

AGENCY FOR INTERNATIONAL DEVELOPMENT  
**PROJECT IDENTIFICATION DOCUMENT**  
**FACESHEET (PID)**

1. TRANSACTION CODE  
 A = Add  
 C = Change  
 D = Delete

Revision No. \_\_\_\_\_

DOCUMENT CODE  
 1

2. COUNTRY/ENTITY  
 SOUTHERN AFRICA REGIONAL

3. PROJECT NUMBER  
 690-0262

4. BUREAU/OFFICE  
 AFRICA

A. Symbol \_\_\_\_\_ B. Code 06

5. PROJECT TITLE (maximum 40 characters)  
 AGRICULTURE FACULTY DEVELOPMENT

6. ESTIMATED FY OF AUTHORIZATION/OBLIGATION/COMPLETION

A. Initial FY 8|9  
 B. Final FY 9|4  
 C. PACD 9|6

7. ESTIMATED COSTS (\$000 OR EQUIVALENT, \$1 = \_\_\_\_\_)

FUNDING SOURCE		LIFE OF PROJECT
A. AID		31,200
B. Other U.S.	1. _____ 2. _____	
C. Host Country		
D. Other Donor(s)		
<b>TOTAL</b>		<b>31,200</b>

8. PROPOSED BUDGET AID FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. 1ST FY <u>89</u>		E. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) SADF	791	053		12,677			31,200
(2)							
(3)							
(4)							
<b>TOTALS</b>				<b>12,677</b>			<b>31,200</b>

9. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)  
 010

10. SECONDARY PURPOSE CODE

11. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code \_\_\_\_\_  
 B. Amount \_\_\_\_\_

12. PROJECT PURPOSE (maximum 480 characters)

To improve the quality of agricultural training in specified disciplines at five designated institutions in the region and to increase intra-regional student opportunities for study at these institutions.

13. RESOURCES REQUIRED FOR PROJECT DEVELOPMENT

Staff:	PROJECT DEV. OFFICER	CONTRACT	PDS
DEAN OF ACADEMIC AFFAIRS (ADVISOR)	SURVEY SPECIALIST	CONTRACT	PDS
	CURRICULUM TRAINING SPEC.	CONTRACT	PDS
	TRAINING COST ANALYST/PLANNER	AID/W	OE
	SOCIAL SCIENTIST	AID/W	OE
	AGRIC. DEV. OFF.	AID/HRE	OE
	LEGAL ADVISER	REDSO/ESA	OE
	CONTRACTING OFFICER	REDSO/ESA	OE
	FINANCIAL MGM OFFICER	AID/HRE	OE
	PROCUREMENT OFFICER	REDSO/ESA	OE

Funds  
 PROJECT DEV. AND SUPPORT FUNDS  
 \$150,000

14. ORIGINATING OFFICE CLEARANCE

Signature: *Allison B. Herrick*

Title: Allison B. Herrick  
 DIRECTOR, USAID/ZIMBABWE

Date Signed: MM DD YY  
 02 06 89

15. DATE DOCUMENT RECEIVED BY AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION  
 MM DD YY

16. PROJECT DOCUMENT ACTION TAKEN

S = Suspended CA = Conditionally Approved  
 A = Approved DD = Decision Deferred  
 D = Disapproved

17. COMMENTS

18. ACTION APPROVED BY

Signature \_\_\_\_\_  
 Title \_\_\_\_\_

19. ACTION REFERENCE

20. ACTION DATE  
 MM DD YY

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ACRONYMS

CIDA	Canadian International Development Agency
EEC	European Economic Community
FRG	Federal Republic of Germany
IARC	International Agricultural Research Center
NARS	National Agricultural Research Systems
NORAD	Norwegian Overseas Agency for Development
ODA	Overseas Development Administration (UK)
SACCAR	Southern African Center for Coordination in Agricultural Research
SADCC	Southern Africa Development Coordination Conference
SPAAR	Special Program for African Agricultural Research
WID	Women In Development

Regional Agriculture Faculty Development  
Project Identification Document  
(690-0242)

I. SUMMARY RECOMMENDATIONS

The Mission requests approval to proceed with development of the proposed Regional Agricultural Faculty Development Project (690-0242) and delegation of authority to approve and authorize the Project Paper. The proposed project is to be implemented over a six year period and will require \$ 31.2 million in Southern Africa Development Assistance grant funds. Funding will be obligated through a Grant Agreement with the Government of Botswana, Memoranda of Understanding will be executed by USAID/Zimbabwe, SACCAR and the governments of other participating nations.

The project will contribute to the Southern Africa Development Coordination Conference (SADCC) regional goal of strengthening the potential for sustainable regional food security through increased agricultural productivity and improved incomes. In support of this goal, the project will fund Southern African Center for Cooperation in Agricultural Research and Training (SACCAR) efforts directed towards improving the capability of selected agricultural teaching institutions in the SADCC region to provide agricultural training at the degree and diploma levels.

In response to preliminary analysis indicating the economic merits of a regional approach, the project is designed to support a "specialization" concept of delivery of agricultural training services within the SADCC region. Under the project, five national agricultural training institutions in the region will participate in a program to strengthen and develop their respective training capabilities in one of four specified agricultural disciplines. At the same time, the institutions will be assisted in overcoming constraints to expanding access to their programs by qualified individuals from other SADCC member states. An innovative aspect of the project, of particular importance to strengthening the linkage of agricultural training to improved incomes and increased productivity, is its selection of disciplines according to "demand driven" criteria.

To ensure that the project is designed to respond to real demand, the specific areas of specialization and the resource needs to be supported by the project are only provisionally identified and described in this document; they will be validated or modified based upon analysis of data collected in a demand survey and a institutional diagnostic completed during Project Paper development. The disciplines and institutions identified provisionally are: Animal Production (Malawi - degree level); Agricultural Engineering/Irrigation (Tanzania - degree level); Food Science (Swaziland - diploma level); Horticulture (Lesotho - diploma level); and Agricultural Engineering/Irrigation (Botswana - diploma level).

The demand survey will include special attention to private sector needs for trained agricultural professionals and technicians. The institutional diagnostic will examine the capabilities of various institutions in the disciplines identified by the demand survey as having the greatest demand gaps and will describe their resource needs. The diagnostic will assist in focusing project support on those institutions in which A.I.D. funding will have maximum impact, and it will provide a better understanding of the resources required to achieve the project's strengthening objectives.

The "specialization" approach involves upgrading training offered by five agricultural teaching institutions in the region and expanding opportunities for access to improved programs by non-national students in the region. In this manner, the project will encourage the region as a whole to make the most efficient use of resources already invested. Project resources will help each of the five institutions upgrade academic standards, teaching staff qualifications and facilities, and also increase the relevance of curricula to private sector requirements. Some limited research activities supportive of the project purpose will be provided. Networking will be a critical element, with the project providing the vehicle for interchange and coordination between participating institutions, with other institutions teaching the same disciplines, with the region's private sector and Ministries of Agriculture, and with other potential employers of student graduates.

The inclusion of a networking facet in the project will require appropriate technical advisory assistance to be placed in SACCAR over the life of the project to pursue a policy dialogue agenda using regional seminars, workshops and conferences as vehicles for decision-makers to consider policies conducive to increasing the potential contribution of training to economic growth objectives. In particular, the project would seek to establish an environment in which the merits of the following actions would be made more manifest:

- (1) Broadening agricultural teaching institution activities to include not only traditional academic-oriented teaching and research but also technical consultations, policy analysis and development and/or implementation of tailor-made training programs, consistent with demand from non-university clients and particularly from the private sector.
- (2) Support among member states for the specialization concept as demonstrated by increased numbers of stipends and scholarships provided to students wishing to pursue studies in the institutions selected for project support, and increased admissions and enrollments of non-national students to the centers.

SACCAR's role as coordinator in the sector will be emphasized as it seeks to ensure that the region as a whole benefits from the information and knowledge generated in the course of project implementation. The coordination and networking function is one in which SACCAR has already demonstrated leadership, as evident from

successful regional workshops and seminars held in 1987, including Germplasm Storage (held in Zambia), smallholder dairy, small ruminants pig and poultry production (Lesotho), horticulture production potential (Malawi), Integration of Research, Extension, and Training (Tanzania), to name a few.

As a result of successful project implementation, SADCC expects to improve the overall effectiveness of existing technical and professional personnel in at least four areas of agricultural study particularly relevant to the needs of the productive sector.

## II. PROGRAM FACTORS

### A. Relationship to A.I.D. Strategy

The proposed project is supportive of A.I.D. policy, as reflected in the Africa Bureau Plan for supporting agricultural research and faculties of agriculture in Africa. The project is responsive to at least three areas of concern discussed during the peer review of the Plan conducted November 14-16, 1988. First, the project is regional in approach. The Peer Review noted that the Bureau should place greater emphasis on a regional approach as the next evolutionary step in planning support to agricultural research and faculties of agriculture in Africa. Secondly, the project is demand driven, with particular focus on private sector requirements. The Review Team noted that the Bureau needs to continue its emphasis on strengthening faculties of agriculture, particularly in development of a capacity to train skilled technicians for the private sector, agribusiness, and cooperatives as well as for other areas. Finally, the proposed project has been designed in close collaboration with other donors and in concert particularly with the Special Program for African Agricultural Research (SPAAR), a World Bank initiative to coordinate planning for training in the sector.

The proposed project is consistent with USAID/Zimbabwe's recently developed Southern Africa Regional Development Strategy Statement (RDSS), which identifies stagnating agricultural growth as a major development constraint in the region. In response to A.I.D.'s concern about the lag in growth of agricultural production in relation to population growth, the strategic objective of A.I.D. regional assistance to the food, agriculture and natural resources sector is to increase the potential for food security on a sustainable basis.

Specifically, USAID strategy in the SADCC region is to fund interventions which address identified constraints to increased agricultural production and incomes. It is expected that the combined effect of increasing both production and incomes is to enhance food security status at the national level: increased production reduces the likelihood of food emergencies, and increased incomes augment the capacity of nations and individuals to purchase food requirements either domestically or internationally.

Successful regionally funded interventions in this area complement other SADCC efforts towards the goal of enhancing overall food security.

The Agriculture Faculty Development Project is supportive of USAID's strategic sustainable food security objective. It is designed to increase production and incomes over the long run. The project responds directly to the RDSS analysis of constraints to increased agricultural growth. The RDSS identifies the problem of constant unmet demand for trained agricultural professionals required by private and public sector entities and demonstrates that unmet demand is likely to grow as a result of rapidly-increasing private sector requirements for a regular supply of trained agricultural personnel.

#### B. Conformity with SADCC Strategy and Programs.

Regional Food Security remains a top SADCC priority. This project will support the generation of new technology to support increased agricultural production and increased incomes, thereby contributing to the SADCC food security objective. Also, the project will build upon the long association of the donor community with SADCC and the encouragement and support that donors have given SACCAR since its establishment.

In 1985, the countries comprising SADCC, - Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe - agreed that agriculture is the mainstay of their economies and the region's future development is hampered by shortage of human capital.

SACCAR, established in 1985 and based in Gaborone, Botswana, is responsible to SADCC for coordinating national programs in agricultural research and post-secondary training in order to promote regional growth in the broad sector of Food, Agriculture and Natural Resources. SACCAR's mandate in agricultural training calls for providing leadership to collaborative actions aimed at remedying shortages of professional personnel at training and extension institutions and shortages of qualified graduates for employment in public and private sector agricultural research and production.

Two SACCAR-sponsored workshops for academic deans and national directors of research and agricultural services have confirmed that strong commitment exists for strengthening regional capacity to offer training. The concept of specialization enabling selected training institutions to cover certain subject areas on behalf of the region was also supported in that it permits limited resources to be applied efficiently.

Regional Deans of Faculties of Agriculture, Forestry and Veterinary Medicine, Principals of colleges of agriculture and other persons experienced in agriculture agreed at a February 1987 conference in Zimbabwe that it would not be cost effective to duplicate post

graduate courses in all universities in the region. They further recommended that centers of specialization in specific disciplines be established and that top priority be given to resolution of the issue of transferability of student credits between institutions.

The first major donor commitment following SADCC agreement with the principle of specialization was from West Germany, which agreed to provide two post-graduate level professors each to four departments at different universities specified by SACCAR in consultation with the regional academic and public institutions. These were: Animal Production at Bunda College of Agriculture in Malawi, Agricultural Engineering/Irrigation at Sokoine University in Tanzania, Crop Science at the University of Zambia, and Agricultural Economics at the University of Zimbabwe.

At the second workshop, of August 1988 in Lesotho, attended by Agriculture Development Officers from two other USAIDs in the region, participants agreed that it was necessary to develop a planning document on manpower development for the agriculture and natural resources sector of SADCC. They also pointed out that there is a heavier demand for lower level technical training levels than for degree training.

Aware that the World Bank, USAID, CIDA, GTZ and others were interested in a coordinated program to help improve training in agriculture and natural resources in the region, SACCAR approached the World Bank through its Special Program for African Agricultural Research (SPAAR) for assistance. Representatives of A.I.D. and other donors serve as directors of SPAAR.

In September 1988, six agricultural educators from SADCC and donor organizations developed a broad "Concept Paper" setting forth what will be necessary to strengthen training institutions in order to produce trained agriculturalists. Following review of this paper by the SPAAR group in October 1988, a SPAAR/SADCC initiative for strengthening faculties of agriculture in the region was initiated. It was agreed that a team should visit each of the SADCC faculties of agriculture, forestry and veterinary medicine. The Terms of Reference called for the team to: (a) identify and analyze present and future agricultural and natural resources manpower needs at technical, professional, and managerial levels; (b) identify current and strategic plans for each of the faculties of agriculture, forestry and veterinary medicine; and (c) identify national and regional requirements for specialists and examine what each faculty may contribute in terms of specializations. The charge to the team was to review the total needs of the region and make recommendations to SACCAR without identifying particular projects or sub-projects for particular donors.

The SPAAR team, consisting of representatives from donor agencies and the SADCC faculties of agriculture, concluded its visit to seven SADCC countries on January 27, 1989, and will complete its report by the end of April after surveying Angola and Mozambique. A.I.D. representatives who accompanied the team to four of the countries

noted that the constraints to agricultural training and the needs identified were consistent with our understanding of the situation in the region. They noted further that needs for training to the diploma level were heavily emphasized, as they had been at the 1988 workshop in Lesotho.

This PID has been prepared with assistance from Agriculture Development Officers of four other USAIDs in the region. The concept of the project has been discussed with all the Mission Directors in SADCC member countries. The PID in draft form has been reviewed by members of the SPAAR/SADCC team, who found it generally consistent with the priorities discussed.

### C. Relationship to Other A.I.D. and Donor Activities

The proposed project complements the history of USAID bilateral funding of agricultural development projects in SADCC nations. Some of the larger of these projects which contain training and professional skill development components are discussed below.

a. Botswana - The Agricultural College Expansion Project (633-0074) (\$7.9 million) established a local institution for training junior and intermediate level agricultural personnel for extension service and for employment in agricultural research, planning, credit, and marketing. Fifteen Botswana completed training in the U.S. The first class graduated in December 1982.

The Agricultural Technology Improvement Project (633-0074)(\$2.3 million) recruited and placed an eight person technical assistance team and counterparts. Bean and Cowpea research trials were initiated and training in the U.S. was arranged for six Botswanas. Surveys of small farmer agricultural practices in two villages were completed.

b. Swaziland - The Cropping Systems Research and Extension Training Project (645-0212)(\$12.9 million) develops, through applied local level research, recommendations for improved cropping systems for both dryland and irrigated crops. The recommendations are made available to small farmers through improved extension services. A U.S. Land Grant technical assistance team transferred skills, knowledge, management techniques, and training to Swazi nationals.

c. Malawi - The Malawi Agricultural Research and Extension Project (612-0215)(\$15 million) assisted in identifying the problems of small holders, introduced solutions and initiated problem-oriented research.

Other bilateral projects in SADCC countries include the Zambia Agricultural Training, Planning, and Institutional Development Project (611-0075)(\$4.8 million) and the Tanzania Agricultural Research Project (621-0107)(\$8.5 million).

The Regional Agriculture Faculty Development project will build on the steady progress in these efforts and on the regional coordination

achieved through such efforts as Zimbabwe's Regional Food Security Project (690-0207) and Botswana's progress in establishing a regional program for coordinated agricultural research (690-0225).

### III. PROJECT DESCRIPTION

#### A. Perceived Problem

The economies of the SADCC region are predominantly agriculturally based. In total, agriculture contributed 34 percent to SADCC's GNP, between 1980 and 1986. Currently the agricultural sector provides employment for 80 percent of the region's labor force.

In an attempt to meet agricultural production needs, each of the countries in the region has established training institutes that produce trained agricultural personnel of various academic qualifications ranging from certificate to Ph.D. Training at agricultural institutions in the region typically is accomplished at three levels: at national universities empowered to grant degrees, generally at the BS/BA levels; at these institutions or others offering technically-oriented education leading to a diploma, which requires less time than a degree program; and at colleges of agriculture which usually offer diploma programs as well as lower level training leading to a certificate.

Studies of agricultural needs within the SADCC region conducted by FAO, World Bank, USAID and other donors have identified the training of agricultural personnel to be of high priority. An FAO/SACCAR study projects regional demand at over 45,000 trained personnel in the year 2000, of which 10% are to be Masters, 28% Bachelors and the balance of lower level technical personnel (see Attachment G). The shortage of trained agricultural professionals will be greatest at the certificate, diploma, and bachelor degree levels. Moreover, the FAO and other studies indicate that agricultural training institutions are presently incapable of meeting even current trained personnel requirements, and thus are not in a position to aim realistically at future targets. This situation is a major limiting factor in improving agricultural productivity and incomes, each a key requirement for reaching sustainable regional food security.

There are major constraints to training and development in agriculture. Planned outputs of the region's training programs have been based on perceived needs in the individual countries. However, the sizes of the training institutions (including equipment and numbers of student places) have by default been dictated by the financial resources available. Since most of the governments of the region are faced with financial constraints, colleges and universities are often underfunded. Consequently, the range of options in the fields of study is very narrow. They are particularly limited in the smaller countries.

As a result of institutional mandates to spread limited physical and financial resources over broad curriculum requirements, diploma

schools, colleges, and universities frequently lack support for curriculum and staff development; are provided with inadequate, poorly-staffed teaching and research facilities (including laboratories, classrooms, textbooks, library acquisitions, etc.); must carry inordinately heavy teaching loads. Staff members experience poor working conditions (including limited and often substandard housing); and receive non-competitive salaries. As a result, teaching staff are often under-qualified, staff turnover and attrition are high, academic and research leadership is lacking, and students are inadequately prepared for employment or pursuit of graduate and post graduate studies in specialized disciplines that are now of increasing importance in the economic development of the region. In the worst cases, qualified and experienced persons are not offering themselves for teaching appointment, and, in some cases, individuals trained outside Africa prefer not to return.

The constraints cited above notwithstanding, the SADCC region has residual human and physical resources that can be effectively and efficiently utilized for training in agriculture. Certain resources are available in the different countries in different areas of expertise. There is, however, ineffective and under-utilized use of these resources for a variety of reasons: admission requirements differ; lack of accommodation and higher costs for foreign students inhibit cross-national enrollments; stipends, scholarships and fellowships are limited; and there may be at the institutions only limited capacity to absorb increased numbers of students.

The need for donor support to training in agriculture in the SADCC region was discussed extensively in an A.I.D.- funded study entitled Training Agricultural Scientists for Southern Africa (the Nygaard Report) completed for SACCAR in July 1985. It cited the need to fund and support research and training within agricultural training institutions as a means of relating the teaching programs to national needs and more broadly linking training institutions to national research and extension programs and to the private sector.

#### B. Project Goal and Purpose

The Project goal is to strengthen the potential for sustainable regional food security through increased agricultural productivity and improved incomes.

The project is based on the premise that improvement of the human resource base through training programs for both the private and public sectors is the key to increasing agricultural productivity and improving incomes. Thus, the Project sub-goal is to strengthen and improve the effectiveness of agricultural training institutions in the SADCC region.

With this goal and sub-goal in mind, the project purpose is "to improve the quality of agricultural training in specified disciplines at five designated institutions in the region and to increase intra-regional student opportunities for study at those institutions."

### C. Expected Achievements and Accomplishments

The investment made in developing this program for strengthening the faculties and colleges of agriculture in SADCC countries will lead to increased agricultural production and incomes. End of Project status will include:

1. More efficient delivery of improved agricultural instruction in two disciplines at the diploma level and in two disciplines at the degree level.
2. Increased enrollment by regional students in specified programs in the agricultural institutions supported by the project.
3. Improved regional capacity to train needed agricultural personnel in specified technical agricultural areas at the diploma and degree levels and to meet both public and private sector needs.
4. Increased enrollment of women in training programs in specialized agricultural areas.

Although the project is directly designed to increase the region's capacity to train diploma and bachelor level agricultural professionals and technicians within the region, it is expected indirectly to enhance and deepen national governments' understanding of the importance and value of providing improved agricultural skill training in response to identified private sector as well as public sector demand requirements. The project will demonstrate that such an approach is instrumental in national programs to provide adequate preparation for employment, contribute directly to improved productivity, and generate higher incomes in the productive agricultural sector.

### D. Project Outline

#### 1. Project Approach

Serious financial limitations prevent most agricultural training institutions in the SADCC region from developing all of their disciplines to the most desirable level. Indeed, economies of scale in human resource development can only be achieved in the SADCC region by pursuing a strategy of "specialization," i.e., by strengthening selected individual programs and broadening access to them throughout the region. Therefore, the project is designed to develop specialized programs within selected institutions in four key areas, namely: horticulture, food science, agricultural engineering/irrigation and animal production.

A regional approach is considered most appropriate for this project intervention which aims at policy objectives as well as economic and organizational efficiencies. Some of the policy level interests to be dealt with are summarized below:

- (a) Specialization - Formal adoption of the "specialization" concept throughout the region and agreement on which institutions will specialize in what areas will require central coordination and strong leadership. SADCC country support for SACCAR playing a leadership role in agricultural affairs is significant, as is evident from the rapid increase in the portion of SACCAR's budget funded from member country contributions, which increased from zero in 1985 to 15 percent in 1988.

To implement the mandate given to it by the SADCC Council of Ministers to analyze the needs and provide for agricultural training within the the region, it is now imperative that SACCAR be enabled to provide the leadership needed to address crucial questions such as standardization of entrance requirements, student credit transferability, affordability to students of training outside their own country and avoidance of unnecessary program duplication. The project will provide resources to support technical assistance and information exchange requirements (seminars, workshops, conferences) critical to SACCAR's leadership role in monitoring and analyzing training needs of the region.

An important measure of whether the specialization policy objective has been accepted will be the amount of the budget allocated by each selected training institution to the chosen field of specialization. Acceptance of the specialization concept should imply a willingness to dedicate increased amounts of budget resources over time to the area of specialization, exclusive of external donor assistance. It should also imply willingness on the part of all institutions to see particular ones strengthened.

- (b) Foreign Student Admission Quotas - In order for the centers of specialization concept to effectively and efficiently satisfy regional training requirements, it is likely that existing quotas for numbers of non-national students admitted for diploma and bachelor programs will have to be increased. Obtaining agreement on this issue will require regional consultation and negotiation among the leaders of each institution. More than likely, reciprocal agreements will be required.
- (c) Private Sector Role - SACCAR could be an effective mechanism for raising the consciousness of national governments to the value and importance of developing linkages with private sector entities requiring the skills of trained agriculturalists. This linkage is important if the institutions are to provide a supply of graduates that satisfies the needs of potential employers and, thus, contributes to the region's strategic objectives of increased incomes and employment opportunities.

## 2. Components

### A. Institutional Strengthening

Specifically, the proposed project will expand the role of selected agricultural educational institutions in five SADCC states to create

special training centers for horticulture, food sciences, animal production, and agricultural engineering/irrigation. The project will provide technical assistance, capital development and training to strengthen participating institutions. These inputs, determined in relation to each institution's special needs, will be used to improve curriculum, to upgrade teaching facilities, and to enhance the skills of teaching staff.

The four areas of specialization and the institutions which house them have been tentatively identified in this document based on informal communications with participants in World Bank-sponsored discussions currently in progress in the region, discussions with SACCAR personnel, and consultations with A.I.D. Agricultural Development Officers within the region. Taking into account the dynamic nature of activities currently under way in the agricultural training sector, definitive designation of specialties and institutions to participate in the project is premature. Final selection of specialized areas will be based upon the results of an Agricultural Skills Demand Survey (see Scope of Work, Attachment H) to be completed during intensive project development.

As the definitive identification of specialty areas to be supported will depend upon the results of the Agricultural Skills Demand Survey referred to above, so must identification of institutions await the results of a planned Institutional Diagnostic (see Scope of Work, Attachment I), as well as consultations with SACCAR. The following discussion of "outputs" and "inputs" is, therefore, illustrative in nature, based on experience in similar activities in the region. The presentation will be expanded upon during intensive project review.

#### B. Networking and Policy Dialogue

The project will support regional level pursuit of a policy dialogue agenda, using seminars, workshops, and conferences as vehicles for national decision-makers (in Ministries of Agriculture, Natural Resources and Forestry, Ministries of Education, Ministries of Finance, and Boards of Directors of agricultural training institutions) giving consideration to the benefits of adopting policies conducive to increasing the potential contributions of training to economic growth objectives. In particular, the project will seek to establish an environment in which the merits of the following actions would be made more apparent:

- (1) In the disciplines selected for regional specialization support, a broadening of agricultural teaching institutions' activities from strictly an academic orientation to one which includes technical consultation, policy analysis, development and/or implementation of tailor-made training programs, consistent with demand of non-university clients and, particularly, demand in the private productive sector.
- (2) Support among member states for the specialization concept as demonstrated in increased numbers of stipends and scholarships

provided to students wishing to pursue advanced studies in the "specialization centers"; increased admissions of non-national students to the specialization centers; acceptance of entrance qualifications based on successful completion of preparatory programs at other institutions; etc.

C. Project Coordination and Administration

The project will fund a project manager in SACCAR to carry out administration, coordinate technical assistance and training activities, and to carry out monitoring and reporting responsibilities consistent with A.I.D. policies and regulations. In addition, the project will fund one position in SACCAR to advise on specialization related issues, to assist on any studies needed to increase understanding of specialization issues, and to assist in the planning of seminars, conferences, and workshops contributing to the project's networking activities.

3. Outputs

A. At the degree level, the project will achieve the following outputs:

- (1) Increased numbers of non-national students, including women, receiving B.Sc. training in Agricultural Engineering/Irrigation at Sokoine University in Tanzania and in Animal Production at the University of Malawi.
- (2) Higher skills levels and participation of women in the staff of the Faculty of Agricultural Engineering/Irrigation at Sokoine University in Tanzania and in the Faculty of Animal Production at the University of Malawi.
- (3) Continuity in staffing levels for on-going educational programs within the selected disciplines at these two Universities while faculty members receive project-sponsored training in the United States and within the SADCC region;
- (4) An equipped and functioning laboratory for subject-related agricultural research at both Universities;
- (5) An equipped and developed field research site for practical training at both Universities;
- (6) Data processing capacity for the analysis of research results at both Universities;
- (7) Information-sharing and regional networking facilitated by regional workshops/conferences and symposia;
- (8) Selected studies and applied research consultancies conducted at both universities.

- (9) An increased number of trained agricultural specialists employed within the region.

B. At the diploma level, the project will achieve the following outputs:

- (1) Increased numbers of non-national students, including women, receiving training at the Lesotho Agriculture College in Horticulture, at the Botswana College of Agriculture in Agricultural Engineering/Irrigation, and at the University of Swaziland in Food Science.
- (2) A higher skills level and participation of women in the diploma staffs at the Lesotho Agricultural College Horticulture Department, the Botswana College of Agriculture Agricultural Engineering/Irrigation Department, and the University of Swaziland Department of Food Science.
- (3) Continuity in staffing levels for on-going educational programs within the selected disciplines at these three institutions while faculty members are receiving project-sponsored training in the United States and within the SADCC region.
- (4) An equipped and functioning laboratory for subject-related research at institutions.
- (5) An equipped and developed field research site for practical training at institutions;
- (6) Improved data processing capacity at the institutions;
- (6) A program of capital improvements (classroom and facilities construction) completed at the institutions.
- (7) An increased number of agricultural specialists employed within the region.

4. Inputs

A. At the degree level, the project will provide the following inputs:

(1) Training:

- Graduate training in the United States for up to three University faculty members from Sokoine University in Tanzania and a similar number from the University of Malawi, Bunda College of Agriculture. Training will be provided at the MS and PhD levels.
- Supplemental training for up to two educators from each University to be conducted within the SADCC region. This training will be designed to upgrade existing skills at the MS level.

(2) Technical Assistance:

- Technical assistance to replace faculty from both Universities while they are out of country receiving project-sponsored training.
- Curriculum Development

(3) Capital Improvements/Commodities:

- Laboratory equipment, library acquisitions, instructional materials, and construction costs.
- Field site development costs and practical training equipment.
- Office machinery and equipment.

(4) Travel and Support Costs for Information Exchange:

- Conference/Workshop/Symposia costs and consultancies in support of policy analyses, curricula development, coordination, and planning within the region.

B. At the diploma level, the project will provide the following inputs:

(1) Training:

- MS-level training for up to 5 teachers total from the three designated institutions, to be conducted in the United States.
- Supplemental training for up to 12 teachers total from the three designated institutions to be conducted within the SADCC region. This training will be designed to upgrade existing skills at the BSc and MS levels.

(2) Technical Assistance:

- Technical assistance to replace faculty members from both institutions while they are out of country receiving project-sponsored training.

(3) Capital Improvements/Commodities:

- Laboratory equipment, library acquisitions, instructional materials, and limited construction costs at both institutions.
- Field site development costs and practical training equipment at both institutions.

-- Capital development costs at both institutions.

C. The project will provide assistance to SACCAR as follows:

(1) Technical Assistance:

-- Two experts in agricultural institutional development for at least three years each to assist SACCAR in carrying out its role as a coordinating body for the deliberation of agricultural policy and human resource development issues.

-- A personal services contractor to manage the project (6 years).

-- 10 person/months of short-term technical assistance to assist in procurement and construction activities, project monitoring and financial controls.

(2) Travel and Support Costs for Information Exchange:

-- 12 Conference/Workshop/Symposia costs and consultancies in support of policy analyses, curricula development, coordination, and planning.

D. Other Project Inputs:

The project will fund at least one project manager and one administrative manager at the U.S. University or other institution contracted to provide technical assistance as cited above. (10 person/years).

5. Administration:

The project will be administered under the general auspices of SACCAR. The Director of SACCAR will be aided in his oversight by the Board of Trustees which includes as members a number of Deans of SADCC faculties of agriculture. A single contractor is envisaged to implement the program under the supervision of a Regional Development Officer to be assigned to USAID/Gaborone and the technical guidance of the USAID Agricultural Development Officers assigned to USAID/Botswana and to USAID/Zimbabwe. The contractor's team leader and one other expert will be located in SACCAR headquarters, and other team members will be located in participating institutions. The project could appropriately be implemented by a Title XII university or by another educationally-focused institution. Use of a single contractor will facilitate management and, more importantly, provide effective coordination throughout the region.

The project is not expected to require any direct administrative, reporting, or monitoring support from the USAID bilateral missions located in SADCC member countries with institutions selected to participate in the program.

## 6. Estimated Costs

Preliminary Budget Estimates are contained in Attachment C. Total estimated USAID project funds to be utilized under this project will be approximately US\$ 31.2 million, consisting of the following major budget elements:

<u>Element</u>	<u>US\$</u> (Millions)
Technical Assistance	18,900
Training	2,300
Institutional Support	3,100
Capital Improvements/Equipment	,775
Workshops/Conferences/Studies	,300
Evaluation	,300
Audit	,100
Contingency	2,578
Inflation	<u>2,835</u>
TOTAL:	31,187

Because the Agricultural Faculty Development project is a regional activity, a host country contribution requirement under FAA Section 110 is not applicable. There will, however, be SADCC country contributions consisting of in-kind costs (salaries, housing, etc).

## E. Project Design Issues

1. Sustainability - Because inadequate financing for existing training facilities has contributed largely to current job dissatisfaction and attrition, the project must be designed with appropriate conditionality (phased budget support requirements) to prevent deterioration from re-occurring after its completion.
2. Specialization - As discussed under Project Approach, several policy issues must be addressed in the course of design as well as in implementation. The design team will develop appropriate mechanisms for the project to address these issues.
3. Incentive Structure - It may be necessary to incorporate into the design appropriate incentive packages (support for library acquisitions, capital improvements, improved accommodations, etc.) to encourage increased admissions of non-national students to occupy limited spaces in the selected centers of specialization. Assistance may be required to address additional costs the non-national student must cover. At the same time, analysis must be made of current private sector support for students as well as possible incentives for increasing that support.
4. Demand for Student Graduates from Non-National Institutions - The project design assumes that potential employers will recognize diplomas and degrees earned at the centers identified for special support and find them as acceptable as degrees earned nationally.

The preliminary design has attempted to address this issue by incorporating the criterion that the project will select institutions which are already strong in particular disciplines. Nevertheless, the project design team must explore to what extent the identified programs provide diplomas and degrees acceptable throughout the region.

5. SACCAR Advisor - The Project design team will be required to work closely with the Director of SACCAR in developing Terms of Reference for technical assistance provided to assist with analysis of policy issues and coordination of networking activities.

6. Baseline Data - The Project design team will survey available data sources and develop appropriate support mechanisms to ensure adequate baseline data collection for measuring project impact.

#### IV. FACTORS AFFECTING PROJECT SELECTION AND DEVELOPMENT

##### A. Social Considerations

(1). Socio-cultural context - Over 70 million people reside in SADCC countries and the number will probably reach 100 million by the year 2000. While population size and densities vary greatly between the nine member states, there are important demographic similarities. By global standards the population density per arable hectare of land is extremely high. The 1980 per capita GDP for the region is estimated to be \$400, with a range from \$160 to \$840 for individual countries. Population growth rates of 2 to 3.5 percent place ever-increasing pressure on land to meet national and regional food requirements.

The majority of the region's people live in rural areas and are dependent on agriculture for their livelihood. The proportion varies from 60 percent of the Zambian population to at least 90 percent of the populations in Malawi and Mozambique.

The economies of the SADCC region are predominantly agriculturally based. Between 1980 and 1987 agriculture contributed 34% to SADCC's GNP and the agricultural sector provided employment for 80% of the region's labor force. Agriculture is also a vital foreign exchange earner contributing 26% of the region's total export earnings. Despite the agricultural sector's prominent role in the region food and livestock production has been stagnant or declining on a per capita basis in most countries.

To improve agriculture's overall contribution to the development process an increased regional approach is essential. This approach which must involve the faculties of agriculture in the region should include an increased capacity not only to train non-degree and degree agricultural personnel; but also to increase participation of the faculties of agriculture in the analysis and resolution of agriculturally-related development constraints which are impeding growth, e.g. policy analysis, strategies for food security and development of agri-businesses.

(2) Beneficiaries: The ultimate beneficiaries in a project of this nature are primary agricultural producers and, through them, the people of the region concerned. At an interim level, however, two beneficiary groupings emerge - people trained under the project and those on whom the resultant activities impact.

Direct Beneficiaries - (accruing to individuals only)

- all individuals receiving training at the non-degree and degree levels.
- all instructors, teachers, agriculturalists and other workers advantaged by upgraded curricula, improved teaching skills, equipment and library acquisitions.

Indirect Beneficiaries - (affecting people as part of a group)

- students and recipients of training from direct beneficiaries as they apply learned skills to teaching, research, consultation and so on.
- the general agricultural population, including farmers and employees of parastatals and private sector agri-businesses, through the applications they make of agricultural technology resulting from research and teaching.
- Faculties of agriculture and National Agriculture Research Systems (NARS) will benefit through added resources, both human and physical.

The overall benefit to the region will be increasing self reliance in food production.

(3) Participation: This PID is based on information contained in a concept paper prepared in October 1988 by a consultant team comprised of senior agricultural educators representing SADCC and donor organizations. Additional information has come from SACCAR-sponsored regional workshops involving Deans and Directors of Agricultural Research. Out of these workshops have emerged shared perceptions on the need to identify areas of comparative strength, major aspects of short and long-term need, and priority areas for future development. The planned Agricultural Skills Demand Survey will expand private sector participation in the project. The planned Institutional Analysis will involve participating institutions in project design.

(4) Impact: The direct impact of this project will be upon private and public sector agricultural professionals and technicians in the SADCC region - in terms of increased skills, better research results, improved teaching abilities and more effective agricultural extension techniques. The design team must give particular attention to project professional skill development activities, external training scholarships, workshops, seminars and other initiatives that can best open opportunities for greater participation of women.

The graduating students will benefit from increased employment opportunities and the expectation of higher income levels. An important assumption of the project is that country nationals trained in the designated centers will earn credentials (diplomas or degrees) acceptable to potential employers in their native country. This assumption must be tested during project design.

Ultimately, the project's major impact will be upon the larger SADCC agricultural community including those with the greatest need - primary producers, including women, and consumers.

#### B. Economic Considerations

Because of the difficulty of quantifying benefits due to insufficient knowledge of cause and effect relationships, it is not practical to monetize project benefits; hence, use of conventional cost-benefit analysis is precluded. The most appropriate method of economic analysis will be cost-effectiveness analysis, where only project costs are monetized. An important assumption to be tested is that costs of training within the SADCC region are lower than the cost of similar training conducted in the U.S.

The aim of the project is to achieve equitable economic growth among member states leading to increased employment and income generation, food security and self-reliance. To achieve this goal the project will improve the effectiveness and efficiency of agricultural training institutions in the SADCC region at the non-degree and degree levels and, thus, build capacity to address agriculture-related needs of both the private and public sectors.

After determining demand for diplomates and graduates, the supply response capacity will likewise be assessed (see description of the demand study parameters, in the Scope of Work provided in Attachment H). Resources will subsequently be introduced to translate these requirements into effective demand for training services. Costs will be divided into recurrent costs and capital investment costs incurred during planning, implementation and operation. Subsequently, evaluation of the approach will provide insights into ways of improving the impact of the particular strategy used, and thus serve as a framework for further analysis of cost-effectiveness.

#### C. Proposed Implementation Entity

Under the SADCC system of decentralized responsibility for the organization's Programme of Action, Botswana was assigned specific responsibility for coordinating programs in livestock diseases and agricultural research. By Memorandum of Agreement, the member countries established the Southern Africa Center for Coordination in Agricultural Research (SACCAR) Botswana in 1985. This sector center is one of only two such units in the region that have attracted substantial financial support from member countries (by 1988, up to a total of 15 percent of its revenues) and is probably the most representative of the region in its professional staff assignments.

SACCAR is governed by a Board of Directors composed of the Directors of Research in the nine SADCC member states, six Deans of Faculties of Agriculture, Forestry, and Veterinary Medicine, and two Directors of Agricultural Extension. This Board plays an active role in approving administrative and program proposals. It reports to the Council of Ministers of SADCC.

The original objectives of SACCAR 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 operate the region's agricultural research systems; and
- d. To promote coordination of SADCC agricultural research systems.

SACCAR now has responsibilities in all fields of agricultural research within the region including food and cash crops, livestock, fisheries, forestry, and soil and wildlife conservation. Current regional programs in SACCAR's portfolio include:

- Land and Water Management
- Sorghum and Millet Improvement
- Grain Legume Improvement
- In-Service Training n Research Management
- Plant Breeding for Utilization of Sorghum and Millets
- Agroforestry
- Establishment of a Regional Gene Bank
- Maize and Wheat Improvement Network

SACCAR has succeeded in obtaining funding for these programs from national and international donor agencies, as well as from SADCC nations. Each of these significant programs has included training at both the bachelor and graduate levels.

In early 1987, the Council of SADCC Ministers expanded SACCAR's mandate to include the coordination of all university and college training for Agriculture, Forestry and the Natural Resources. The leadership role played by SACCAR has served to crystalize the thinking of key SADCC institution leaders and has facilitated initiation of dialogue on important regional issues regarding the improvement of agricultural training capabilities. SACCAR leadership is committed to expanding its role in support of increasing both the quantity and quality of training in agriculture in the SADCC region. However, the small staff of SACCAR, which cannot be expanded without approval of the Sectoral Committee of Ministers, has not been able to complete a systematic survey of the demand and supply factors that should direct the undertaking of new regional training programs. The project will provide a technical adviser to SACCAR to help organize and complete such a survey as well as to help SACCAR's Director in a continuing dialogue within

the region leading to formal standards for acceptance of credits across international borders and the resolution of other training issues.

#### D. AID Support Requirements and Capability

Project monitoring responsibilities will be carried out by the Regional Project Development Officer located in USAID/Gaborone, who will be involved with all policy and program aspects of the project, exercise general oversight in implementation, coordinate activities with other donors and members of the SACCAR Board of Directors, review periodic status and financial reports and participate in evaluations. The USAID/Zimbabwe Office of Project Development and Implementation Services also will be actively involved in quarterly reviews of the project activities. Financial management will be provided by the Controller, USAID/Botswana.

#### E. Design Strategy

Regional experience in agricultural training project interventions will be reviewed in-depth during project design. Major design-related lessons have been incorporated into the project concept; additional lessons learned from implementation experience in the region will be incorporated into the project implementation plan. The four areas of specialization and institutions which house them have been tentatively identified in this document based on informal communications with participants in World Bank-sponsored discussions currently in progress in the region, discussions with SACCAR personnel and consultations with A.I.D. Agricultural Development Officers within the region.

Other gathering of data is currently underway. A survey instrument has been developed and distributed to the region's USAID Agricultural Development Officers to be used in the development of a profile of the agricultural student population at various training institutions in the region. Data on educational level, gender, post-training employment, etc., are expected to provide insights into the areas of specialization in highest demand in both the public and private sectors. This preliminary survey will be complemented by an in-depth Agricultural Skills Demand Survey to be contracted. The Demand Survey will permit identification of the disciplines to be supported by the project (confirming the provisional identification or suggesting modification). Additional data collection activities are expected to require investment of significant technical assistance and financial resources, and thus, will be undertaken after PID approval.

In consultation with SACCAR, the design team will confirm the selection of the disciplines on which project resources will be focused.

Subsequent to identification of the disciplines proposed for project assistance, an in-depth Institutional Analysis of the institutions which could potentially offer the strongest base for development of

improved training programs in the selected disciplines will be conducted. The analysis will establish the basis for selecting the five institutions, and also provide data for accurate estimates of required project inputs in technical assistance, training, commodities, and capital assistance.

Additional data will be available from the World Bank-sponsored SPAAR activity currently underway in the region to review individual country agricultural training needs.

### (1) Team Composition and Responsibilities

The project design team will include:

<u>Team Member</u>	<u>Time</u>	<u>Funding</u>	<u>Mechanism</u>
Project Development Officer	: 6 weeks	PD&S	- Contract
Survey Specialist	: 6 weeks	PD&S	- Contract
Curriculum/Training Special.	: 5 weeks	PD&S	- Contract
Training Cost Analyst/Planner	: 2 weeks	OE	- AID/W
Social Scientist	: 3 weeks	OE	- AID/W
Agricultural Development Off.	: 6 Weeks	OE	- AID/Harare
Legal Adviser	: 1 week	OE	- REDSO/ESA
Contracting Officer	: 1 week	OE	- REDSO/ESA
Financial Management Off.	: 1 week.	OE	- AID/Harare
Procurement Officer	: 1 week	OE	- REDSO/ESA
Dean of Academic Affairs	: 2 weeks	(advisor)	

Preparation of the Project Paper will involve some travel to SADCC countries and will be completed at USAID/Botswana. Consultations will be held, as needed, with the SADCC countries' Ministries of Agriculture, Deans of Faculties of Agriculture and other responsible public and private sector representatives. The Director of SACCAR and his staff will be consulted on an ongoing basis.

The Project Paper design should be completed in eight weeks at a cost of approximately \$150,000.

### (2) Technical Analysis

As previously noted, currently available data is not sufficient definitively to identify either the specific areas of specialization which should be supported or the most appropriate institutions in which to focus strengthening activities. While it is expected that some data requirements will be satisfied by the Final Report of the SPAAR panel team, an Agricultural Skills Demand Survey will be carried out to ensure that the project responds to technical agricultural skill requirements of the private as well as the public sectors in the region.

The Scope of Work for the survey forms Attachment H. The survey will be carried out by a contractor engaged under an IQC mechanism and will be funded from PD&S funds.

(3) Institutional Analysis

Information for analyzing the institutional capabilities of SACCAR are nearly adequate for the Project Paper. However, additional work must be done with SACCAR to develop the Scopes of Work for technical assistance for project management and for advisory technical assistance.

The Institutional Analysis to identify appropriate agricultural training institutions to be strengthened in the disciplines selected for regional specialization will be carried out by a Social Scientist available for TDY assistance from AID/Washington, with contract assistance if necessary. Once the target beneficiary institutions have been determined, data collected on their strengths, weaknesses, and needs will be used to plan project inputs. The institutions identified to benefit from project activities will be involved in this planning process to ensure that their concerns are taken into account and to ensure that project implementation responsibilities and relationships are clearly understood, particularly with respect to contractor and SACCAR responsibilities.

(4) Financial Analysis

Each participating institution must be analyzed to determine budgetary and human resources available throughout the life of the project and after project completion. Agreement will be reached with the leaders of these institutions and with appropriate government officials on increasing budget commitments to the selected faculty of specialization in a manner which would ensure sustainability of project impact after A.I.D. assistance terminates. The team will assess the possibilities for governments to reflect these commitments in their official planning documents.

(5) Administrative Analysis

The Project Paper will contain a detailed administrative analysis of project implementation and monitoring personnel requirements. It is expected that bilateral USAID Missions will not be required to provide additional administrative or monitoring support beyond their help in negotiating memoranda of understanding. An appropriate procurement plan for commodities and for contracted assistance will be included, as well as the draft scopes of work for key contract personnel to be involved in project management and implementation.

F. Recommended Environmental Threshold Decision

A request for Africa Bureau concurrence in a categorical exclusion appears as Attachment B.

PROJECT TITLE: AGRICULTURE FACULTY DEVELOPMENT PROJECT  
(690-0242)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATIONS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>PROGRAM GOAL</u></p> <p>To strengthen the potential for sustainable regional food security through increased agricultural productivity and improved income.</p>	<p><u>MEASURES OF GOAL ACHIEVEMENT</u></p> <p>Increased public and private sector employment and income.</p> <p>Increased public and private sector agricultural productivity.</p>	<p>SADCC and national statistics on agriculture, employment, national income and food security.</p> <p>Analysis of relevant agricultural and industrial sectors/sub-sectors.</p>	<p><u>ASSUMPTIONS FOR ACHIEVING GOAL TARGETS</u></p> <ol style="list-style-type: none"> <li>1. SADCC member states continue policy of mutual co-operation.</li> <li>2. Strong linkages established among colleges and faculties of agriculture in SADCC member States.</li> <li>3. Full support of the Ministries of Agriculture and Natural Resources in SADCC member States.</li> <li>4. Linkage between agricultural training and improved agricultural productivity and incomes.</li> </ol>
<p><u>PROJECT PURPOSE:</u></p> <p>To improve the quality of agricultural training in specified disciplines at 5 designated institutions in the region and to increase intra-regional student opportunities for study at those institutions.</p>	<p>Conditions that will indicate purpose has been achieved.</p>	<p><u>END OF PROJECT STATUS</u></p> <ol style="list-style-type: none"> <li>1. Increased enrollment by regional students in specified programs in the agricultural institutions supported by the project.</li> <li>2. Improved capacity to train agricultural professionals in specified technical agricultural areas at the diploma and degree levels to meet both public and private sector needs.</li> <li>3. Increased enrollment by women in training programs in specialized agricultural areas.</li> </ol>	<p><u>ASSUMPTIONS FOR ACHIEVING PURPOSE:</u></p> <ol style="list-style-type: none"> <li>1. Effectiveness of project-sponsored training.</li> <li>2. Impediments to cross-border student enrollment are reduced or eliminated.</li> </ol>

NARRATIVE SUMMARY

OBJECTIVELY VERIFIABLE INDICATIONS

MEANS OF VERIFICATION

IMPORTANT ASSUMPTIONS

PROJECT OUTPUTS

MAGNITUDE OF OUTPUTS

ASSUMPTIONS FOR ACHIEVING OUTPUTS

- 1. Improved skills level of educators in specified disciplines at selected institutions.
- 2. Equipped and functioning laboratories, field sites, classrooms.
- 3. Improved data processing capabilities at selected institutions.
- 4. Conferences/symposia/workshops facilitating information exchanges and regional networking.
- 5. Improvement in the capacity of SACCAR to address regional agricultural policy issues relating to human resource development.
- 6. Increased number of agricultural specialists trained and employed within the region.

- 1. Up to 11 teachers trained at MS or PHD level in the U.S. Maximum of 16 teachers have skills upgraded at MS level within the region.
- 2. Functioning laboratories, field sites and classrooms at 5 selected institutions.
- 3. Access to agricultural education expanded to include greater participation of women.
- 4. Annual conferences, periodic symposia/workshops funded at universities.

- Evaluation reports; Procurement records; Contractor reports;
- Regional Development Officer, Project Manager, oversight;
- Analysis of regional employment statistics (to be generated, if necessary).
- SADCC/SACCAR monitoring

- 1. Competent project management at institutional level with guidance from SACCAR.
- 2. Economic environment in region sustains projected market demand for graduates of specialized institutions.
- 3. Retention of educators trained under the project within selected institutions.

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATIONS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
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PROJECT OUTPUTS (CONT..)

7. Identification and progressive elimination of inappropriate policies impeding cross-border student exchanges.

8. Improved curricula developed at specialized institutions.

PROJECT INPUTS

LEVEL OF EFFORT

1. Graduate-level training in the region for educators from selected institutions.

AID funding \$11.2 million

Technical Assistance	18.9m
Training	2.3m
Institutional Support	3.2m
Construction	.6m
Conferences/Workshops	.3m
Evaluation	.3m
Audit	.1m
Contingency	2.6m
Inflation	2.8m

1. AID financial management records and oversight.

2. AID direct disbursement records.

3. Audit and evaluations.

4. Office equipment

5. Conference/workshop/Symposia costs.

6. T.A. to support SACCAR policy analysis and project management.

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Attachment BInitial Environmental Examination  
or Categorical Exclusion

Project Country : Southern Africa Regional Program

Project Title and Number : Regional Agricultural Faculty Development

Funding : SADF - LOP - \$ 31.2 million  
FY 89 - \$ 12.67 million

IEE/CE Prepared By : Patricia K. Buckles,  
Chief, Project Development Office,  
USAID/Zimbabwe

Environmental Action Recommended: Categorical Exclusion

This activity meets the criteria for Categorical Exclusion in accordance with Regulation 16, Section 216.2 (C)(1),(2). It is excluded from further review because:

1. The Project consists primarily in institutional support, technical assistance, and training of agricultural professionals. The only possible effect of project activities on the natural/physical environment would occur if classroom construction is determined to be necessary as part of the institutional support component. In such an event, this construction would constitute less than 1% of project funds obligated. Section 216.2(C)(1)(i),(ii).
2. Technical assistance procurement and training which are financed under the project by A.I.D. meet the criteria for categorical exclusion as defined in Section 216.2(C)(2)(i).

APPROVED BY : \_\_\_\_\_  
Allison Butler Herrick, Director/USAID

Date: \_\_\_\_\_

CONCURRENCE : \_\_\_\_\_  
Bureau Environmental Officer

Date: \_\_\_\_\_

Cleared: Donald Keene, Regional Legal Advisor (1 February, 1989)

## ATTACHMENT C

## AGRICULTURE FACULTY DEVELOPMENT PROJECT

## BUDGET

ELEMENT		
TECHNICAL ASSISTANCE		
LONG-TERM	112 PERSON YRS	16,800,000
SHORT-TERM	80 PERSON MTH	1,200,000
PROJECT MANAGEMENT--PSC	6 PERSON YRS	900,000
TRAINING		
LONG-TERM--U.S.	36 PERSON YRS	1,440,000
SHORT-TERM--U.S.	10 PERSON MTH	100,000
LONG-TERM--REGIONAL	44 PERSON YEAR	660,000
SHORT-TERM--REGIONAL	10 PERSON MTH	100,000
INSTITUTIONAL SUPPORT		
LABORATORY EQUIPMENT		1,500,000
RESOURCE MATERIAL		1,350,000
OTHER EQUIPMENT		250,000
CONSTRUCTION		
CLASSROOMS		400,000
LABORATORIES		200,000
RESEARCH FACILITIES		175,000
REGIONAL WORKSHOPS/CONF STUDIES		300,000
EVALUATION		300,000
AUDIT		100,000
CONTINGENCY		2,577,500
INFLATION		2,835,250
TOTAL		<u>31,187,750</u>

## ASSUMPTIONS:

## UNIVERSITY UPGRADING COSTS

--MAX. OF 3 TEACHERS NEED OVERSEAS TRNG & U.S. TEACHER WILL PROVIDE CONTINUITY WHILE INSTRUCTOR IS IN THE U.S. (M.S. OR PH.D. TRAINING)	12 PERSON YRS TECH ASSISTANCE 9 PERSON YRS TRAINING	1800000	360000
--MAX. OF TWO TEACHERS NEED REGIONAL TRNG TO UPGRADE THEIR SKILLS. (M.S. DEGREE FROM SADCC UNIVERSITY). U.S. TEACHER WILL PROVIDE CONTINUITY WHILE INSTRUCTOR IS ON TRAINING STATUS.	6 PERSON YRS TECH ASSISTANCE 4 PERSON YRS TRAINING	900000	60000
--EACH UNIV. WILL REQUIRE A LABORATORY TO FACILITATE FIELD OF SPECILIZATION AS WELL AS A RESEARCH SITE FOR PRACTICAL TRAINING.	LAB LAB FIELD CLASS RESOURCE	EQUIPMENT CONSTRUCTION TEST SITE ROOMS MATERIAL	400000 50000 50000 100000 300000
--EACH UNIV. WILL NEED AT LEAST 10 PCs TO MANAGE THEIR RESEARCH ACTIVITIES.		50000	
--LONG-TERM INSTRUCTORS WILL BE IN-COUNTRY AT LEAST ONE YEAR AFTER RETURN OF TRAINEE.			

## DIPLOMA LEVEL SCHOOLS

--MAX. OF 2 TEACHERS NEED OVERSEAS TRNG & U.S. TEACHER WILL PROVIDE CONTINUITY WHILE INSTRUCTOR IS IN THE U.S. (M.S. TRAINING)	8 PERSON YRS TECH ASSISTANCE 6 PERSON YRS TRAINING	1200000	240000
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<p>--MAX. OF FOUR TEACHERS NEED REGIONAL TRNG TO UPGRADE THEIR SKILLS. (M.S. DEGREE FROM) SADCC UNIVERSITY). U.S. TEACHER WILL PROVIDE CONTINUITY WHILE INSTRUCTOR IS ON TRAINING STATUS.</p>	<p>12 PERSON YRS TECH ASSISTANCE 12 PERSON YRS TRAINING</p>	<p>1800000</p>	<p>180000</p>
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<p>--EACH COLLEGE WILL REQUIRE A LABORATORY TO FACILITATE FIELD OF SPECILIZATION AS WELL AS A RESEARCH SITE FOR PRACTICAL TRAINING.</p>	<p>LAB LAB FIELD CLASS RESOURCE</p>	<p>EQUIPMENT CONSTRUCTION TEST SITE ROOMS MATERIAL</p>	<p>250000 50000 50000 100000 250000</p>
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<p>--EACH COLLEGE WILL NEED AT LEAST 10 PCs TO MANAGE THEIR RESEARCH ACTIVITIES.</p>	<p>50000</p>
--	--------------

--LONG-TERM INSTRUCTORS  
WILL BE IN-COUNTRY AT  
LEAST ONE YEAR AFTER  
RETURN OF TRAINEE.

#### TECHNICAL ASSISTANCE

<p>--USAID WILL PROVIDE 2 PEOPLE TO SACCAR FOR THREE YEARS TO ASSIST IN DEVELOPING THEIR CAPABILITIES.</p>	<p>6 PERSON YRS</p>	<p>900000</p>
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<p>--USAID WILL PROVIDE A USPSC AT SACCAR TO MANAGE THE PROJECT.</p>	<p>6 PERSON YRS</p>	<p>900000</p>
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<p>--AT LEAST ONE PROJECT MGR AND ADMIN. MGR WILL BE REQUIRED BY U.S. UNIVERSITY TO MANAGE THE FIELD PROJ</p>	<p>10 PERSON YRS</p>	<p>1500000</p>
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<p>--PROVIDE 20 PM OF ST TECH ASST TO EACH DIPLOMA SCHOOL; 10 PM TO EACH UNIV; 10 PM TO SACCAR; AND 10 PM TO HANDLE PROCURE- MENT, CONSTRUCTION,</p>	<p>1200000</p>
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TRAINING

- US COSTS 40000/YR
- SADCC COSTS 15000/YR
- LT TA 150000/YR
- ST TA 15000/MONTH

## AGRICULTURAL PROGRAMS IN SADCC COLLEGES AND UNIVERSITIES

	<u>COUNTRY</u>	<u>DATE EST</u>	<u>FACULTY</u>	<u>DIP.</u>	<u>QUALIFICATIONS</u>		<u>PHD</u>
					<u>BSC.</u>	<u>MSC</u>	
1.	ANGOLA	1983	Agriculture	1983	1983		
2.	BOTSWANA	1967 1969	Agriculture Animal Health	1967 1969	1988		
3.	LESOTHO	1955 1988 1988 1988	Agriculture Forestry Home Economics Agriculture	1955 1988 1988	1988		
4.	MALAWI	1966	Agriculture	1966	1969	1988	
5.	MOZAMBIQUE	1970 1983	Agriculture Vet Medicine	1970	1970 1983		
6.	SWAZILAND	1967 1967 1967	Agriculture Agric. Educ. Forestry	1967 1967 1967	1974 1974		
7.	TANZANIA	1965 1965 1965 1965 1965 1984 1984 1984	Agriculture Agric. Educ. Animal Health Forestry Home Economics Agric. Educ. Food Science Vet Medicine	1965 1965 1965 1965 1965 1965 1965 1965	1984   1985 1985 1984 1984 1984	1984    1984 1984	
8.	ZAMBIA	1960 1960 1960 1986	Agriculture Animal Health Home Economics Vet Medicine	1960 1960 1960	1971 1971 1986 1986	1971 1971	
9.	ZIMBABWE	1950 1980	Agriculture Vet Medicine	1950	1979 1986	1979	

Attachment ESADCC Operating Principles

SADCC's Programme of Action covers a number of sectors or sub-sectors for which regional projects are to be undertaken, and for which individual members states have been designated to assume responsibility on behalf of SADCC. The responsibilities of the various sectors differ somewhat, but generally follow a common pattern, including:

- Preparation of a regional sector strategy paper by the co-ordinating unit, discussion of the paper with other SADCC members through the sectoral committees, and final approval of the paper by the Council of Ministers;
- Identification of projects by the sectoral co-ordinating unit or by the country or countries directly concerned;
- Appraisal of proposed projects by the coordinating unit (and, in some sectors, by technical committees), so as to ascertain that the project is consistent with the objectives, strategy and criteria for the particular SADCC sector;
- Review of projects that pass the initial appraisal stage by the sectoral committee of officials, with a screened list then being submitted to the sectoral committee of Ministers; and
- a final screening and approval by the SADCC Council of Ministers (with subsequent endorsement by the Summit)

Project approval by the Council of Ministers constitutes acceptance of the project into the SADCC Programme of Action and authority for the sector coordinator and the country (or countries) where the project is to be located to seek external financing.

Once a project reaches the implementation stage, it is the government of the country or countries where the project is to be located that has the responsibility for negotiating financing, entering into loan and other agreements and undertaking implementation. In the case of projects physically located in two or more SADCC countries, the sectoral coordinating unit is more likely to play a more active role in financial and other negotiations.

## POPULATION AND AREA DATA

Country	Total popul. (000)	Agric popul. (000)	% in agric.	Family size	Family in agric (000)	Total land (000)	Arb. area (000)
Angola	8339	4653	55.8	3.4	1238	124670	2950
Botswana	1007	782	77.7	5.7	118	58540	1360
Lesotho	1444	1175	81.4	4.3	269	3035	292
Malawi	6586	5366	81.7	4.6	1179	11848	2300
Mozambique	13311	8173	61.4	5.3	1300	80159	2850
Swaziland	611	425	69.5	5.0	83	1736	200
Tanzania	20954	16617	79.3	4.4	3468	94509	4110
Zambia	6232	4026	64.6	4.6	875	75261	5100
Zimbabwe	8164	4705	57.6	5.5	829	29058	2465

Source: Nygaard et al 1985, FAO 1984

TOTAL PROJECTED DEMAND FOR TRAINED AGRICULTURAL PERSONNEL  
YEAR 2000 IN SADCC BY TRAINING LEVEL AND COUNTRY

<u>Country</u>	<u>Ph.D</u>	<u>M.Sc.</u>	<u>B.Sc.</u>	<u>Diploma &amp; Certificate</u>	<u>Total</u>
Botswana	19	56	158	336	559
Lesotho	38	114	324	666	1142
Malawi	229	687	1959	4036	6910
Mozambique	184	552	1565	3222	5522
Swaziland	12	37	105	216	370
Tanzania	699	2098	6096	12594	21487
Zambia	180	541	1496	3068	5286
Zimbabwe	135	406	1151	2368	4061
Total	1497	4492	12853	26496	45337

Source: FAO & SACCAR

SCOPE OF WORK FOR AGRICULTURAL SKILLS DEMAND SURVEY

Study Title: Private and Public Sector Demand for Graduates of Agricultural Training Institutions in the SADCC Region.

1. OVERVIEW OF EXPECTED RESULTS

The Contractor will carry out an analysis of the demand for employment of graduates from agricultural training institutions at the certificate, diploma and degree levels, over the ten year period, 1990-2000. This analysis will be limited to the member countries of the Southern Africa Development Coordination Conference (SADCC). Based upon this analysis, the Contractor will:

- (i) Estimate future potential private sector demand for holders of certificates, degrees and diplomas from accredited educational institutions, not limited to those located within the SADCC region. Data will be disaggregated by type of qualification (certificate, diploma, degree), and by agricultural specialty or area of concentration, as delineated in Annex 1. For the purposes of this analysis, the "private sector" shall be defined as all commercial entities with a minimum of 50 percent of total capitalization owned and controlled by private (non-Government) bodies. Analysis will be based upon "most-likely" scenarios with respect to economic growth within the SADCC region. The assumptions to be employed in projecting potential demand will be assessed as part of the technical review of Contractor proposals.
- (ii) As a separate analysis, estimate future public sector demand for the same set of agricultural qualifications, over the referenced timeframe and similarly disaggregated. For the purpose of this analysis, the "public sector" shall be defined as all commercial entities not identified as "private sector" using the criteria cited in (i), above, and all public institutions, including the civil services of SADCC member Governments.
- (iii) Present survey data describing the range of private and public sector employers of trained agricultural personnel, disaggregated by type of qualification and by specialty as above. Survey data should indicate the geographic spread of these potential employers within the region, and project employment demand over the ten year timeframe by industrial sector or by logical groupings of similar end-users of agricultural skills.
- (iv) Present survey data indicating present sources of trained agricultural human resources within the region and numbers

currently employed by sector or grouping as in (iii) above, disaggregated by gender, level of qualification and specialty.

## 2. BACKGROUND

USAID/Zimbabwe is designing a project to assist SADCC member countries to improve educational institutions in the field of agriculture at post-secondary and University levels. The focus of the project will be on improving the quality of agricultural education offered in selected fields within the region, in order to ensure that eventual graduates possess qualifications that respond to the demand for technically qualified human resources in both public and private sectors.

A demand analysis of potential post-graduation employment opportunities for students from USAID-supported institutions is necessary to determine that the project will achieve the desired objective of stimulating employment and meeting human resource needs.

Results from the study will be used to assist USAID/Zimbabwe in determining where best to concentrate project resources; which training programs to support, at what academic level and in which particular areas of technical or academic concentration, in order to be most responsive to projected market demand.

## 3. DESIGN ISSUES OF RELEVANCE TO THE WORK OF THE CONTRACTOR

The work carried out to date on the design of the program has illuminated a number of issues. One of these, concerning the potential market demand for graduates from institutions which are being considered for U.S. assistance under the project, is to be addressed by the Contractor of this study.

## 4. INFORMATION SOURCES

The Contractor will rely upon:

- (i) Secondary documentary sources and information on the background of the project and related technical materials to be made available by USAID/Zimbabwe;
- (ii) Interviews with representatives of private and public sector organizations that are actual or potential employers of persons holding the sorts of technical qualifications that the project seeks to develop;
- (iii) Other primary or secondary sources to be recommended by the Contractor. These other sources will be an important element of the technical design of the study and the Contractor will be expected to propose specific activities (e.g. surveys) to develop additional source material if that is considered necessary to achieve the study's expected results.

5. COUNTRY FOCUS OF THE STUDY

The Contractor will produce market demand projections and data on employment, disaggregated as described in section 1, for all SADCC member countries.

6. TASKS

The tasks to be carried out by the Contractor are listed below. The order of listing is roughly chronological. The Contractor will:

- (i) Develop a detailed technical design and workplan for the study. The technical design will demonstrate that the Contractor fully understands the results required. The technical design is to include proposed information-gathering instruments;
- (ii) Meet with the relevant staff of USAID/Zimbabwe to be briefed on the status of the design, to discuss the tasks to be carried out, to identify sources of information;
- (iii) Survey potential employers of trained agricultural personnel in SADCC member countries. Develop and exploit other sources of data necessary to achieve study results;
- (iv) Report to USAID/Zimbabwe on preliminary findings;
- (v) Submit draft final report to USAID/Zimbabwe; and
- (vi) Based upon comments received on the draft report, prepare and submit a final report in 25 (twenty-five) copies.

7. REPORTS/DELIVERABLES FOR USAID/ZIMBABWE'S APPROVAL AND TIME FRAME

[TO BE APPENDED]

8. SUPERVISION

The Contractor will report to the Chief Project Development Officer (CPDO), USAID/Zimbabwe. Changes in workplan and reporting requirements will be approved by the CPDO.

9. LOGISTICS

The Contractor will be responsible for arranging all international and local travel and for all secretarial, computer and logistical assistance.

10. PERSONNEL REQUIREMENTS

The Contractor will provide one project manager, and for each country, a team consisting of individuals with appropriate survey and analytical skills.

11. LEVEL OF EFFORT

To be proposed by the Contractor in consideration of study results required.

Scope of Work for Institutional Analysis

Study Title: Resource Requirements to Strengthen Training Programs in Selected Agricultural Training Institutions in the SADCC Region

1. Overview of Expected Results

The contractor will conduct detailed project feasibility analyses at selected agricultural training institutions, with the outcome being either a project assistance plan, or the recommendation that a given institution would not be suitable for project support. The general criteria by which an institution may be evaluated for participation in the project should include but not be limited to the following:

- Relative institutional strength in the discipline;
- Institutional recognition of the need for strengthening;
- Willingness to consider broadening non-national student enrollment and to take measures to encourage non-nationals from the SADCC region to participate in the department;
- Willingness to include additional budgetary support for the discipline.

2. Background

African universities have consistently been called upon by national development plans, education commissions and external donors to produce better trained graduates in a variety of specialized, applied fields such as engineering, agriculture, medicine & health sciences, and veterinary sciences. Institutions are also asked to provide more direct services to the nation through outreach education programs and dissemination of applied research. They are under extremely strong pressure (both external and internal) to continually expand enrollments, to satisfy the demand generated by a fast expanding secondary school system and the high private rates of return to higher education.

These demands are now being felt at a time when university education in Africa is under attack for relatively high unit costs and obvious inefficacy. Governments also, are faced with budgets that are declining in real purchasing power. Given the limitations in expanded public support for higher education, the team should examine the funding base for the institution.

The most critical variable for the success of a development project is the quality of the leadership and supporting personnel within an

institution. The contractor will need to examine the quality of leadership, and determine whether this can be partially enhanced by external technical assistance. Indicators of leadership will be staff morale, dedication and level of activity; the ability to mobilize and effectively use resources and facilities; linkage to and activities with government and significant users of agriculturally trained personnel, and status within the higher education community.

One of the first obstacles the contractor will encounter is the relative lack of centrally available information important to an assessment of university operations, including current statistical, financial, and analytical information concerning such matters as staff and facilities utilization, details of operating and unit costs, and enrollments of students in courses and departments. The following outline identifies the information required for analysing the program, operations, and needs of the institutions:

### 3. Data Collection Requirements

- A. Location: The geographic location of the institution and any extra-mural field sites and properties.
- B. Character and History: The founding of the institution and major events that shaped its orientation and character. Special characteristics of the institution as expressed in publications, a motto, traditions, etc. Changes in the character and focus of the institution since independence, in the past five years. Relationship of the institution to national life, involvement of the institution's leaders, faculty and students in national affairs.
- C. Programs: The academic structure of the institution: the description of faculties and departments; qualifications awarded; assessment of strengths and weaknesses in the academic programs; relative size and importance of the various academic courses; description of the graduate program, if any; extra mural programs and institutes; academic links to other institutions of higher education either within the country or external.
- D. Management: The structure of decision-making for university operations: national level manpower planning procedures and the influence of this on university enrollments/financing; the role of the university council and its composition; the role of the university senate; faculty and departmental boards. A critical review of the strengths and weaknesses of the decision-making machinery in relation to the kinds of academic, program, and budgetary decisions which would have to be made to start a new graduate program in agriculture.
- E. Enrollments: Enrollment of full-time students by program area (faculty and qualification sought), gender, and year of study. Breakdown by nationality and program area. Proportion of

residential and non-residential students; full-time and part-time students. Analysis of supply of students for various programs -- particularly in the sciences, and any plans or projects to deal with the lack of qualified applicants. Analysis of student wastage (repetition and early drop-out) by program and year. socio-economic and ethnic composition of the student body (implications of this for applied field work -- language, cultural and status problems). Estimate of the relationship between enrollments by program areas, and the demand by the employment market for degree holders (e.g., is there a problem of unemployed graduates, or of serious shortages?).

- F. Staffing: Total number of academic staff by position (professor, senior lecturer, lecturer, instructor, etc.), qualifications, nationality and contract terms/tenure by faculty. Administrative staff at the central office and at the faculty and departmental levels. Institution support and maintenance staff. Average contact teaching hours of staff by faculty, average class sizes and student/staff ratios. Research and other academic or extra-curricular activities of senior staff (or lack of this). Estimate of staff expert, competence, dedication, openness to change and innovation, or otherwise.
- G. Physical Facilities: The land available to the university and its utilization: area given to buildings, sports, agriculture, etc. and amount of land for expansion. Description of off-campus sites and land availability. General institution buildings including central administration, student center, sports facilities, general halls, student dormitories, staff houses, etc. For each faculty the number and size of classrooms (seating capacity), lecture halls, laboratories or studios and other facilities (ideally the actual area in square meters will be available). If possible, the rates of utilization of facilities should be known or assessed: percentage of time facilities are being used, and average level of occupancy during use. The contractor should be sensitive to possible underutilization of facilities which would permit expansion of programs and enrollments without requiring new buildings. A general assessment should be made of the level of equipment, supplies and maintenance of facilities and grounds, as an indication of the financial and management conditions of the institution.
- H. Sources of Financing: Level and categories of government or other external financing. Basis on which this financing is provided and calculated, e.g., grants to the university based on per student capitation). Amount of tuition and maintenance costs, and source of support for tuition payments (e.g., private, government scholarships, student load schemes, donor financed project scholarships, etc.). In addition to donor

financed tuition payments, describe other donor financial and resource contributions (e.g., topping up of expatriate faculty salaries and the provision of staff housing). Examine trends and likely future status of financing. This should be done within the context of an overall economic analysis of the country and region, which will undoubtedly form a part of the final team's report. The elements of that economic analysis are not detailed here, since they are standard: the best source may be the World Bank's most recent country analysis.

- I. Costs: Recurrent costs should be analysed by faculty/institute and category: staff costs (analyzed by type of staff if possible); materials and non-capital equipment; running costs (including transportation and travel) and maintenance. Non-instructional costs should be analyzed for student residency and institution overheads and campus maintenance. Special items of expenditure, or particular measure of accounting and reporting costs that may distort the overall picture should be noted (e.g., provision of inflationary rents and transportation costs as part of staff benefits charged to instructional costs).

For both financing and costs, the team should attempt to obtain the record for at least the past five years, and forward projections. This will be the basis for a determination of the adequacy and efficiency of institution operations in general and support for the agriculture program in particular.

The information collected will provide the general information to the contractor needed to determine the general feasibility for an institutional support project, and what the focus of that support might be.

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