions and agencies. It is considered important therefore that national interests and prerogatives be respected in all coordination and planning activities at the regional level. For this reason participants at regional planning workshops must formally represent their country and of course that country's official interests.

Participation of national officers in coordinating committees in workshops and planning groups should be an official assignment by their government. It is for this reason that the committee has recommended coordination activities (which include planning) should be formally structured and organized.

Analysis and Recommendation for Regional Planning

The evaluation team recommends that:

(a) Planning be considered an integral part of the regional coordinating activities. Participants in these coordinating activities should be by formal appointment by the country in question (made through the appropriate ministry). Appointees to coordinating committees, working groups, study teams must represent the point of view of their country.

D. USAID Management

Resource allocations for the overall SADDC portfolio remains an AID Washington Bureau affair, with USAID Zimbabwe designated as the principal administrative unit. At an early stage of SACCAR implementation certain Project Officer duties were shared between the Zimbabwe Mission and USAID Botswana. In 1987, because of SACCAR headquarter's location and the Government of Botswana's role as SADCC coordinator for the agricultural sector, full project management responsibilities were delegated to AID Botswana.

USAID personnel have participated in a number of SACCAR networking activities and planning sessions. It appeared to the team that a positive and open relationship exists between AID Botswana personnel and SACCAR administration and technical staff. Project and fiscal documentation was considered complete and the project manager, comptroller, and support staff were well versed on SACCAR's progress, status and implementation issues.

Project management, during this last part of phase I, could be enhanced if AID's fiscal records were kept by the project agreement budget line items.

Analysis and Recommendations

Based upon donor interviews and the Project Agreement the team observes that greater attention should be given by USAID Botswana and SACCAR in promoting the required annual donors' meeting. This occasion should be used to jointly review and approve SACCAR annual workplans and donor FY support budgets. This management element seemed to be badly missing at this point in the life of the project. Major changes in SACCAR's Mandate, such as the inclusion of manpower development across the entire Agricultural and Natural Resources sector, would seem to require full donor consultation, formal approval and perhaps a ProAg amendment. The team was unable to identify such a process or the resulting documentation. It was also apparent that project management should include planned periodic site visits to sub-sector programs and attendance at key SACCAR meetings and planning sessions.

The team recommends that:

(a) AID facilitate an annual donors' meeting which will review SACCAR annual operational work plans and budgets and provide joint approval for FY disbursements.

(b) AID allocate adequate resources to provide staff management coverage for project site visits and attendance at key SACCAR planning sessions.

(c) SACCAR formerly invite the AID project manager, as an observer, to open Board meetings and planning session.

E. SADCC Management

The SADCC secretariat does not view itself as supervisors or the managers of SACCAR. Rather they are the Secretariat to the Council of Ministers to which all SADCC sector coordinating units are responsible. Further, there seems to be no reporting requirement of SACCAR to SADCC. "The Council has the last word on all sector activities."

The staff of the SADCC secretariat believe the present management of the SACCAR center is highly satisfactory. However, they have commented that as with all new organizations there is much yet to refine and formalize in their regional coordination and training activities, especially in working linkages with the coordinating country for the sector, the Government of Botswana. Botswana needs to better understand and articulate, to Member States, the long term implications of regional programs, project financing, policy issues and the role of SACCAR. The coordination tasks of SACCAR in relationship to sub-projects, program content, medium and long term research and training priorities and plans are messages that Botswana needs to relate within the Sector to collaborating countries.

The issue of the need for MOUs between Member States, executing agencies, donors, host countries, collaborating agencies and SACCAR is of great interest to the SADCC secretariat. SADCC, following the

instructions of the Record of the Council of Ministers (January 1988, sections 6.1 through 6.4), is working on clarification of this and other issues and in developing new sector guidelines.

The team's observation was that the secretariat was quite positive on including Extension linkages in SACCAR's mandate and as a part of all regional sub-projects. During the interview, the need to include such a coordination effort across all sections of the Agriculture and Natural Resources Sector was clearly articulated and discussed with secretariat personnel.

Analysis and Recommendations

The team was impressed with the excellent understanding by the secretariat on the present status of SACCAR management, their administrative systems and procedures. Concern about keeping staffing in line with resources and yet meet the growing SACCAR mandate was well articulated. Any increase of SACCAR staff, especially a deputy director or special administrator, in order that more effort can be devoted to working on long range planning and refinement of SACCAR's coordination systems should be justified on an analysis of cost/benefits to the program. In the future much of the coordination activities should be delegated to national programs and technicians, rather than left to the limited SACCAR staff. The team agrees and urges SACCAR to include resources in their existing or new regional programs to cover multi-country coordination activities.

The team recommends that:

(a) The SACCAR Board recommend to the Council that Extension Coordination be included in the SACCAR mandate.

(b) That the GOB better articulate to Member States the long-range implications of SACCAR's role and tasks in financing, policy development, sub-project management, and setting research and training priorities for the agricultural sector.

(c) All regional projects provide resources for required coordination activities.

IV. FINANCIAL MANAGEMENT AND CONTROL

A. Accounting and Financial Records

The financial accounting and control systems used by SACCAR were reviewed by the evaluation team and appear to be adequate for the present situation. The computerized program provides for segregation of all donor funds by working line items as well as the ability to aggregate by expenditure items, projects, activities and funding source. Books are closed each month on all accounts, after bank statements are received. Proper back-up documentation was available at site.

With the accounting and recording system in place financial reports can be quickly generated for reimbursement purposes or normal reporting requirements. At present SACCAR prepares quarterly financial reports that are provided to their board, donors and SADCC.

Analysis and Recommendations

Respective donor funds are held in separate accounts which allows for easy reconciliation against expenditure, actual cash balances and outstanding obligations. Cash flow according to the financial officer has not been a problem and most donors have been timely in their reimbursement procedures. SACCAR financial reporting and liquidation delays experienced early in the project have been overcome with the arrival of an experienced financial officer and the implementation of the present accounting and recording system. The GOB Auditor General's Office just completed an audit, no suggestions were made for improvement by SACCAR administration.

It was apparent that if the current workload is expanded or that SACCAR assumes the role of overseeing the financial operations of sub-project and regional programs, present staffing will not be sufficient.

The team recommends SACCAR considers adding a technical officer to their administrative and financial section.

B. Budgets

Detailed operational budgets and annual work plans for SACCAR core operations are prepared for each fiscal year (March to March) these are reviewed by the SACCAR Board and then sent to the Sectoral Committee of Ministers of Agriculture and Natural Resources for their input and approval. From this committee the budget goes to the Council of Ministers, via the Standing Committee of Officials, for final approval and implementation . Progress against original estimates are reviewed during the year by the Board. If needed the Board has the authority to make changes, within a FY, between approved budget line items.

Analysis and Recommendations

Annual work plans and the detailed budget have provided a sufficient basis for project monitoring by donors as well as the Board. The review team was concerned about the need for SACCAR assuming major responsibility for overseeing budget development for the regional sub-projects that they coordinate. The process of donor approval for both the SACCAR core operations budget and regional programs was not clear, nor was it clear if this is done on a yearly basis. The team feels that consolidated budgets showing core funding, donor project funding and Member State inputs should be developed for the SACCAR headquarters program as well as each their sub-projects in the Agriculture and Natural Resources Sector. This would provide a more accurate overview of actual contributions as well serving as a basis for future planning in the regionalization of SADCC programs as donor support diminishes.

The team recommends that

(a) A donors' meeting, as required in the Project Agreement, be held each year to approve annual budget and work plan submissions.

(b) Consolidated budgets be developed for SACCAR operations as well as for all their sub-projects.

(c) As a part of regional project coordination SACCAR clearly describe and use a common regional system to develop and approve all sub-project budgets and annual work plans.

(d) Donors subscribe and fully participate in this procedure.

C. Audits

The SACCAR program has been audited three times during the life of project, twice by a private firm and most recently by the GOB's Auditor General's Office. Sub-projects are not audited by SACCAR, or its representative, but are handled on an individual basis between the executing agency and the particular donor. The funds for travel and study grants awarded by SACCAR are not individually audited by SACCAR. This is not considered necessary because the majority of these funds are channeled through the financial systems of governmental agencies or universities to the individual grantees and thus conform to required national laws, financial standards and regulations.

No recommendations were made in the recent GOB audit concerning fiscal operations, the Auditor General states; "the accounts have been properly kept; and the accounts, which have been prepared on a basis consistent with that of the previous year, present a true and fair view of the financial affairs of the organization as at 31st March, 1988 and the results of its operations for the year then ended." The audit report follows the same channel of SADCC approvals that the annual work plan and budget must pass.

Analysis and Recommendations

The team is concerned about a standard procedure for financial auditing of SACCAR sub-projects in the region that will provide Member States and donors assurance that project funds are accountable and that proper financial control measures are in place, both at the sub-project level and regionally.

The team recommends that:

(a) SACCAR require a standardized financial control and audit practices for all regional programs that they coordinate.

(b) Each donor use and fund this system in their SADCC projects.

D. Member States and Other Donors Contributions

Member States' contributions to SACCAR were to reach US$ 53,000 during this fiscal year. At present all but one country has made full payment. Proposed estimates for SADCC members for the FY 1989/90 will be US$ 81,000.00 or about 20% of originally projected General Operational expenses, of US$ 321,000. During this next FY donor contributions to headquarters and program costs are expected to reach about US$ 788,300.00. Capital expenditures are projected at US$ 140,000 for this same period.

At the end of the first 5 year, Phase I, project an estimated US$ 3,006,900.00 will have been spent, or about 62% of the 5.3 million dollar total budget. Based upon these balances, and maintaining present expenditure levels, it is assumed that an additional two years of a no-cost extension could be made to the present program.

Analysis and Recommendations

With the possible exception of Tanzania most of the SACCAR Member States, at the time of the evaluation, were paid up for this fiscal year. As of March of 1988, only about US$ 7,000 are in the arrears. Member States will meet their quotas for general operations as originally set forward. Whether SACCAR can become self-sufficient, through SADCC assessments, remains doubtful. However, as the regional system becomes more institutionalized many of the present cost factors of SACCAR's coordination activities could be born by regional projects or national agricultural research and training systems.

The team recommends that:

(a) Donors continue to support SADCC agricultural programs through a no-cost SACCAR extension and in a second phase, but that Member States' contributions continue to assume a larger proportion of SACCAR operational costs.

(b) Where possible, coordination expenses be incorporated into regional programs before their implementation.

(c) SACCAR search for ways to move more coordination activities and responsibilities to NARS, the university community, and other participants in regionally financed programs.

V. CONSTRUCTION AND CAPITAL PROJECTS

A. SACCAR Office Block

With the assistance of the GOB, SACCAR nominated an architect to design and supervise the construction of a new office block, funded by USAID and NORAD. Following approval of the design by SACCAR, its funding partners and the GOB, a contractor was appointed after the tender acceptance. The office block, completed in 1987, is adjacent to the Botswana Ministry of Agriculture's Research Station at Sebele, outside the capital city of Gaborone. Construction costs were reported to be US$ 205,059.00.

Additional office space and laboratory areas are planned to accommodate the Land and Water Management Research Program. Construction will begin in 1989, anticipated costs are US$ 1.8 million, with donor support requested by the GOB from the EEC.

B. Staff Houses

Three Type II (three bedroom) staff houses for regionally recruited senior staff, costing US$ 110,834.00, were completed in 1986/87. These were respectively occupied early in 1987 by the Director, the Manpower and Training Officer, and the Documentation and Information Officer. A fourth house, two bedroom, was not felt adequate for the Finance and Administration Officer. At present the home is rented to a staff member of the Land and Water Management sub-project.

The Board of SACCAR approved the construction of two additional three bedroom senior staff houses, at US$ 108,000, from balances of funds from Capital Costs. The Board further instructed SACCAR to negotiate with donors for additional resources if the balances were insufficient to cover the cost of the new houses. No contingency funds have been used thus far in the project.

C. Equipment and Vehicle Purchases

During this first phase of the program capital investment has been made in the following items; Audio Visual and Instructional

Equipment, Computers and Support Equipment, Staff and Office Furniture, and Project Vehicles. Approximate expenditures through the close of the last fiscal year, March 1988, were US$ 140.877.00. All capital items purchased under the project are at present located at SACCAR Sebele headquarters.

Analysis and Recommendations

The evaluation team was impressed with the office block, in terms of a functional building for planned SACCAR needs it clearly fulfills present and future requirements. In the opinion of the USAID mission engineer, no two bedroom house should have been constructed and the director's home should have been of a more functional design for SACCAR representational requirements.

Several of the data, information, and accounting systems were delayed because of late computer and equipment purchases, but are now in operation. A "desk top publishing" capacity is now under consideration.

The team questions the proposed placement of the new ODA facility and considers that if constructed adjacent to the present office block it would give an improper impression that SACCAR was becoming a regional research institution and not remaining a small cost efficient SADCC coordination unit.

The team recommends that:

(a) The Board consider adequate representational housing for the SACCAR director.

(b) The Board review the physical location of the new facilities for the Land and Water Management Research Program, particularly it is recommended that colocation with the Botswana Department of Agricultural Research be reconsidered.

(c) SACCAR invest in proper desktop publication equipment and software.

VI. LESSONS LEARNED

1. Although institutionalization may be necessary for some of the SADCC sub-sectors, it is a complicated and a financially expensive process. The capital inputs involved in the establishment and recurrent costs for maintaining the institution are very large. The fact that it took two years for SACCAR, after its establishment, to become fully operational is enough evidence of the complexities involved in institutionalization. Hence this course of action should be undertaken after SADCC has fully satisfied itself that the institution is an absolute necessity.

2. Institutionalization (of SACCAR) has promoted even further the spirit of cooperation and regionality among agricultural scientists and trainers in the region. These groups, through the activities of SACCAR, have become more aware of the fact that SADCC does in fact go beyond just political friendship and brotherhood. The financial commitment and contributions of Member States in the SACCAR activities indicate the strong sense of a common course and goal among Member States.

3. Through regional networks, SACCAR has been able to identify effectively areas of priority in agricultural research and training which are of regional and national importance and interest. The involvement of national scientists in setting these priorities and strategies for action have ensured that all or most Member States do benefit from the projects developed. The concept of networking though complicated is a good one and can be effective if extended to all SACCAR sub-projects and to other SADCC sub-sectors.

4. The involvement of the IARCs as executing agencies for regional projects has been positive and is welcomed by most people. However, the scale of operation and financial input by donors is excessive in some projects and therefore needs to be scaled down to a reasonable size that can in the future be afforded by SADCC or national governments when donor funding ceases. Member States have to be able to sustain these projects whether as a group or as individuals in the near future. It is reasonable to assume that SADCC's long term plan is to reduce donor dependency in all its projects.

5. Unless a proper and uniform coordinating structure is formulated, SACCAR cannot efficiently and effectively coordinate and control activities of the EAs. Although it is assumed or taken for granted that these agencies for all intents and purposes are working on behalf of SACCAR, they also have to answer to their parent bodies and the donors, therefore to them in this triangle of bosses, SACCAR may just be of secondary importance. Much tighter control by SACCAR is necessary. Signed MOUs with full donor endorsement will be a first step.

6. For NARS and training institutions to effectively assume responsibility for regional programs or projects, national governments should be willing to, as far as it is physically and bureaucratically feasible, remove all obstacles which will stand in the way of progress. The present situation with the proposed regional journal for agricultural research illustrates the importance of bureaucratic support to maintain SACCAR's credibility and keep projects operating as well. The need for proper agreements and formal understandings should not be lost.

VII. EXPANDED LIST OF RECOMMENDATIONS

A. SACCAR Coordination Activities

o Research Coordination

It is the recommendation of the team that all research in the region be considered as components of a regional system and that:

(a) A formally structured regional research coordinating system be established with SACCAR serving as the secretariat for the coordinating system.

(b) The regional coordinating system be an aggregation of national research coordinating systems.

(c) Where no national systems exist SACCAR assist with their establishment; where national structures exist that SACCAR assist with their strengthening.

(d) That the research coordinating structures to be developed in each of the Member States be compatible regionally.

(e) The function of the national systems as well as the aggregated regional coordinating system is to report and review the previous year's activities and plan and propose research activities for the forthcoming year.

(f) All public sector research in the region be planned and controlled on a project management system requiring the preparation of annual workplans and budgets which must be formally approved at the national or regional levels as appropriate.

(g) The SACCAR Board be the approval body for those regional projects involving more than one country.

(h) The national research service in which research activities serving more than one country are centered be

assigned responsibility for directing and coordinating that regional research activity on behalf of SACCAR.

o Technology Development

It is strongly recommended that:

(a) SACCAR be authorized and supported to expand its Mandate to include the promotion and coordination of extension services in the region. To do this would give SACCAR responsibility for three areas of agricultural services:

(1) human resource development for both research and extension subject matter specialists (SMS);

(2) research services;

(3) extension linkage mechanisms.

It is suggested that SACCAR undertake to organize its activities in terms of these three functions.

o Special Studies and Grants

The team recommends that:

(a) The planning of special studies appears to need improvement and study purposes be more clearly defined. Similarly progress made by study projects should be reported as well. It is frequently not clear if projects were started and are underway.

(b) An alternative means of stimulating the use of the research grants would be to take a directive approach and offer grants to a research center or a university to undertake new research initiatives or to promote cooperative work in the region. The research initiatives supported in this way could conform to priorities established by the Board of SACCAR.

B. Operation of Regional Research Projects

In the view of the evaluation team it is important that the long-term plans for regional research projects be established without delay so that future direction for regional coordinated research activities can be made known and the regionally coordinated activities can be developed and organized accordingly. The team recommends that:

(a) Operation of regional research services by the NARS. The participation of the NARS in a "regional project" would be an integral and defined part of the NARS participating in the various regional projects. Funding of regional activities would also have to be a regular part of a cooperating country's national budgets. This kind of a cooperative arrangement will require clearly defined and costed activities on the part of all the NARS involved. To undertake a regionally integrated program of this kind will require careful and thorough planning, and the development of well defined and specific working arrangement among the participating countries.

It would be most logical for the NARS of one country to take responsibility for coordinating the regional project and reporting to SACCAR.

(b) Donor funding for regional projects could similarly be channeled through this kind of a nationally coordinated arrangement instead of going to some regional body which is then required to set up the management and administrative bureaucracy to undertake this role.

C. SACCAR Training and Manpower Development

Workshops, Seminars and Short Courses

In view of the forgoing, the team recommends that:

(a) In developing plans for workshops, SACCAR should take cognizance of training and workshop plans for the various

SACCAR sponsored sub-projects particularly those having steering committees and large training components in which many national scientists are also involved in addition to their regular national programs of work. In view of these sometimes conflicting demands SACCAR should develop an annual masterplan for the region's training activities and seek the necessary approvals from the Board.

(b) Attempts be made to publish and distribute all workshop proceedings that are in arrears before the end of this calendar year. Proceedings from future workshops should thereafter be speedily published. This should be possible if the number of workshops is reduced and scheduled at suitable intervals throughout the year.

(c) Workshops need to focus on specific issues or themes and should have clearly defined objectives. Recommendations and/or resolutions should be clearly defined, practical and be of regional importance.

(d) The field of post harvest research needs focus in future workshops mainly because it is a new field in the region but yet an important one in the regional Food Security Project.

Strengthening Agricultural Universities

SACCAR's expanded mandate to coordinate manpower development for the entire natural resources sector has introduced a new dimension to the center's regional roles. It is generally agreed therefore that:

(a) More attention be given to strengthening of undergraduate programs in order to meet the manpower needs for the sector.

(b) In recognition of the importance of extension services in all aspects of natural resource development and particularly for developing the human resource capability, SACCAR could beneficially take a more active role in the regional coordination of extension linkage activities in the natural resources sector.

(c) The question of articulation and accreditation was examined at some length by the team. It is evident that greater effort has to be made to resolve this issue in order to allow the exchange of students between universities in the region.

(d) The team supports the decision taken by the Heads of Faculties of Agriculture and NARS to establish centers of specialization for graduate training. SACCAR should, however, continue to solicit funds to strengthen and support undergraduate training programs. To achieve some economies of scale it is proposed that such funds be disbursed to support specific undergraduate training programs that address fields of study that are of a regional priority e.g. Soil Science, Horticulture, etc.

(e) From a regional perspective the whole question of articulation and accreditation particularly at the undergraduate level needs to be re-addressed immediately. Regional resources are being lost because of different entrance level requirements between countries, not granting credits for diploma or certificate holders working towards a degree and duplication of training facilities within the region. It is therefore recommended that SACCAR sets up a Working Group to examine this question and recommend solutions to the Deans and SACCAR for further action e.g student exchange.

(f) The Technology transfer capabilities in the region need strengthening. To this end it is recommended that SACCAR in collaboration the IARCs in the region mount a Working Group to assess each member country's efforts in this field and formulate plans of action for improving extension linkages.

(g) SACCAR encourage NARS and regional projects to provide training opportunities to personnel involved in the agricultural extension services including Socio-Economists and Subject Matter Specialists and Seed Technologists.

(h) The ISNAR course coordinator be located in Botswana to achieve closer integration with regional activities in research management.

Graduate Training

In the evaluation of SACCAR's activities in the field of graduate level manpower development and the need to strengthen the Faculties of Agriculture, Forestry and Veterinary Medicine, it is recommended that SACCAR take note of the following:

(a) SACCAR needs to ascertain national and ultimately regional manpower requirements for the Food, Agriculture and Natural Resources Sector of SADCC. This should be or could be undertaken as a Special Study and the report should form a basis for a workshop to determine how best to deploy the available resources.

(b) In the analyses of demand in the agricultural manpower requirements, SACCAR should take special note of the relatively low demand of the smaller SADCC countries (Botswana, Lesotho and Swaziland) that arise because of their smaller populations. The demand for trained agricultural personnel in proportional terms remains lower but similar to that projected for the rest of SADCC. It would appear that the one way these countries can benefit from SACCAR's training programs is to assist in the development of their Departments of Agriculture probably as regional centers for specific fields of study. Soil science could be based in Botswana to take advantage of the Land and Water Management Project, Horticulture in Lesotho and Agricultural Education/Food Technology in Swaziland.

(c) Initially specific fields of graduate study and their supporting components should be established at one university. Thus all engineering should be concentrated at Sokione University, all Plant Sciences at the University of Zambia (UNZA), all Social Sciences at the University of Zimbabwe and Animal Sciences at Bunda College, Malawi.

(d) SACCAR should encourage closer cooperation between IARCs and Faculties of Agriculture so that the later can draw on the expertise available in these regional centers, such as teaching, supervision of graduate students, and research projects.

D. Networking Coordination

In view of the amount of work and funding required for overall coordination and networking, the committee recommends that:

(a) A separate fund be set aside to be controlled directly by SACCAR for its networking activities or the member countries must undertake to fully support coordinating activities. EAs for regional projects would do the coordination for specific commodities which would be built in within their own programs. However there will always be those projects which will remain within the national systems even though they may be of regional interest, these and national projects could then be coordinated and networked from the proposed fund.

(b) SACCAR should make arrangements for someone from Devres to visit for a short period to train the Information and Documentation staff operate the ARRA system. Some inquiries have already been made by SACCAR on this possibility and therefore a follow up can be made.

(c) SACCAR should collect current information from the other countries and update their ARRA data file.

(d) The information in the Directory of Researchers and Trainers should be expanded to indicate briefly the type of research the people are currently engaged in. Such information may be obtained directly from national research systems.

(e) SACCAR should seek funds to purchase the literature abstracts on CDROM to enable the information section to operate a literature search service for scientists in the region.

(f) If the current problems with the proposed regional journal can not be resolved within the year, SACCAR should seek Board permission and donor resources to start a documentation and publishing sub-project for a regional research journal to be implemented through an EA.

(g) Another technical officer be recruited for the Information and Documentation section. The responsibilities of this officer would be mainly editing and publishing of workshop proceedings, the newsletter and the regional journal.

E. Institutionalization of the Center

It is recommended that the institutionalization of SACCAR takes place along the following lines:

(a) A consistent coordinating structure be established in all Member States. As has been recommended, a consistent committee system for coordinating research can usefully be established in each Member State based on commodities and other activities (e.g. soil and water management) as deemed necessary to provide the required coordinating structure. The national committees should meet yearly, receive reports of research and prepare plans for the forthcoming year. The annual reports will include workplans and budgets plus and the results of research.

SACCAR should undertake to assist these national coordinating committees with the development of systems of coordination and with the publication of reports.

(b) A consistent project system initially for all commodities or subject areas covered by regional sub-projects be established in all member countries. The project system will be the basis for work planning and budgeting as well as forming the basis for implementing, monitoring and reporting. Workplans including budgets will be prepared for all research carried out in the subject area for approval by the National

Directors of Research Services or the SACCAR Board depending on whether the project activity is national or regional in scope. The project plan will be the approval document for all cooperative studies and will imply a commitment of resources (staff and support funds) for the achievement of defined objectives by participants.

(c) A long-term objective would be the extension of the project system to all research, training and extension activities in the region. The project management system will serve as a basis for assessing research needs and priorities, for inventorying scientific technical and developmental activities in the region and for costing and accounting these activities in the region.

(d) The role of SACCAR for coordinating training services for the National Resource Sector has been confirmed by the Council of Agriculture and Natural Resource Ministers. This role can be most effectively carried out by a coordinating committee of Deans, Principals and Senior officials representing the various sub-sectors. The Coordinating Committee on Training Services will report to SACCAR. It will be assigned responsibility for coordinating the Natural Resources Manpower development plans for the region including Strengthening of Faculties of Agriculture, Forestry and Veterinary medicine.

(e) SACCAR should be assigned responsibility for coordinating extension linkages and advisory services in the Natural Resources Sector for the region. The coordinating role in extension would parallel those for research and manpower development.

(f) The composition and structure of SACCAR and its Board should be reviewed. Expanded representation and adjusted mandate may be required if SACCAR is to carry out its newly assigned sector wide responsibility for coordinating manpower development and its proposed role for coordinating extension and advisory services in the national resources sector as

well. New or changed responsibilities must be reconciled within the SADCC coordinating system (Forestry, Wildlife, Fisheries, Land Use and Soil Conservation etc.)

(g) The coordinating systems of SACCAR should be formalized and structured. Thus there should be national and a regional coordinating committee system instead of workshops based on a concept of individual scientific contributions. Working groups or task forces should be struck under the authority of SACCAR to carry out specific assignments and prepare recommendations for the SACCAR board.

(h) SACCAR's information and documentation role should be restricted to coordination of a regional system based on strengthening national capabilities. SACCAR can effectively define priorities and requirements, assess suitable systems and coordinate the establishment of services in the appropriate institutions of Member States. This responsibility should include solicitation and coordination of donor support. SACCAR should not undertake regional operating responsibilities such as archiving information and scientific literature and reports, operating literature search system, publishing journals and other similar functions. SACCAR's information work provide for internal management tools.

(i) SACCAR should not undertake the direction and management of research but function as a coordinating body for defining regional projects in support of research, training and extension. In this role SACCAR might serve as a coordinating clearing house for funding regional activities by donors. SACCAR's role in this respect should be restricted to a project coordinating role including possibly the oversight of financial resources to be allocated to national institutions.

(j) SACCAR should undertake to organize and staff according to the three coordinating roles that have been proposed. The staffing of the deputy director's post is recommended to reduce the extensive demands placed on the Director under the present structure.

F. Sociological Dimensions

The review team therefore recommends that:

(a) The Study of the Sociological and Cultural Impacts of changes in farm practice be reconsidered for funding. SACCAR should seek donor assistance for this project.

(b) The above project, if funded, should sign a Memorandum of Understanding with SACCAR.

(c) More information of a sociological nature be compiled on the scientists as well as the extension personnel in the whole region. This should also include scientists in the other ministries. This will facilitate further establishment of projects which will spill over to the different sectors or ministries. SACCAR should coordinate this effort in collaboration with the rural sociologists in the region.

(d) SACCAR should continue encouraging the participation of women scientists in applying for both research and travel grants.

(e) Training of technical staff as extension subject matter specialists should also be reinforced.

(f) Extension personnel together with the support disciplines should also receive equal consideration for long-term training.

(g) The decline in awarding scientific study grants should also be investigated to find out its antecedents.

G. Project Management

o SACCAR Coordination

The team recommends that:

(a) No new senior positions be established in the near term.

(b) Reorganize information and data personnel into a service division that responds to the technical needs of SACCAR and Member States.

(c) The Director reduce regional and external travel to a minimum and concentrate on developing structure and linkage mechanisms so that the NARS begin to assume the majority of all ongoing coordination activities and tasks.

(d) The Center develop a standard set of operational and internal monitoring procedures.

o Sub-Project Administration

Considering the importance of a memorandum of understanding to establish SACCAR's role in coordinating regional research projects it is recommended that:

(a) A generalized format for a memorandum of understanding be developed that defines (i) the general nature of the project and its components; (ii) the executing agency and the source of funding; (iii) the general organization and management arrangements including SACCAR's roles and responsibilities and those assigned to the EA and donor(s); (iv) a long-term work plan for the project which includes planned activities and budgets not only for the EA but the cooperating NARS as well; and (v) the work planning and approval arrangements.

(b) The privileges accorded the project in respect to taxes, duties and exemptions be specified and that they are to be accorded by SACCAR on behalf of the cooperating countries.

(c) The Memorandum of Understanding be signed by the Chairman of the SACCAR Board, representatives of the donor(s) and the executing agency. A minuted statement that the SACCAR Board has reviewed the statement should be an attachment to confirm member country approval.

(d) No project activities be started until the Memorandum of Understanding involving SACCAR has been signed.

(e) Donors presently financing regional projects move to comply with the above recommendations before the end of 1988.

o Regional Project Planning

The evaluation team recommends that:

(a) Planning be considered an integral part of the regional coordinating activities. Participants in these coordinating activities should be by formal appointment by the country in question (made through the appropriate ministry). Appointees to coordinating committees, working groups, study teams must represent the point of view of their country.

o USAID and Donor Management

The team recommends that:

(a) AID facilitate an annual donors' meeting which will review SACCAR annual operational work plans and budgets and provide joint approval for FY disbursements.

(b) AID allocate adequate resources to provide project management coverage for site visits and attendance at all key SACCAR planning sessions.

(c) SACCAR formerly invite the AID project manager, as an observer, to key Board meeting and planning session.

o SADCC/SACCAR Management

The team recommends that:

(a) The SACCAR Board recommend to the Council that Extension Coordination be included in the SACCAR mandate.

(b) That the GOB better articulate to Member States the long-range implications of SACCAR's role and tasks in financing, policy development, sub-project management, and setting research and training priorities for the agricultural sector.

(c) All regional projects provide resources for required coordination activities.

H. Financial Management

o Accounting and Financial Records

(a) The team recommends SACCAR considers adding a technical officer to their administrative and financial section.

o Budgets

The team recommends that:

(a) A donors' meeting, as required in the Project Agreement, be held each year to approve annual budget and work plan submissions.

(b) Consolidated budgets be developed for SACCAR operations as well as for all their sub-projects.

(c) As a part of regional project coordination SACCAR clearly describe and use a common regional system to develop and approve all sub-project budgets and annual work plans.

(d) Donors subscribe and fully participate in this procedure.

o Audits

The team recommends that:

(a) SACCAR require a standardized financial control and audit practices for all regional sub-projects that they coordinate.

(b) Each donor use and fund this system in their SADCC projects.

o Member States Contribution

The team recommends that:

(a) Donors continue to support SADCC agricultural programs through a no-cost SACCAR extension and in a second phase, but that Member States' contributions continue to assume a larger proportion of SACCAR operational costs.

(b) Where possible, coordination expenses be incorporated into regional programs before their implementation.

(c) SACCAR search for ways to move more coordination activities and responsibilities to NARS, the university community, and other participants in regionally financed programs.

I. Construction and Capital Projects

The team recommends that:

(a) The Board consider adequate representational housing for the SACCAR director.

(b) The Board review the physical location of the new facilities for the Land and Water Management Research Program, particularly it is recommended that colocation with the Botswana Department of Agricultural Research be reconsidered.

(c) SACCAR invest in proper desktop publication equipment and software.

ANNEX NO. 1

REGIONAL AGRICULTURAL RESEARCH COORDINATION (690-0225) SCOPE OF WORK FOR THE INTERIM EVALUATION OF THE SOUTHERN AFRICAN CENTER FOR COOPERATION IN AGRICULTURE RESEARCH - SACCAR

Section One: Activity to be Evaluated

The project to be evaluated, SACCAR, is the coordinating center for the Agricultural Research and Training Subsector of the Food, Agriculture and Natural Resources Sector of the Southern African Development Coordination Conference (SADCC). SADCC was established in 1980 to enhance cooperation among its nine member-states to foster mutual development in order to reduce their economic dependence.

SACCAR was created in 1984 to coordinate agricultural sector activities in the SADCC region. AID funded the project in late 1984, Center activities started in 1985 and became operational in 1986-87. The present Grant Completion Date is April 1, 1990.

Authorization Number: 690-0225

Title: Regional Agricultural Research Coordination

Cost: $1,500,000.00

Life of Project: September 18, 1984 - April 1, 1990

Section Two: Purpose of the Evaluation

A joint Donor/Government interim evaluation will review, the validity of, and progress towards attainment of the project's objective of establishing an institution for regional cooperation which will coordinate agricultural research and training activities among SADCC member-states. The evaluation objectives are three-fold. First, review the effectiveness of policies, systems, procedures and long-term strategies established thus far and recommend mid-course corrections, as necessary. Secondly, assess the adequacy of staff in relation to work load, annual work plans, service requests and the manner of their execution and ways to streamline them, as appropriate. Thirdly, consider the amount and extent of direct and indirect financial contributions of SADCC member-states to the general operating costs of SACCAR in terms of institutionalization and sustainability.

Section Three: Background

A. Introduction

Nine countries form the membership of SADCC; Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. As a technical and economic body, SADCC

has undertaken programs in a number of high priority sectors amenable to coordinated actions; these include agriculture, communications, transport, industry, manpower development, energy and mining. AID supports and assists SACCAR, a five year, 5 million Dollar jointly designed regional agricultural research and training coordination project that is co-financed with CIDA, IDRC, SAREC, NORAD and SADCC.

B. Project Goal, Purpose and Objectives

The SACCAR program emphasizes a long-term commitment to the development of national capacities to plan and implement agriculture research, seen as an essential ingredient to raising food productivity of member-states. This project has the goal of improving and developing agriculture research systems and human resources in the region in order to lead to more effective land use, improved agricultural productivity, and enhanced growth of farmer income.

The purpose is to establish an institution which serves as a focal point for cooperation in the region and coordination of activities in agricultural research and manpower development among SADCC members. SACCAR strategy is to provide a continuous forum for national agricultural planners, profesoriate, researchers, and administrators. This forum is to help key personnel work together, will provide access to information and technical assistance for research, and provide graduate level training and educational opportunities for appropriate personnel.

Section Four: Statement of Work

The rational for an interim evaluation is to assess project status and progress so that, if necessary, mid-course adjustments can be made to enhance and improve future project implementation.

A. Study Areas

1. Assess and determine if project inputs are creating the organizational capability to provide regional leadership and to service the following activity areas:

- o Promotion of Coordination in Agricultural Research
- o Workshops and Training
- o Documentation and Publications,
- o Grants and Special Studies, and,
- o Graduate Level Manpower Development.

2. Determine and make an initial assessment of the impact of identified direct project outputs, on the institutionalization of SACCAR and on the improvement of research coordination and cooperation in the SADCC region.

3. Make a preliminary assessment of the impact of SACCAR's long-term strategies, plans, and activities on technology generation and dissemination processes by national agricultural research programs and on possible technology adoption by small farmers within the SADCC region.

4. Assess and determine the role and extent of SACCAR involvement in generating additional resource allocations for the institutionalization of the Center and for new regional research initiatives and training projects.

5. Assess SACCAR's role as coordinator of regional programs and review the effectiveness of the project with respect to its Mandate for teaching/research and catalytic activities.

6. Evaluate the overall management, administrative and technical capabilities of SACCAR to establish and maintain the necessary policies, systems, and procedures of an effective regional coordination center - with a view to recommending improvements and/or more cost efficient approaches.

B. Key Issues Related To The Study Areas That Need To Be Focused Upon During The Evaluation:

1. Based upon present member-state resource allocations to SACCAR and the long range financial plans of the project, ascertain the potential for institutionalization and sustainability of the program as a solely SADCC financed operation. List project line items that appear will exceed budgeted allocations during the present life of project.

2. Determine if the original project goal and activities are still valid in terms of present regional needs. Has the inclusion of Agricultural Universities and graduate level manpower development into the program necessitated project changes or Grant amendments?

3. Review the several regional baseline inventories, data banks, and 'internal monitoring system' that were to be developed or maintained by the project and determine what uses are being made of these by SACCAR and by member-states.

4. If possible, some of the team members should attend SACCAR scheduled workshops, seminars or conferences prior to the formal evaluation in order to determine the validity of these activities and the levels of participation and interest shown by national agricultural institutions and their personnel.

5. Determine the extent to which the Newsletter and Journal meet the needs of participating programs in the region, with a view towards this activity becoming self-supporting through subscriptions.

6. Determine if the Donor's Group is receiving the information and data they require for internal reporting and fiscal management needs. Suggest changes or improvements that may be needed to maintain the interest and collaboration of this project support element.

7. Determine if the role and actual Mandate of SACCAR as the coordinator of regional programs are still valid and clearly understood by research projects operating in the SADCC region. Enumerate those that have signed a Memorandum of Agreement with SACCAR, those that have not, and major reasons for non signatories.

Section Five: Methods and Procedures

In accordance with the Grant Agreement and PIL #1, an Interim Evaluation is scheduled to take place at the end of the first two years of project implementation. A two week review is proposed, for late July or early August 1988.

The SACCAR regional office, in consultation with USAID Botswana, will identify if there are participating countries or institutions that must be visited by the evaluation group in order to address the Study Areas and Project Activities, in Section Four above. The SACCAR regional headquarters will also provide office space, meeting rooms, secretarial services, accommodations and other logistical support to the evaluation team.

The team will follow the format and guidelines established by USAID in the Supplement to Chapter 12, AID Handbook 3, Project Assistance, entitled, "AID Program Design and Evaluation Methodology Report No.7". The Team will use the following data collection and analysis methods:

1. Review of project documentation and formal presentations by the SACCAR director and his technical staff describing the current state of work, accomplishment and progress made since initiation of the project (1985).

2. Interviews and discussions with available SADCC, Government of Botswana, member-state and SACCAR personnel involved in the project, and where appropriate examinations of their work documents, reports, trial results, training outlines and instructional materials.

3. Review the management and administrative policies and procedures with an emphasis on SACCAR headquarter's operations, but also with regional research coordination and/or cooperating subprojects .

4. Interview where possible; SACCAR trainees, awardees of Research Grants, Travel Grant participants, collaborating institutions, the donors group and technical personnel working with SACCAR affiliated regional research or training subprojects.

Section Six: Evaluation Team Composition

A six member evaluation team will be composed of two representatives from the donors group, one from the Government of Botswana, one from SADCC and one each from two member-states. Resource personnel for the team will originate from USAID Botswana, SACCAR headquarters, and participating country or regional programs. A REDSO Officer will be designated team leader.

Section Seven: Reporting Requirements

The format of the evaluation report will follow AID guidelines established in "The Supplement of Chapter 12 of AID Handbook 3", and will include an executive summary, recommendations, lessons learned, a table of contents, the body of the report, and appropriate appendices (e.g. logical framework, evaluation scope of work, contact list, bibliography, etc.).

The evaluation team will specify conclusions based upon the findings of the study and prepare a set of recommendations for improving future project implementation process. The report will be written jointly by the evaluation team under the coordination of the team leader who will be responsible for submission of the document to relevant institutions.

The draft of the evaluation is due prior to the team's departure from Botswana. The final version is due to USAID within 30 days of the evaluation's completion.

Section Eight: Funding

Financial support for the review operation will originate from (the evaluation line item?) the project budget. Donor team members will be provided and financed by their parent Agencies.

Estimated cost of the Evaluation: $12,000.00

	Project	Donor
Honoraria	600.00	-0-
International Travel Costs		
Kenya and Return* (1)		$785.00
Zimbabwe and Return (3)	$1011.00	505.00
Lesotho and Return* (1)	367.00	
Swaziland and return* (1)	400.00	
*Zimbabwe addition	200.00	100.00
In-country Travel Costs @ 200 ea.	800.00	400.00
Per diem (4 x 10 days at $82.00 per day)	1640.00	1640.00
Per diem (6 x 5 days at $68.00 per day)	1360.00	680.00
Materials, Supplies and Services	1000.00	200.00
Totals	$7378.00	$4310.00

Cleared by AID Botswana and SACCAR

ADO Project Officer:, P. Daly_____ date

SACCAR Director: Dr. M Kyomo _____ date

Wang Disk; SOW, McColaugh 10/4/88

ANNEX NO. 2

LISTS OF ACRONYMS

AID	Agency for International Development (USA)
A/NR	Agriculture and Natural Resources
ARRA	Agriculture Research Resource Assessment (Devres)
CABI	Commonwealth Agricultural Bureau of Information
CDROM	Compact Disk Read Only Memory
CIAT	International Center for Tropical Agriculture
CIDA	Canadian International Development Agency
CIMMYT	International Maize and Wheat Improvement Center
CTC	Coordination Technical Committee (SADCC)
EA	Executing Agency (SACCAR Sub-Projects)
EEC	European Economic Commission
EMBRAPA	National Agriculture and Fish Research Institute of Brazil
FOREX	Foreign Exchange (currency)
FRG	Federal Republic of Germany
FSR	Farming Systems Research
FY	Fiscal Year
GIS	Geographic Information System
GOB	Government of Botswana
GTZ	German Agency for Technical Cooperation
HCN	Host Country National
IARC	International Agricultural Research Center(s)
IBPGR	International Board for Plant Genetic Resources
ICRAF	International Council for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semin-Arid Tropics
IDRC	International Development Research centre
IITA	International Institute for Tropical Agriculture
ILCA	International Livestock Centre for Africa
ISNAR	International Service for National Agricultural Research
MOA	Ministry of Agriculture
MOU	Memorandum of Understanding
NAES	National Agriculture Extension Service
NARS	National Agricultural Research System (Service)
NGB	Nordic Gene Bank
NGRC	National Genetic Resource Center
NMC	Nordic Council of Ministers
NORAD	Norwegian Overseas Agency for Development
ODA	Overseas Development Administration
PCMCCA	Cooperative Program for Crop Improvement for Central America
REDSO/ESA	Regional Economic Development Services Office East and Southern Africa
SACCAR	Southern African Centre for Cooperation in Agriculture Research
SADCC	Southern African Development Coordination Conference
SAREC	Swedish Agency for Research Cooperation with Developing Countries
SIDA	Swedish International Development Authority
SMS	Subject Matter Specialists (Extension)
SRC	SADCC Regional Gene Bank
TAP	Technical Advisory Panel
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNZA	National University of Zambia
USAID	United States Agency for International Development

ANNEX 3

INTERIM EVALUATION OF SACCAR
AUGUST 27 - SEPTEMBER 15, 1988

Members of the Team
Dr. J.S. Clark, CIDA Harare
Mr. P.A. Daly, USAID Gaborone
Dr. L. Setshwaelo, SADCC Botswana
Dr. J. Pali Shikhulu, SADCC Swaziland
Mrs. T. Matobo, SADCC Lesotho
Mr. R.E. McColaugh, USAID Nairobi Team Leader

August 27	Assemble in Harare, Zimbabwe
August 28	Start Work
August 29	Interview USAID Staff Harare (Ms. A. Herrick, Director, Mr. E. Witt, Agricultural Development Officer)
	Interview Secretary, Ministry of Agriculture, Zimbabwe
	Interview CIDA staff (Ms. G. Paine)
	Interview Acting Director, Dept. of Agric. Research, Zimbabwe (Mrs. N. Gata)
	Interview Acting Dean, Faculty of Agric. University of Zimbabwe (Dr. P. Tongoona)
	Interview Staff of IITA (International Inst. of Tropical Agric.) (Dr. D.M. Naik)
August 29 (Second group)	8:30 - Interview Dr. G. McLaren, Head - Biometrics Travel Grant Recipient
	9:30 - Interview Dr. E. Whingwiri, Assistant Director (Crops) Department of Agricultural Research and Specialist Services
	10:30 - Drive to the University of Zimbabwe and Interview: Dr. L. Ndlovu - Travel and Research Grant Recipient Mr. S. Tembo - Attended Workshop in Maputo on draft power Dr. O.A. Chivinge - Workshop in Swaziland on IPM Dr. Steven Waddington - CIMMYT Harare
	1:00 - Return to Hotel 2:30 - Interview Dr. A. Mosha, Post Harvest Food Security Unit
August 30	Part of the Team to Interview Research Grant and Travel Grant Recipients
	Interview CIMMYT staff (Dr. Steve Waddington)
	Part of the Team to visit the SADCC/ICRISAT Sorghum and Millets Improvement Programme, Matopos, Bulawayo and interview staff in the Programme

August 31	The whole Team to arrive in Gaborone, Botswana
September 1	8:00 - 9:00 - Interview Director (John Hummon) and Assistant Director (John Roberts) USAID
	9:00 - Interview Director Dept. of Agric. Research (Dr. D. Gollifer)
	11:00 - Interview Principal, Botswana Agric. College (Mr. E. Kemsley)
	11:30 - Interview Dean, Faculty of Agriculture (Dr. G.C. Mrema)
September 2	11:00 - Interview Resident Representative of NORAD (Dr. V.G. Isaksen)
	12:00 - Interview SAREC Rep. in Swedish Embassy (Mr. L.O. Hook)
	2:30 - Interview Representative of CIDA (Ms. D. Leonard)
	3:30 - Call on the Executive Secretary SADCC (Dr. C.J. Hove, Dr. J. Kisa)
September 3-4:	Report Writing
September 5	8:00 - Call at SACCAR (Mr. P. Boyle, Mr. C. Namponya)
	12:00 - Call on Dr. D. Norman, Team Leader ATIP Dept. of Agricultural Research, Sebele
	2:30 - 4:30 - Work at SACCAR
September 5	Interview the Documentation and Information Staff of SACCAR (Mr. C. Namponya, Mr. P. Boyle)
September 6	Interview: Team Leader, Land and Water Management Research Programme of SADCC (Dr. A. Paine)
September 7	Interview the Director of SACCAR (Dr. M. Kyomo)
	Interview the Manpower and Training Staff of SACCAR. The Manpower and Training Officer and the Manpower and Training Technical Officer (Dr. D. Wanchinga)
September 14	2:00 - Interview Mr. E. Maphanyane, Economist, SADCC Secretariat
September 15	2:30 - 3:00 - Meet Mr. G. Motsemme, Chief Agricultural Economist, Ministry of Agriculture and Coordinator of SADCC's Agricultural Research and Training, and Livestock Production and Animal Disease Control Sectors.

ANNEX 4

PERSONS AND INSTITUTIONS INTERVIEWED

Dr. S. Muchena	Deputy Secretary(Technical), Ministry of Lands, Agriculture and Rural Resettlement, Govt. of Zimbabwe.
Mrs. N.R. Gata	Assitant Director(Plant Protection) Department of Agricultural Research and Specialist Services, Ministry of Lands, Agriculture and Rural Resettlement. Government of Zimbabwe
Dr. P. Tongoona	Acting Dean, Faculty of Agriculture University of Zimbabwe
Ms. A. Herrick	Director, USAID, Harare, Zimbabwe
Mr. E. Witt	Agricultural Development Officer, USAID, Harare, Zimbabwe
Ms. Gail Paine	First Secretary(Development), Canadian High Commission, Harare, Zimbabwe
Dr. S.C. Gupta	Millet and Forage Breeder. SADCC/ ICRISAT Sorghum and Millet Improvement Programme. Matopos, Zimbabwe
Mr. S. Ambrose	Administrator, SADCC/ICRISAT Sorghum and Millets Improvement Programme Matopos, Zimbabwe
Dr. M. Osmanzai	Agronomist. SADCC/ICRISAT Sorghum and Millet Improvement Programme. Matopos, Zimbabwe
Dr. K. Leuschner	Entomologist. SADCC/ICRISAT Sorghum and Millet Improvement Programme Matopos, Zimbabwe
Dr. D.M. Naik	Representing IITA
Dr. C.G. McLaren	Biometrician, Dept. of Agricultural Research and Specialist Services Ministry of Lands, Agriculture and Rural Resettlement, Govt. of Zimbabwe
Mr. E.M. Maphanyane	Economist I, SADCC Secretariat Gaborone, Botswana
Mr. J.J. Kisa	Technical Advisor, SADCC Secretariat Gaborone, Botswana

Mr. C.J.G. Hove	Economist II/Project Officer, SADCC Secretariat, Gaborone, Botswana
Mr. G.L. Motsemme	Chief Agricultural Economist, Ministry of Agriculture, Government of Botswana
Dr. E. Whingwiri	Assistant Director(Crops), Department of Agric. and Specialists Services Ministry of Lands, Agriculture and Rural Resettlement, Harare, Zimbabwe
Dr. A.O. Chivinge	Crop Science Dept. University of Zimbabwe
Dr. S. Tembo	Soil Science Dept. University of Zimbabwe
Dr. L. Ndlovu	Animal Science Dept. University of Zimbabwe
Dr. S. Waddington	CIMMYT Representative, c/o University of Zimbabwe
Dr. A. Mosha	Post Harvest Food Security, Unit of SADCC, Harare, Zimbabwe
Dr. John Hummon	Director, USAID, Gaborone, Botswana
Mr. J. Roberts	Deputy Director, USAID, Gaborone Botswana
Mr. V. Isaksen	Resident Representative, NORAD Gaborone, Botswana
Ms. Debra Leonard	CIDA Representative, Gaborone, Botswana
Mr. Lars Olof Hook	SAREC Representative, Swedish Embassy Gaborone, Botswana
Dr. D. E. Gollifer	Director, Dept. of Agric. Research Ministry of Agricutlure, Botswana
Dr. A. Pain	Team Leader, SADCC/ODA Land and Water Management Project, Gaborone, Botswana
Dr. D. Norman	Team Leader, Agricultural Technology Improvement Project(ATIP) Dept. of Agricultural Research, Botswana
Mr. E. Kemsley	Principal Botswana Agricultural College Gaborone, Botswana
Prof. G.C. Mrema	Dean, Faculty of Agriculture, University of Botswana

Dr. M.L. Kyomō	Director, SACCAR
Dr. D.M. Wanchinga	Manpower and Training Officer, SACCAR
Mr. C.R. Namponya	Documentation & Information Officer SACCAR
Mr. P.J. Boyle (IDRC supported)	Senior Information Adviser, SACCAR
Mr. C.L. Kwalombota	Finance and Administration Officer, SACCAR

SADCC's PROGRAMME OF ACTIO

Annex 5.1

THE PROGRAMME OF ACTION COMPROMISES
PROGRAMMES AND PROJECTS IN THE FOLLOWING SECTORS:

1. Energy Conservation and Development.
   Coordinating Country - Angola

2. Food, Agriculture and Natural Resources
   Coordinating Country - Zimbabwe
   (see separate chart regarding coordination of Sub-sectors of this Sector).

3. Industry and Trade
   Coordinating Country - Tanzania

4. Manpower Development
   Coordinating Country - Swaziland

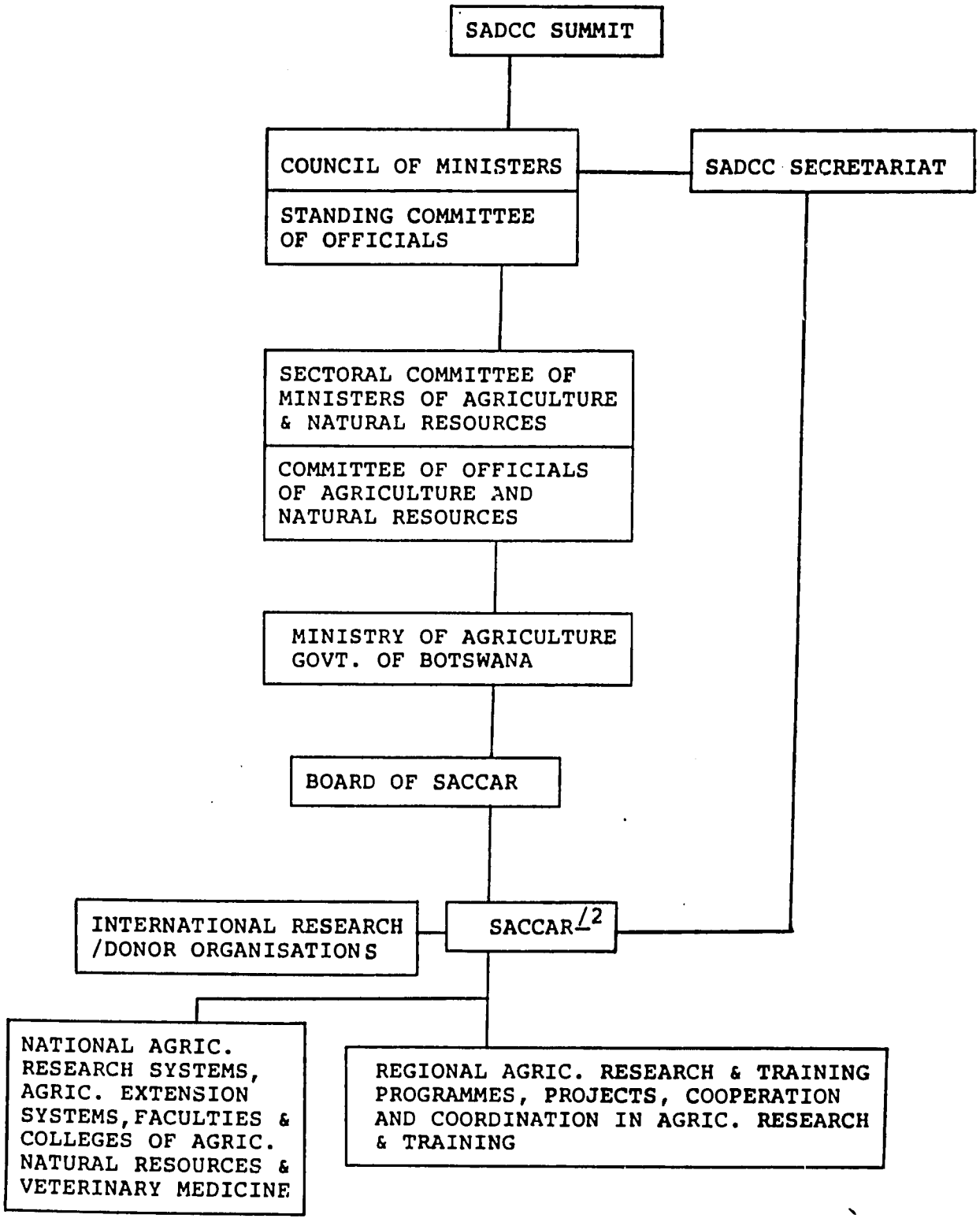
5. Mining
   Coordinating Country - Zambia

6. Tourism
   Coordinating Country - Lesotho

7. Transport and Communications
   Coordinating Country - Mozambique

Headquarters of SADCC Secretariat - Gaborone, Botswana.

ORGANISATIONAL RELATIONSHIPS OF SACCAR AND SADCC /1

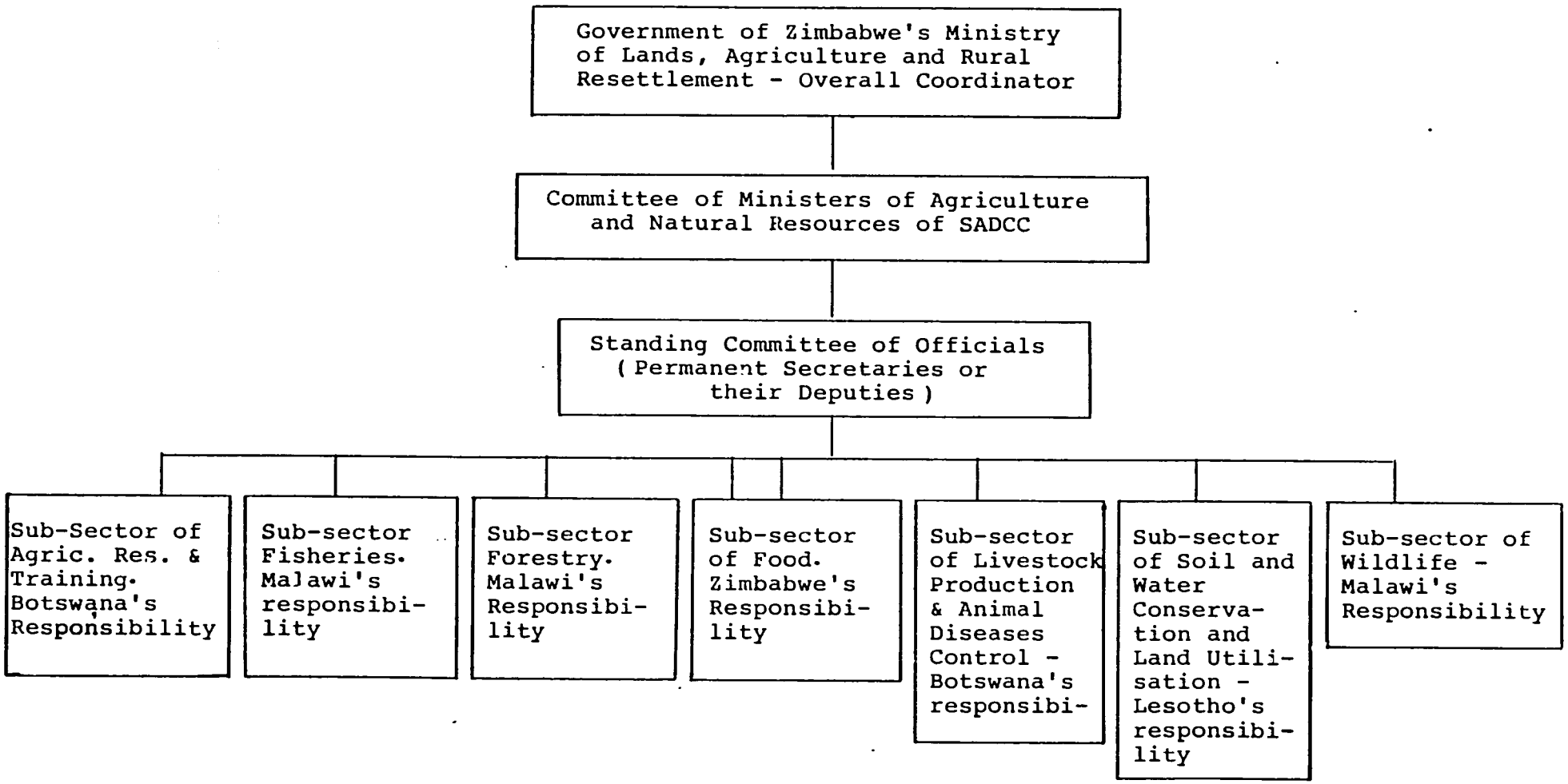


/1 Southern African Development Coordination Conference

/2 Southern African Centre for Cooperation in Agricultural Research and Training

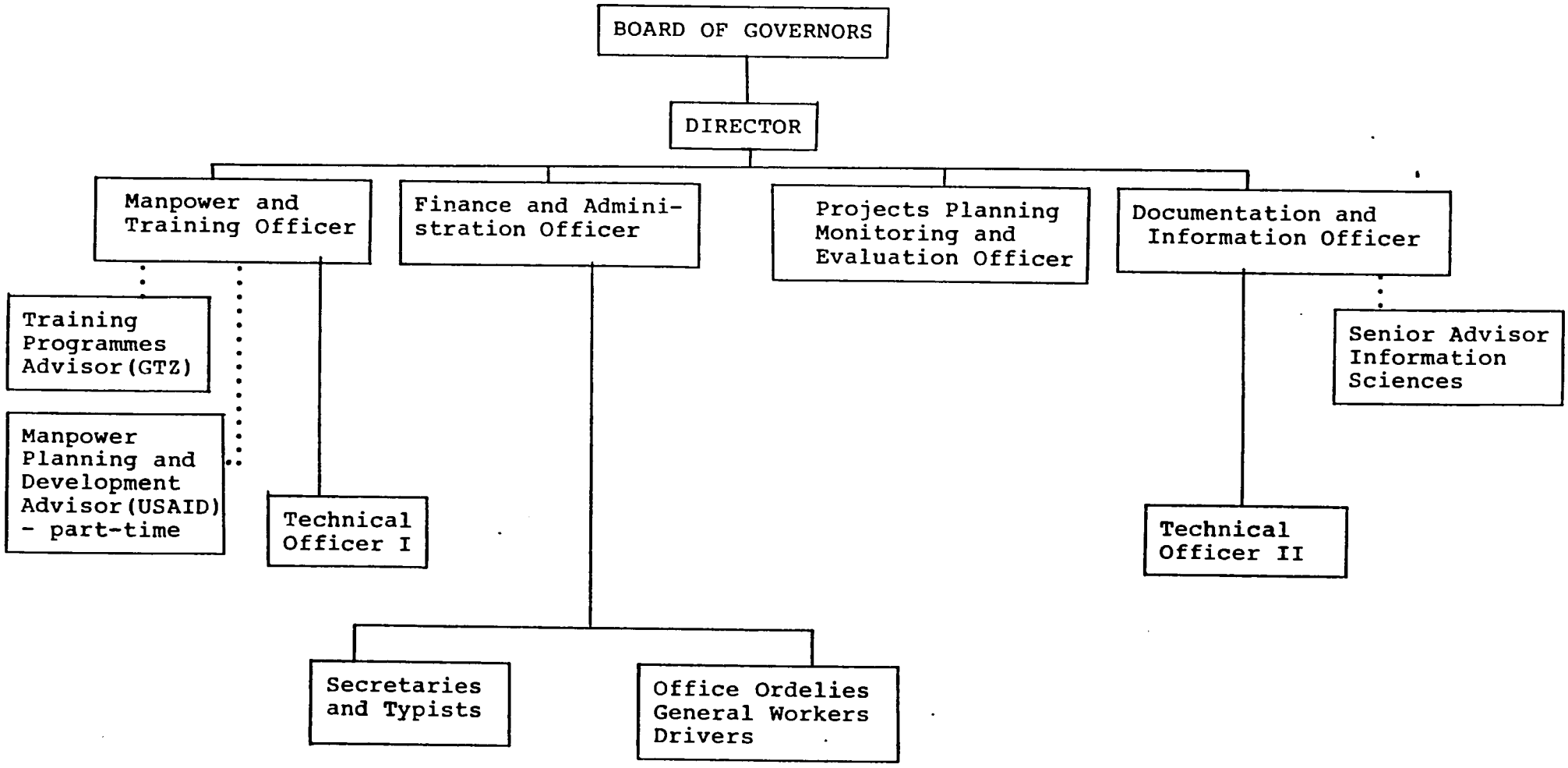
Annex 5.3

ORGANISATIONAL CHART FOR THE SECTOR OF FOOD, AGRICULTURE AND NATURAL RESOURCES OF SADCC



Annex 5.4

INTERNAL ORGANISATIONAL CHART OF SACCAR



KEY: _____ chain of command of Established posts

..... chain of command of Temporary staff

STAFF TIME ALLOCATIONS

Activities of the SACCAR relate to two broad areas namely:

1. Core Activities

- Servicing the Board of SACCAR
- Documentation on regional agricultural research and development policies and plans.
- Preparation of inventory of national and regional research programmes and projects.
- Research Programme Reviews.
- Publishing SACCAR Newsletter.
- Publishing the Agricultural Research Journal.
- Publishing Special Reports and Studies.
- Participating in Regional Meetings
- Participating in International Meetings.
- Preparing SACCAR Budgets and Programme of Work.
- Preparing Terms of References for Special Studies on common regional problems.
- Commissioning preparation of special publications.
- Manpower Training and Career Development
  - Processing Research Grants
  - Processing Travel Grants
  - Preparing and Running Conferences, Seminars and Workshops
  - Preparing Manpower Assessment Studies.

2. Coordination Role of SACCAR

Formulation of Regional Research and Training Programmes and Projects.

- Preparation of Memorandum of Understanding between SADCC and SACCAR with donor and executing agencies

- Selection of Executing Agencies

- Advertisement of jobs for Regional Projects

- Selection of Candidates

- Assisting Staff in the Regional Projects in moving around in SADCC member states.
- Assisting Universities to strengthen training in Agricultural Sciences
- Assisting in moving research and training equipment and research and training materials into SADCC member states

- Participation in Steering Committees of Regional Programmes and Projects

- Participation in Technical Advisory Panels of Regional Programmes and Projects

- Interaction with Donors and International Agricultural Research and Training Institutions

- Assessment of Resources allocation to agricultural linkages

- Assess feasibility and likely benefits of regional professional associations of researchers and trainers.

The Senior Staff spend approximately the following percentage of their time on various activities:

ACTIVITY	PERCENTAGE TIME
Attending to Research & Travel Grants, Publications, Report Preparation, Policy Planning	27
Board Activities	4
Preparation and Participation in Conferences, Workshops and Seminars of SACCAR	14
SADCC meetings	12
Other sectors of SADCC Meetings and liaison	4
International meetings on matters related to mandate of SACCAR	9
Coordination of Regional Research and Training Activities	30
TOTAL	100

120

ANNEX 7

PUBLICATIONS AND TRAINING MATERIALS

1. Agronomic Adjustment to the Environment on the 400-600 mm Rainfall Zone of Southern Africa. SACCAR Publication Series No. 1 held in Harare, Zimbabwe, September, 1983.

2. SADCC Agricultural Research Conference, Gaborone, Botswana 21-23 February, 1984.

3. Appropriate Manpower for Agricultural Research and Extension in the SADCC countries. Proceedings of a Workshop held in Gaborone, Botswana. 25-26 September, 1985. SACCAR Publication Series No. 3

4. Smallholder Dairy, Small Ruminant, Pig and Poultry and Rabbit Production in SADCC countries. Proceedings of a SACCAR Workshop held in Maseru, Lesotho. 26-27 November 1986. SACCAR Publication Series No. 4.

5. Post-graduate Training in Animal Science in Africa. Presented at the FAO Expert Consultation on Institutional Development and Training Programme in Africa. Held in Harare, Zimbabwe. 9-13 September, 1985 - By Prof. M.L. Kyomo - Director of SACCAR.

6. Appropriate Manpower for Agricultural Research, Training and Extension in SADCC member states. SACCAR workshop held in Gaborone, Botswana. November, 1985 - by Prof. M. L. Kyomo.

7. Evaluation of Agricultural Research in SADCC. Presented at an IDRC sponsored workshop on Evaluation in Agricultural Research Systems held in Singapore. 7-9 July, 1986 - by M.L. Kyomo, A.L. Doto and C.L. Keswani.

8. Preparation of the revised Policy and Strategies for the Sector of Food and Agriculture, 1986. Director of SACCAR was member of the team that prepared these.

9. Report of Activities of SACCAR for 1986-87.

10. Agricultural Research in Eastern and Southern Africa. Issues and Priorities. Presented at the World Bank workshop on strengthening Agricultural Research in Eastern and Southern Africa held in Nairobi, Kenya. December, 1987.

11. Structure and Distribution of Land and Corresponding Yields of Field Food Crops in Eastern and Southern Africa. Presented at the FAO/SIDA Workshop on Increasing Food Production in Sub-Saharan Africa held in Harare, Zimbabwe March 1987 - By M.L. Kyomo and C.L. Keswani.

12. Policy and Strategy for SADCC's Agricultural Research Sub-Sector. Presented at the Workshop on: "The Role of Faculties of Agriculture, Forestry and Veterinary Medicine in Meeting SADCC's Manpower Needs for Agricultural Research, Extension, Training and Agricultural Policy Formulation," held in Harare, Zimbabwe. February, 1987 - By M.L. Kyomo

13. The Southern African Centre for Cooperation in Agricultural Research (SACCAR)'s Strategies in Meeting SADCC's Professional Manpower Demands for Food, Agriculture and Natural Resources. Presented at a Workshop in Role of Faculties of Agriculture, Forestry and Veterinary Medicine mention under ..... above by Dr. D.M. Wanchinga Manpower and Training Officer at SACCAR.

14. Manpower Planning and Development in Southern Africa; themes, issues and the role of SACCAR presented at a workshop on: "Manpower Planning and Development for Agriculture and Natural Resources in SADCC" held in Maseru, Lesotho. August 22-25, 1988 by D.M. Wanchinga.

15. Need to strengthen agricultural information services in SADCC research, extension and training services and

institutions presented at the workshop on: The Role of Faculties of Agriculture, Forestry and Veterinary Medicine in SADCC held in Harare, Zimbabwe. 23-27 February, 1987 by Mr. P. J. Boyle, Senior Advisor, Information Sciences at SACCAR.

16. Regional Cooperation in Agricultural Research and Training: An Example from the Southern African Development Coordination Conference(SADCC). Presented at a workshop on Strengthening Agricultural Research in Sub-Saharan Africa held in Feldafing, West Germany. September, 1987.

17. A Coordinated initiative to preserve and improve farm animal germplasm in Eastern and Southern Africa. Presented at a workshop on: Role of Chemistry in Improving Food Supplies, held at ICIPE, Nairobi, Kenya. 18-21 July, 1988.

18. Editorial Guidelines for Authors of SACCAR Publications. SACCAR Occasional Publication No. 1, 1988.

IN THE PRESS

1. Proceedings of the Workshop on: The Role of Faculties of Agriculture, Forestry and Veterinary Medicine in meeting SADCC's Professional Manpower Needs for Agricultural Research, Extension, Training and Agricultural Policy Formulation held in Harare, Zimbabwe. 23-27 February, 1987.

2. Proceedings of a Workshop on: The Potential for Horticultural Production in SADCC held in Blantyre, Malawi. 23-27 March, 1987.

3. Proceedings of the Workshop on: Animal Traction(Draught Animal Power) and Agricultural Mechanisation in SADCC held in Maputo, Mozambique. 10-12 August, 1987.

4. Proceedings of the Workshop on: Integration of Agricultural Research, Extension and Training in SADCC held in Arusha, Tanzania. 22-27 February, 1988.

5. Proceedings of the Workshop on: Seed Research, Certification and Exchange in SADCC, held in Lusaka, Zambia. June 13-18, 1988

6. Proceedings of the Workshop on: Integrated Pest, Diseases and Weed Management in SADCC held in Mbabane, Swaziland. 1-4 August, 1988.

7. Proceedings of the Workshop on: Manpower Planning and Development for Agriculture and Natural Resources in SADCC held in Maseru, Lesotho. August 22-25, 1988.

124

ANNEX 8

SUMMARY OF SUB-PROJECTS OF THE SECTOR OF AGRICULTURAL RESEARCH AND TRAINING OF SADCC

3. PROJECT DESCRIPTIONS

3.0.1 LAND AND WATER MANAGEMENT RESEARCH PROGRAMME, SACCAR

Estimated Costs Total: US$1.875 m Foreign: US$1.875 m Local: -	**Financing Gap:** -
	Executing Agency: SACCAR/ODA
Funding Secured Foreign: US$ 1.875 m (UK) Local: -	**Start:** March 1987
	Duration: 4.5 years

Objectives: The programme's objective is to increase the availability of rainwater for rain-fed land use activities, and thereby, stabilise agricultural production.

Progress: The project core will be a research programme based in Botswana, initially, on two different catchments. Initial research will focus on quantifying water balances at the catchment level (both macro and micro), on a seasonal and rainfall event basis. An integral part of the programme will be the development and an evaluation of appropriate management interventions at both the macro and farm level.

The project will be developed to support a regional network of activities in land and water management and support relevant national research in the following ways:

a. by developing conceptual approaches and appropriate methodological procedures relevant to national programmes within the region;

b. by providing specific technical advice and assistance to national programmes, where appropriate, on research design and objectives, equipment choice, instrumentation and data analysis;

c. by developing and supporting relevant training;

d. by acting as a regional resource centre for land and water research activities, with literature and other facilities;

e. by organising meetings of professionals involved in land and water management research in the region; and,

f. by coordinating the mobilisation and utilisation of funds and other resources to support relevant programmes.

Status: The programme is staffed by a team leader, soil physicist, hydrologist and agronomist. Support staff are currently being recruited. Activities to date have centred around establishing an office, ordering of equipment and vehicles, making contacts and familiarisation in the SADCC region. To date, visits have been made to Zimbabwe, Lesotho and Malawi and contacts established with the SADCC Soil and Water Conservation and Land Utilisation Unit in Lesotho to ensure close collaboration.

3.0.2 SORGHUM AND MILLET PROGRAMME

Estimated Costs Total: US$ 17.85 m (1.5.84-30.4.89) Foreign: US$ 17.60 m Local: US 0.25 m	**Financing Gap**: -
	Executing Agency: International Crops Research for the Semi-Arid Tropics (ICRISAT)
Funding Secured Foreign: US$ 14.8 m (USAID) US$ 1.4 m (CIDA) US$ 1.4 m (FRG) Local: US$ 0.25 m (SADCC)	**Start**: 1984 **Duration**: 20-25 years

Objectives: The objectives of this project are:

a. to provide a basis for the production of high yielding sorghum and millets adapted to the SADCC region: and,

b. to strengthen national research systems and regional capacity to conduct research on sorghum and millets through collaborative research and training.

Progress: The breeding programme, involving sorghum, pearl millet and finger millet, is firmly established. Its scope includes the production of varieties and hybrids with specific adaptation and acceptability in the region and with resistance to pests, disease, Striga, hard soils and other adverse factors. Extensive out-station observation, adaptation and development work is in progress. New varieties and hybrids developed by the programme have performed well and some are likely to be released to farmers in the near future.

In-service courses on sorghum and millet development, and in research station management and field operations have been developed and run.

Programme research staff are closely involved in the training of graduate and post-graduate students in the region with approximately 28 candidates currently under training to Bsc, Msc and PhD levels.

The programme of workshops on sorghum and millets has continued, the third took place in October 1987.

New offices, laboratories and housing units at Matopos have been completed and are now in occupation. Development of a regional network of sub-stations is in progress.

Status: Funding for the first five years of the programme is assured.

127

3.0.2.1 PLANT BREEDING IN RELATION TO THE UTILIZATION OF SORGHUM AND MILLET FOR FOOD, BEVERAGES AND ANIMAL FEEDS

Estimated Costs Total: US$ 1.35 m Foreign: US$ 1.35 m Local: -	Financing Gap: -
	Executing Agency: ICRISAT
Funding Secured Foreign: US$ 1.35 m Local: -	Start:
	Duration:

Objectives: The objectives of this project are:

a. to develop sorghum and millet varieties suitable for use as feedstock for processed foods, beverages and animal feeds;

b. to develop procedures and techniques for processing the grain into food and beverage products for marketing in the region; and,

c. to strengthen research capability in associated plant breeding and food technology subject areas, through training and other collaborative measures.

Description: Sorghum and millets are staples in the semi-arid regions of SADCC. Surpluses of grain especially maize have begun to appear in some SADCC countries, and imported cereals (especially wheat) and cereal products have also begun to compete with traditional foods based on sorghum and millets, leading to falls in demand of these grains.

There is, therefore, need to explore and widen the range of alternative uses for and products based on sorghum and millet grain and to make them more competitive. This requires a combination of plant breeding capacity to produce varieties suitable for processing for specific uses, and food technology research to support this breeding work, and evolve new and improved marketable products.

There is also the need to assist national research programmes to develop their own plant breeding and food technology capability, to promote training in these subjects and to develop standards for grain quality and processed products for the region.

Status: A consultant has been funded by USAID to develop an Action Plan to be presented at a Workshop in February 1988. Steps are also being taken to appoint a Food Technologist. Consultations are underway with USAID and the Carlsberg Foundation in Denmark, about possible support for the project.

128

3.0.3 GRAIN LEGUME IMPROVEMENT PROGRAMME

Estimated Costs Total: US$ 16.3 m Foreign: US$ 16.3 m Local: -	Financing Gap: US$ 10.3
Funding Secured Foreign: US$ 6.0 m (CIDA) Local: -	Executing Agency: Bean Project - CIAT Groundnut Project - ICRISAT Cowpea Project - IITA Start: Bean Project - 1986 / Groundnut Project - 1982

Objectives: The objectives of this project are to:

a. make available to national agricultural research systems improved germplasm of *Phaseolus* bean, groundnuts and cowpeas adapted in particular to smallholder farming systems in the SADCC countries;

b. develop viable strategies to control pests and diseases affecting these legumes;

c. exchange information on research and production problems in the region; and,

d. strengthen national research on these three crops through advice and training.

Progress: The bean and groundnut components of the Programme now both have well established programmes directed to testing and developing adapted germplasm. A Steering Committee and a Technical Advisory Panel for each area has been formed and the development of research networks in the region is under way.

Status: The current status of the three components of this project is as follows:

- Bean Project - Based at Arusha, Tanzania, with a sub-station to be established in Malawi. CIDA has released funds to start this project.

- Groundnut Project - Based at Chitedze Research Station, near Lilongwe, Malawi. This Project was funded by IDRC up to December 1986. ICRISAT then took over the funding of support staff, operational costs and the initial capital costs of constructing new laboratories from its own core funds. Construction has now begun. ICRISAT has presented a programme of work for the project to the FRG, which is likely to take over funding as from 1988. Budget proposals submitted to the Government of the Federal for Phase I (1987) total US$1.495 m. and for Phase 2 (1988-92) total US$ 4.794 m.

- Cowpea Project - To be based in Mozambique. The EEC has indicated interest in funding the project, but there has been concern over security. Following a visit by representatives of the SACCAR Board and IITA, Chokwe, 200 km north of Maputo, was considered an acceptable project location. Negotiations are still in progress among SACCAR, IITA, INIA and the EEC.

129

3.0.4. ESTABLISHMENT OF SACCAR

Estimated Costs		**Financing Gap:** -
Total:	US$ 5.3 m	
Foreign:	US$ 5.1 m	
Local:	US$ 0.2 m	**Executing Agency:** Government of Botswana
Funding Secured		**Start:** 1985
Foreign:	US$ 1.5 m (CIDA)	
	US$ 1.5 m (NORAD)	
	US$ 1.5 m (USAID)	
	US$ 0.6 m (SAREC)	
Local:	US$ 0.2 m (SADCC)	**Duration:** 5 years

Objectives: The objective of the project is to establish and operationlise a regional institution, SACCAR whose responsibilities are to coordinate activities of regional cooperation in agricultural research and professional training. Specifically, SACCAR's mandate is to:

i. promote agricultural research for the solution of regional production problems;

ii. coordinate action to strengthen national agricultural research systems, research facilities and research manpower and training resources in the region; and,

iii. promote the interchange and availability of information and documentation relating to agricultural research in the region.

Progress SACCAR is now fully established and operational; and the SACCAR Office Block is expected to be completed in December 1987. Four staff houses have been completed and occupied.

The remit of SACCAR has been enlarged to include research on and the development of professional cash crops for the Food, Agriculture and Natural Resources Sector.

Status: SACCAR is fully funded for the first five years.

3.0.5 SADCC/ISNAR IN-SERVICE TRAINING IN RESEARCH MANAGEMENT

Estimated Costs Total: US$ 2.3 m Foreign: US$ 2.0 m Local: US$ 0.3 m	**Financing Gap**: -
	Executing Agency: ISNAR
Funding Secured Foreign: US$ 0.7 m (USAID) US$ 0.8 m (CIDA) US$ 0.1 m (ODA) US$ 0.4 m (ISNAR) Local: US$ 0.3 m (SADCC)	**Duration**: 5 years
	Start: 1987

Objectives: The objective of this project is to increase the efficiency of national agricultural research systems by training research workers and research managers in the organisation and management of research programmes.

Progress: This programme is designed to enhance the efficiency and effectiveness of research managers through specific training in various aspects of research management.

The programme is now in Phase II, and consists mostly of short-term (1-2 week) in-country courses. The emphasis is on training for young scientists and is designed to introduce them to the principles and practice of agricultural research management and the skills needed to run research stations, and departments, research projects and programmes, budgeting, policy formulation and planning, research monitoring and evaluation, personnel management, etc.

The syllabus is specifically aimed at agricultural research and not to provide standard O & M or administrative instruction. Courses have been run in Tanzania, Malawi and Zimbabwe. Preparations are under way to run others.

Status: The project has assured funding for the first five years.

3.0.6 AGRO-FORESTRY RESEARCH PROGRAMME - MALAWI, TANZANIA, ZAMBIA AND ZIMBABWE

Estimated Costs Total: US$ 5.2 m Foreign: US$ 5.2 m Local: -	**Financing Gap:**
	Executing Agency: ICRAF
Funding Secured Foreign: US$ 5.2 Local: -	**Start:** 1987
	Duration: 20 years

Objectives: The objectives of the project are to:

a. generate technologies to manage the indigenous Savanna vegetation while deriving maximum benefit from it as a source of firewood, recreation, protector of sources of rivers, provider of grazing and ideal environments for wildlife;

b. provide scientists, consultants and technicians in the field of Agro-forestry, and organize workshops, conferences and seminars;

c. publish and disseminate research results jointly with SADCC scientists;

d. assist SACCAR and countries of the region in improving programmes to introduce multi-purpose trees for use in farming systems; and,

e. provide genetic resources to SACCAR and the countries of the region.

Description: Within the context of this project the following activities will be undertaken:

a. The strengthening of national capacity and capability to carry out agro-forestry research to address land use problems confronting smallholders in the Uni-modal Upland Plateau of the region.

b. Collaboration with national institutions in the region to generate agro-forestry technologies to address identified land use constraints to production and sustainability.

c. The training of scientists and research technicians from the region to broaden their knowledge and professional experience.

d. The back-stopping of national agro-forestry research programmes as necessary.

e. The provision of certain goods and services to zonal centres of individual countries to assist and enable them to conduct the collaborative research programme.

Progress: The Steering Committee of the project, comprising a multi-disciplinary team of scientists from Malawi, Tanzania, Zambia and Zimbabwe, met in Lilongwe, Malawi towards the end of 1987 to finalise the details of the project.

Status: This project is funded by CIDA. Implementation commenced 1987.

3.0.7 SADCC GENE BANK

Estimated Costs Total: US$ 22.6 m Foreign: US$ 11.0 m Local: US$ 11.6 m	**Financing Gap**: US$ 11.00 m
	Executing Agency: Nordic Genebank
Funding Secured Foreign: Nil Local: 11.6 m	**Duration**: 20 years
	Start:

Objectives: The objectives of this project are to:

a. establish over a 20-year period a SADCC Regional Genebank and network of local germplasm storage centres for germplasm of crop and forest species to support plant research in the region;

b. conserve crop and indigenous plant resources; and,

c. train plant genetic resource personnel for the region.

Description: The Regional Gene Bank will be responsible for collecting, characterizing and storing germplasm for the region. It will be established and Mukura research station in Zambia and will form the focal point of a network of national germplasm storage centres to be established in each SADCC member State.

The Regional Genebank will be run by a Board composed of the Chairmen of the National Plant Genetic Resources Centres in each member State and will have a Technical Advisory Panel. Each member State will also establish Plant Genetic Resources Committees. Crop Working groups will also be formed for each major crop or group of minor species. IBPGR and the IARCs will provide technical help in establishing facilities.

An important element of the project is training of plant genetic resources personnel for the region. A final project implementation plan has been approved by the Board of SACCAR.

Status: The proposed funding arrangements are that the foreign contribution of US$ 11.0 million will be paid over the 20-year project duration. Starting with year 11, SADCC member States will take up the funding at annual increments of 10%, so that by year 20 they will have full responsibility for funding.

3.0.8 MAIZE AND WHEAT IMPROVEMENT NETWORK

Estimated Costs: US$234,750	Financing Gap: This is for feasibility study only. Budgets of projects to follow.
Funding Secured: US$234,750 from UNDP	Executing Agency: Centre for Improvement of Wheat and Maize based in Mexico (CIMMYT)
Start: In 1988	Duration: 9 months for feasibility study

Objectives: The objectives of this project are to:

a. ensure that the benefits of research are shared as widely as possible in the SADCC region;

b. develop maize varieties and hybrids that are high yielding and adapted to local conditions by funding support for research;

c. provide a clearing house for the exchange of germplasm;

d. promote the training of research professionals in the region; and,

e. provide a forum for communication and exchange of information among research workers, to organise workshops and seminars and produce a newsletter.

Description: Maize is the principal staple crop in nearly all SADCC member states and a subject of major research and technology development in the region. Improved and adapted varieities are available and an appreciable body of results of research in Africa on agronomy, plant protection and other subjects also exists. However, the range of research required to do justice to the importance of maize is substantial. Although wheat is not produced in any significant quantities in the region, there is considerable and growing demand for wheat cereal products. Substantial amounts of scarce foreign currency is being expended on wheat imports.

The proposed maize and wheat improvement network will address these and other issues in order to develop technologies aimed at high and stable yields under both smallholder and large-scale commercial production systems. The network will be based on a centre at a location to be decided and will be run by a Network Coordinator and a Small Secretariat.

The proposed network will be developed in close liaison with the CIMMYT Mid-Altitude Maize Research Centre in Harare, Zimbabwe. CIMMYT has already transferred staff from its regional centre in Harare in order to strengthen its representation in the region and assist SACCAR to develop the Network. The Network will also liaise with the OAU/ECA East and Southern African Maize Improvement Network based in Lusaka, Zambia.

The main research emphasis of the Programme will be genetic and cropping systems improvement. It will also aim to strengthen the research capability of national maize and wheat improvement programmes through training to MSc and PhD levels and by short-term in-service training of research workers at IARCs and elsewhere. The Network will also act as a focal point for information exchange among research workers and others in the region. Workshops will be organised.

Status: The UNDP is ready to fund this project.

3.0.9 STRENGTHENING FACULTIES OF AGRICULTURE, FORESTRY AND VETERINARY MEDICINE

Estimated Costs: 1.2m	Financing Gap: 20.0 m
Funding Secured: 1.2m	Executing Agency: SACCAR and GTZ
Start: 1988-89 Academic Year	Duration: 1 Academic Year and Review then 4 more years.

Objectives: The objectives of the project are that since research development is closely related to the development of human resources in order to staff research institutions and laboratories and to undertake research, the University faculties of agriculture, forestry and veterinary medicine in SADCC must be strengthened. This will enable them to achieve quality and quantity of training and be able to exchange students.

Description: In most SADCC member states there are serious shortages of professional manpower especially at post-graduate levels in agriculture, forestry and veterinary medicine able to take leading roles in national research and extension structures. The cost of post-graduate training outside the region is very high and some post-graduate students fail to return after training, or do so only after a long period. Overseas course contents may also have little direct relevance to regional needs and concerns.

The capacity of universities in the SADCC region to train at post-graduate level is limited and needs strengthening to achieve regional self-sufficiency in basic subjects.

To maximise on staff and resources, and build on existing strengths, it has been agreed that centres of excellence specialising in post graduate training, initially to MSc level, be established as follows:

- Animal Production - Bunda College, Malawi
- Agricultural Engineering & Irrigation Management - Sokoine University of Agriculture, Tanzania
- Agricultural Economics - University of Zimbabwe
- Crop Production - University of Zambia

Status: The FRG has agreed to fund the programmes during phase one of implementation and 2.0 million DM (US$1.2M) have been secured. This amount will fund the programmes during the academic year 1988-89.

About DM 20 million (US$12.0M) will be needed during the next phase of 4 years.

It is expected that during 1988-89 more programmes that need strengthening will be identified - a Manpower Planning Workshop on 22-25 August, 1988 will identify the new programmes.

3.0.10 LIVESTOCK IMPROVEMENT IN SADCC

Estimated Costs: 0.1 Million for feasibility study	Financing Gap: To be identified
Funding Secured: 0.1 Million	Executing Agency: The International Livestock Centre for Africa(ILCA) based in Addis Ababa, Ethiopia
Start: 1988	Duration: To be identified. Feasibility study to take one year

Objectives: The objectives of this project are to:

a. identify and characterise cattle and goats from existing local populations that can form a basis for improved milk production through selection and cross-breeding;

b. improve the quality and off-take of livestock for meat production through breeding, control of diseases and pests and by improved management;

c. provide a medium for the exchange of livestock germplasm;

d. assist in training researchers in livestock improvement in the region; and,

e. develop livestock improvement networks as a means of fostering professional interaction and communication among livestock researchers in the region.

Description: Livestock production plays a major role in the economic, social and nutritional well-being of the population of the SADCC region. There is considerable potential in the region for a much needed increase in livestock output, but this is often limited by lack of knowledge of the genetic potential for increased production and of ways of utilizing such knowledge. Other constraints are lack of feed and water supply, diseases and pests, and lack of marketing infrastructures and price incentives. To address these problems on a regional basis, a programme organised into four component projects is proposed as follows: Smallholder Dairy Cattle Improvement; Smallholder Dairy Goat Improvement; Smallholder Ruminant Meat Production; and Mohair Improvement. These projects will be based respectively at the following locations: Henderson Research Station, Zimbabwe; Sokoine University of Agriculture, Tanzania; Sebele, Botswana; and Lesotho. Steering Committees and Technical Advisory Panels will be formed to evaluate and direct each project and an Advisory Committee will evaluate the work of the Programme as a whole.

The main emphasis in the research component of the programme will be on genetic improvement control of diseases and parasites and improvement of management for meat production in the small-farm situation. A further important aspect is to strengthen the capability of national research systems (NARS) through long-term post-graduate training, preferable in a university in the region, and short-term, in-service training at IARCs and other institutions. Support will also be extended to NARS to enable them to carry out collaborative work on livestock improvement. Each project in the programme will form the focus of a network to promote professional interaction and communication in the region, for information exchange and news of research and new technology.

Status: UNDP has agreed to fund the feasibility study to identify component research projects. One year has been earmarked for the feasibility study which is expected to take place during 1988.

3.0.11 REGIONAL VEGETABLE RESEARCH PROGRAMME

Estimated Costs: 0.26m. for feasibility study	Financing Gap: 0.26m. for feasibili study
Funding Secured: Nil	Executing Agency: To be identified
Start: To be determined	Duration: To be determined

Objectives: The objectives of this project is to promote the development of new vegetable production technologies in the SADCC region by establishing two regional centres respectively for temperate and tropical vegetable research.

Description: Per capita consumption of vegetables in the SADCC region is among the lowest in the world. There is need to develop and promote technology for increasing the production of vegetables and vegetable seeds, thereb improving the nutrition of populations and increasing the supply of vegetables for export markets.

To develop adapted technology and act as focal points for the region, it is proposed to establish two research centres in the region, one (high altitude) for temperate and the other (low altitude) for tropical vegetable crops.

Status: Details of the project are being worked out.

3.0.12 NETWORK ON FARM POWER AND EQUIPMENT FOR SMALLHOLDER AND LARGE-SCALE FARMING SYSTEMS IN SADCC

Estimated Costs: 0.1m. for feasibility study	Financing Gap: Nil for feasibility study
Funding Secured: 0.1m. from UNDP	Executing Agency: International Livestock Centre for Africa(ILCA)
Start: Feasibility study to be undertaken during 1988	Duration: One year (for feasibility study)

Objectives: The objectives of this project are to:

a. promote the development of appropriate low-cost agricultural machinery and equipment for use by small and large-scale farmers for crop and animal production in the SADCC region, through research;

b. promote the exchange of know-how on agricultural machinery, equipment and farm power;

c. promote the training of research professionals and technicians in agricultural engineering and farm power development; and

d. provide a forum and clearing house for the exchange of information in the SADCC region, and to organise workshops.

Description: Lack of appropriate farm power and equipment is a serious obstacle to raising agricultural production by smallholder farmers in the SADCC region. There is particular need for appropriate technologies to control weeds, for tillage and planting in semi-arid environments and for use of animal traction. Large-scale commercial farming systems are geared to the use of imported heavy machinery entailing the use of scarce foreign exchange to import machinery, spares and fuel.

Cooperation in this field among SADCC member states is very limited and there is great need to collaborate on research and on the exchange of efficient, low input, cost-effective farm mechanization, especially by smallholder farmers. To develop this cooperation and promote research and training in the region, it is proposed to establish a network with the objectives specified above. The network will be based at a location to be decided, and will be run by a Regional Coordinator and small secretariat. National Coordinators heading national committees will be appointed for each NARS and cooperation with IARCs will be sought.

The project research emphasis will be on the development of appropriate low-cost machinery and equipment, testing innovations and exchanging technical information. The project will also aim to strengthen research capability in the region through long-term graduate and post-graduate university training in the region and short-term training at technician level. Workshops and seminars will be organised.

Status: UNDP agreed to finance the feasibility study but awaits clarification whether the Industry and Trade had a similar project. It has been decided that SACCAR will look into the breeding, feeding and training of draught animals and test and recommend, design machinery and farm implements, while Industry will look into the manufacture of farm machinery and implements.

3.0.13 BIOLOGICAL CONTROL OF INTRODUCED PESTS OF MAIZE AND CASSAVA

Estimated Costs

Total US$13.0 m

Financing Gap

US$13.0 m

To be submitted to EEC.

EEC pledged to support.

Foreign: US$13.0 m

Local: Substantial; to be costed

Executing Agency: The International Institute of Tropical Agriculture's Africa-wide Biological Control Programme (ABCP).

Funding Secured

Foreign: EEC pledged

Local: To be estimated in each country

- Angola
- Malawi
- Mozambique
- Tanzania
- Zambia

Duration: 3 years initially, Extension expected.

Objectives:

1. To reduce the losses of maize due to Larger Grain Borer (*Prostephanus truncatus*) introduced into Tanzania through maize imported from Latin America from spreading into the rest of SADCC.

2. To reduce the losses of cassava due to exotic pests from Latin America, the Cassava Mealybug (*Phenacoccus manihot*) and the Cassava Green Mite (*Mononychellus tanajoa*).

3. Establish effective biological control programmes in each of the above SADCC member states against the above target pests of maize and cassava.

4. Train nationals in the above SADCC member states so that they may continue the research as well as develop new technologies/methodologies of controlling these and related pests.

Progress: Some of the above member states are attacking the problem of controlling these pests on a bilateral basis. The regional contribution will be in the area of providing additional

The initial phase which will be reviewed involves a period of three years.

Status: The EEC is willing to consider the support for it once it has been entered into the SADCC's Programme of Action.

3.0.14 WOOL AND MOHAIR IMPROVEMENT

Estimated Costs

Total of about US$2.3m

Financing Gap

US$2.3m.
Efforts to identify donors will be made after it has been approved.

Foreign: US$2.3m

Local: Substantial; to be identified.

Executing Agency

Either the International Livestock Centre for Africa (ILCA) based in Addis Ababa, Ethiopia or the Winrock International based in Arkansas, U.S.A.

Funding Secured

Foreign: None identified

Local: To be estimated

Duration: Initially, five years.

Objectives:

1. Increase income earning potential of some 4,000 wool and mohair producers through improvement of quality and quantity of these products in Lesotho.
2. Expected to double production per animal through use of better bred animals, better managed and through providing the necessary inputs.
3. Spread germplasm and production technologies to other SADCC member states.
4. Start a network of wool and mohair production once other SADCC member states have embarked on the production of these commodities.
5. Train Basotho and later other SADCC nationals including farmers on adoption of better technologies related to the production of these commodities.

Progress: The Statistical Bureau of Lesotho has quoted the following:

	Production per animal per year	
	Elsewhere	Lesotho
Wool	3.96 kg	2.40 kg
Mohair	3.86 kg	0.80 kg

There is therefore great room for improvement.

Status: No donor has been approached to fund the project.