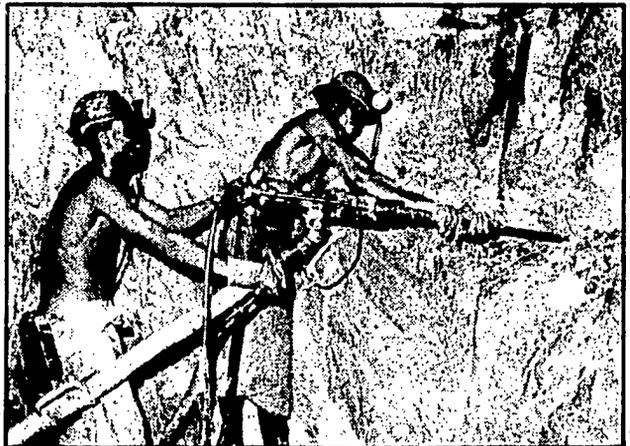


FOOD, AGRICULTURE AND NATURAL RESOURCES

SOUTHERN AFRICAN DEVELOPMENT COORDINATION CONFERENCE



Lusaka, Republic of Zambia
31st January — 2nd February, 1990

SECTION ONE:

OVERVIEW

SECTION TWO: FOOD AND AGRICULTURE

- Part I: Agricultural Research
- Part II: Food Security
- Part III: Livestock Production and Animal Disease Control

SECTION THREE: NATURAL RESOURCES AND ENVIRONMENT

- Part I: Fisheries, Forestry and Wildlife
- Part II: Soil and Water Conservation and Land Utilisation

PROJECT NUMBERING

Projects are numbered in a three digit system:

* The first digit defines the Sector:

- 0 - Overall Coordination
- 1 - Food Security
- 2 - Livestock Production & Animal Disease Control
- 3 - Agricultural Research & Training
- 4 - Fisheries
- 5 - Forestry
- 6 - Wildlife
- 7 - Soil & Water Conservation & Land Utilisation

* The second digit indicates the member State:

- 1 - Angola
- 2 - Botswana
- 3 - Lesotho
- 4 - Malawi
- 5 - Mozambique
- 6 - Swaziland
- 7 - Tanzania
- 8 - Zambia
- 9 - Zimbabwe

* The third digit is a serial number.

L E G E N D

ADB	= African Development Bank
AGIP Spa	= AGIP Spa
AIDAB	= Australian International Development Aid Bureau
ANG	= Angola
AUS	= Australia
AUST	= Austria
BADEA	= Arab Bank for Economic Development in Africa
BEL	= Belgium
BOT	= Botswana
BRA	= Brazil
CAN	= Canada
CBI	= Confederation of British Industries
CFTC	= Commonwealth Fund for Technical Cooperation
CHI	= Peoples Republic of China (China)
CITES	= Convention on International Trade in Endangered Species
DEN	= Denmark
EEC	= Commission of the European Communities
FAO	= Food and Agriculture Organisation of the United Nations
FIN	= Finland
FRA	= France
FRG	= Federal Republic of Germany
GDR	= German Democratic Republic
IBRD	= International Bank for Reconstruction and Development
ICAO	= International Civil Aviation Organisation
ICE	= Iceland
IDA	= International Development Agency
IDRC	= International Development Research Centre
IDU	= Industrial Development Unit of the Commonwealth Secretariat
IFAD	= International Fund for Agricultural Development
ILO	= International Labour Organisation
IMPOD	= Import Promotion Office for Products from Developing Countries
IRE	= Ireland
ISNAR	= International Service for National Agricultural Research
ITA	= Italy
ITB	= International Tourism Board
ITU	= International Telecommunications Union
JAP	= Japan
KUW	= Kuwait Fund
LES	= Lesotho
MAL	= Malawi
MOZ	= Mozambique
NET	= Netherlands
NOR	= Norway
NORDICs	= Nordic Countries
OPEC	= Organisation of Petroleum Exporting Countries
POR	= Portugal
SADCC	= Southern African Development Coordination Conference
SAFTTA	= Southern African Federation of Travel and Tour Associations
SAREC	= Swedish Agency for Research Cooperation with Developing Countries
SATEP	= ILO Southern African Team for Employment Promotion
SPA	= Spain
SWA	= Swaziland
SWE	= Sweden
SWI	= Switzerland
TAN	= Tanzania
TAZARA	= Tanzania Zambia Railway Authority
UAPTA	= Unit of Account of the Preferential Trade Area
UK	= United Kingdom
UNDP	= United Nations Development Programme
UNIDO	= United Nations Industrial Development Organisation
UNSPEC'd	= Unspecified
USA	= United States of America
USSR	= Union of the Soviet Socialist Republics
WB	= World Bank
ZAM	= Zambia
ZIM	= Zimbabwe

OVERVIEW

1. INTRODUCTION

- 1.1 The planning, development and execution of the SADCC Programme of Action, including its constituent projects involve more than one agency. Therefore, coordination, both at national and regional level, is a key factor for the success of programme implementation.
- 1.2 Coordination is an executive function. It involves a process of facilitating and ensuring that any action which needs to be carried out is done in accordance with coherent policy objectives and strategies.
- 1.3 Experience with other regional programmes or national projects, in which more than one agency are responsible for implementation, has shown that the greater number of failures in carrying out projects in a reasonable period of time, is partly traceable to poor project selection and inadequate project preparation. However, ineffective coordination among the operating agencies is often the main factor responsible for the failure of programme implementation.
- 1.4 Sector Coordinators for Food, Agriculture and Natural Resources and the Secretariat are examining ways of improving the effectiveness of the coordination of the programme.

2. FOOD SUPPLY SITUATION IN THE REGION

- 2.1 Although the rains started later than usual in most places in the region, the total rainfall in the 1988/89 farming season was above normal, and led to flooding in some parts of the region, especially in Malawi, Tanzania and Zambia; leading to loss of life and property. To limit such damage in future, SADCC member States should invest more in soil and water conservation programmes, which should include better water harvesting techniques, flood control, planned land-use, afforestation and storm drain construction.
- 2.2 The overall food security prospects for the 1989/90 marketing year are worse than those in the 1988/89 marketing year.

- 2.3 On the basis of information made available by the Regional Early Warning System as at the end of May, 1989, the region as a whole is likely to have a net surplus of some 1.12 million tonnes maize equivalent (M.E), representing some 7% of its staple food requirement in the 1989/90 marketing year. This compares with a net deficit of 0.28 million tonnes in 1988/89. The estimate for 1989/90 takes account of a net surplus of 1.14 million tonnes of maize and a net deficit of 0.56 million tonnes of wheat.
- 2.4 Five deficit member States, Angola, Botswana, Lesotho, Mozambique and Swaziland require 1.63 million tonnes M.E., and when the import needs of the other countries are taken into account, the total import requirement amounts to 1.86 million tonnes M.E. Compared to 1988/89, the need for imports is expected to increase by 10% for maize, and 22% for wheat.
- 2.5 Maize import requirements of the deficit member States and the refugee population in Malawi amount to 1.1 million tonnes. On the other hand, Malawi, Tanzania, Zambia and Zimbabwe are expected to have a combined maize surplus of 2.24 million tonnes. However, arrangements for the export of only some 410,000 tonnes of maize (18% of the overall surplus) had been made, by the end of May 1989. In contrast, arrangements for imports of wheat had largely been completed, with only 90,000 tonnes uncovered at the end of May 1989.
- 2.6 As was the case in 1987/88, it is evident that some opportunities for reducing SADCC dependence on outside sources of supply for food are likely to be lost in the 1989/90 marketing year. Opportunities for raising demand for regional production and increasing trade within the region are not being realised because of such constraints as:
- a) scarcity of foreign exchange;
 - b) transport availability and organization;
 - c) delays in concluding contract arrangements;
 - d) delays in delivery;
 - e) problems of grain quality; and
 - f) uncompetitive pricing.

3. THE PROGRAMME

- 3.1 Some major issues which should be occupying the minds of policy makers in the region include sustainable development and sustainability of agricultural production. The Consultative Group on International Agricultural Research (CGIAR), in its 1987-88 Annual Report defines sustainable development as "a process in which the exploitation of resources, the direction of investment, the orientation of technological development and institutional change are made consistent with present and future (human) needs". Sustainable agriculture is described as "involving the successful management of resources for agriculture, in order to satisfy the changing human needs, while simultaneously maintaining or enhancing the natural resource base and conserving natural resources". Analysed further, this concept means looking at constraints to agricultural production, and research into means of alleviating the constraints, and sustaining the gains made in agricultural production. The concept also emphasises poverty reduction, increased protein intake to avoid malnutrition, better care of the environment (soils, water and vegetation), reduction in the cost of food, increasing trade in food stuffs, stability of production, and developing policies which support agriculture, on a short and long term basis.
- 3.2 When SADCC reviewed its agricultural policies in 1986, it observed that the human population was growing at an average of 2.86 per cent per annum, while agricultural production was growing at about 2.55 per cent only. Studies conducted by the Food and Agriculture Organisation (FAO) and others show that in some developing countries where better production technologies are utilised, agricultural production has been growing at the rate of 3 per cent or more per annum. Because the potential for agricultural production is very high in most SADCC member States, the region should aim at achieving at least a 3 per cent growth in agricultural production per annum. It is important for SADCC member States to increase their investments in agriculture from about 10 per cent to 20 - 25 per cent of their annual budgets. Similarly, the level of investment in agricultural research should be raised from the present 0.3 per cent of the Agricultural Gross Domestic Product (AGDP) to between 1 to 2 per cent.
- 3.3 West European and North American countries have set up a Special Programme for African Agricultural Research (SPAAR), which looks into ways and means of assisting Sub-Saharan Africa to achieve sustainable agricultural production. The Food, Agriculture and Natural Resources sectors of SADCC, especially Agricultural Research, will be examining ways by

which individual member States, and SADCC as a whole, can benefit maximally from this programme.

Integration of Strategy Documents

- 3.4 The area of Food, Agriculture and Natural Resources covers five sectors of: Agricultural Research; Food Security; Fisheries, Forestry and Wildlife; Livestock Production and Animal Disease Control, and Soil and Water Conservation and Land Utilisation.
- 3.5 In order to ensure consistency, and to exploit the complementarities among the sectors of Food, Agriculture and Natural Resources, the sector will proceed to integrate the two strategy documents for Food and Agriculture, and for Natural Resources and the Environment into a single, cohesive and consistent strategy document. The integration exercise will, among other things:
- give consideration as to how the current and future sectoral programme should be developed and implemented to fulfil the objectives of the overall strategy.
 - review the respective roles of the Sector Coordinators, Overall Coordinator and the Sectoral Contact Points in the implementation of the strategy.

1. EXECUTIVE SUMMARY

- 1.1 The Agricultural Research and Training Sector continued to pursue its objective of strengthening the national Agricultural Research systems so that they may be able to identify constraints to production, and initiate and conduct location-specific research aimed at solving these constraints.
- 1.2 The Sector has sixteen projects. Ten of these projects are under implementation; feasibility studies on three projects have been completed, and three projects are at pre-feasibility study stage.
- 1.3 A comprehensive mid-term review of SACCAR has been completed, and recommendations arising out of the review have been accepted, with minor modifications, by the Ministers of Agriculture and Natural Resources. The approved recommendations are being implemented by SACCAR. Execution of SACCAR's mandate is progressing well. Implementation of the other nine projects is also proceeding satisfactorily.
- 1.4 One new project on the Management of Black Cotton Soils, which will form a part of the on-going Land and Water Management Research Programme, has been approved by the Ministers of Agriculture and Natural Resources, and funding is being sought for implementation of the project.
- 1.5 Three projects, the Feasibility Studies of which have been completed, are awaiting funding for implementation.
- 1.6 Funding is being sought for feasibility studies, which are yet to be carried out.
- 1.7 Notable progress was achieved during the year in the improvement of Sorghum and Millet, Beans and Groundnuts. Improved germplasm is available for release to farmers through National Research Systems. There were also notable achievements in the implementation of the Land and Water Management Research Programme; the Agro-Forestry Research project, In-Service Training in Research Management, Crops and Forest Seeds Genebank; Maize and Wheat Improvement Network; strengthening of Faculties of Agriculture, Forestry and Veterinary Medicine; and in the project entitled "The Establishment of SACCAR."

2. REVIEW OF THE REGIONAL SITUATION

- 2.1 The development of a critical mass of trained manpower for various specialisations in the agricultural industry continues to be one of the high priority areas of the sub-sector. During the year, a workshop, at which manpower planners in the Ministries of Agriculture exchanged views with the Deans of Faculties of Agriculture, Forestry and Veterinary Medicine and Chief Agricultural Research Officers/Directors of Agricultural Research, took place on the 22 - 28th August, 1988, in Maseru, Lesotho. Representatives of several cooperating partners also participated in the workshop.
- 2.2 The World Bank assisted SACCAR in preparing a report on the demand and supply of manpower, based on presentations at the workshop by SADCC member States, SADCC's Agricultural Research Resource Assessment (ARRA) Study, FAO and the World Bank's manpower studies. The report shows that although by the year 2000 SADCC might have adequate Certificate and Diploma holders, trained manpower will be inadequate at first, second and third degree levels, and in several technical fields.
- 2.3 SACCAR, with the assistance of several cooperating partners, launched a study which identified the needs of strengthening Faculties of Agriculture, Forestry and Veterinary Medicine in the region. The report of the study has been made available to member States. This should provide a basis for action by both member States and cooperating partners wishing to assist SADCC in the training of manpower within the region.
- 2.4 SACCAR is happy to note that the Manpower Development Sector has produced an inventory of Regional Training Facilities at post-secondary level; while the Forestry Sector has, with the assistance of Finland, developed a project to strengthen Forestry Training Colleges in the region. SACCAR and other sectors will continue to find ways of working together to develop human resources.

3. REVIEW OF THE PROGRAMME

- 3.1. The broad areas of focus for research by the sector include:
 - a) development of high yielding and highly adapted food and cash crops and livestock;
 - b) development of efficient water harvesting techniques;

- c) conservation and development of natural resources of soil, water, trees, natural vegetation, wildlife and fisheries;
- d) development of post-harvest food and cash crop processing, handling, storage and utilisation techniques;
- e) development of small scale fisheries and shrimp schemes;
- f) development of small and large scale horticulture (vegetable, fruits and nuts);
- g) development of long term migratory pest control strategies; and
- h) development of irrigation (including dams, canal system, bore holes, drip irrigation, etc.).

3.2 Given the specific climatic and environmental problems of the region, the sector emphasises the continued validity of these areas of activity, and the need to do all that is possible to support and stimulate action at both national and regional levels.

3.3 The cooperating partners assisted SACCAR in the course of implementation of its programmes and projects by sending observers to meetings of Steering Committees, Technical Advisory Panel and to the Board of SACCAR itself. During these visits some representatives of cooperating partners discussed with SACCAR various aspects related to funded or unfunded programmes and projects. Some of the observers attended a Workshop on Natural Resources.

3.4 Representatives of cooperating partners also visited Faculties of Agriculture, Forestry and Veterinary Medicine in SADCC, with a view to identifying their strengths and weaknesses in relation to admitting more students within the region, and areas needing assistance. The World Bank assisted SACCAR in up-dating the manpower demand and supply at various levels in all fields of agricultural research, training and extension up to the year 2000. The analysis shows that by the year 2000 there will be an overall deficit of professional manpower of 13 595, broken down as follows: B.Sc. level, 8 060; M.Sc level, 3 910; and Ph.D level, 1 625. The analyses also reveal that there will be surpluses at technician (i.e. certificate and diploma) levels, in some fields. The documents dealing with both the needs of faculties, and manpower supply and demand have been sent to all SADCC member States for study and follow-up.

- 3.5 The Sector is looking forward to additional support from SADCC member States and the cooperating partners in funding the already approved projects. The Sector is also planning to develop projects in the areas of edible and industrial vegetable oil production, and fruit and nuts improvements in the region. It is logical also that, as SADCC plans to celebrate its tenth anniversary, SACCAR should address both production and post-harvest aspects of agricultural production, with a view to enabling the whole sector to contribute to the main goals of achieving food security, generating employment, raising farmers' incomes and improving the member States' capacity to generate foreign exchange from exports of agricultural products.
- 3.6 The Ministers of Agriculture and Natural Resources, at their meeting held in Lusaka, in June, 1989, approved, among others, the recommendations contained in the mid-term evaluation report on SACCAR, that Phase I of the Establishment of SACCAR be extended from 1989-90 to 1991-92, and that the mandate of SACCAR be modified to enable the Sector to forge closer linkages between research, training and extension.
- 3.7 At the Lusaka meeting, the Ministers also approved one project on Management of Black Cotton Soils in the region, as a sub-project of the Land and Water Management Research Programme. Four project proposals referred to SACCAR for further development by the Food Security Sector are receiving appropriate attention.
- 3.8 The Sector has decided to give high priority to the Biological Control of Introduced Pests of Maize and Cassava in the region, and in this regard, a request for funding for this project has been submitted to the EEC.
- 3.9 At the meeting of the Commission on Plant Genetic Resources of the United Nations Food and Agriculture Organisation (FAO), held in Rome, Italy in April, 1989, FAO requested member States (of FAO) that FAO should be designated as the custodian of all Plant genetic resources in the world. The Board of SACCAR advised all SADCC member States, through appropriate channels, to observe their decision that, since the establishment of the SADCC Regional Gene Bank, in which plant genetic resources collected in the region would be stored; it would not be necessary for the FAO to be custodian of such resources in the SADCC region.

4. CURRENT STATUS OF PROJECTS

Project 3.0.1: Land and Water Management Research Programme (L&WMRP)

This multi-disciplinary programme addresses, in particular, the problems posed for rainfed agriculture, in the 400-600 mm rainfall zone of the region, by the low and erratic rainfall and poor utilisation of the available rainfall.

The first phase of identifying components of research on water harvesting techniques, movement of water in the soil profile - soil physics; identification of crops, which will make use of captured water without requiring supplementation, and tillage method to minimise water loss, moved into a second cropping season. A team leader, a hydrologist, a soil physicist and agronomist are in place. The second phase which will run parallel with the first phase got underway in January 1989 when the Coordinator for the programme reported for work. This phase will draw up plans related to making the programme truly regional by proposing component research projects which will address issues which have been identified jointly with national scientists in SADC member states. It will propose periodic meetings and workshops of national scientists so as to plan, implement and monitor jointly research projects on the subject.

The Government of Botswana has initiated tendering procedures for the construction of the laboratory for the Land and Water Management Programme. Phase I of the project is costed at US\$4.63 million, which has been secured from the UK (US\$1.88 million) and the EEC (US\$2.75 million). Phase 2 is estimated to cost US\$0.51 million, and the UK has pledged to finance this phase.

Project:3.0.1(1) Management of Black Cotton Soils

The objective of the project is to develop technologies related to the management of black cotton soils (vertisols) by employing different methods of drainage and tillage. The project will include studies of the economic and social factors which affect the adoption of generated technologies for the Management of Black Cotton Soils. New project.

Project 3.0.2: Sorghum and Millet Improvement Programme (SMIP)

The year under review was the first year of the second five year phase of the programme. The Board of SACCAR held its annual meeting at the site of the programme, and this gave the Board members an opportunity to see what had been

achieved during the first phase of the programme. The Steering Committee comprising national scientists working on sorghum and millet met twice to evaluate its work, and the work of the regional programme; and to plan for future experiments to be undertaken at national and regional levels. The Technical Advisory Panel of the Programme was satisfied that scientists working under the Programme were continuing to adhere to the objectives of the project. It made some specific recommendations such as future breeding of sorghum aimed at producing low tannin varieties, as there was a great future for both types of grains in the stockfeed industry.

Funding has been secured from USAID, CIDA and FRG.

The Rossing Foundation based in Windhoek, Namibia, has applied for and obtained seeds from the Programme. The seed has been multiplied and distributed to smallholder farmers.

Project 3.0.2(1): Plant Breeding in Relation to the Utilisation of Sorghum and Millet for Food, Beverages and Animal Feed.

The construction of a Food Science and Technology Laboratory in which to study the baking qualities of composite flours, chemical composition of the grains and forages in relation to human and animal nutrition, respectively, got underway during the year. A Food Technologist was recruited during the year. The Technical Advisory Panel for the Programme observed that the quality and utilisation work was also important that a second scientist should be recruited. It observed further that the human resources base in food science and technology in SADCC was weak and it, therefore, recommended that the training component should train one person per SADCC member state at M.Sc. level during the present Phase II of the Programme. The Panel also recommended that the Faculties of Agriculture in the region should develop undergraduate training in food science.

Project 3.0.3: Grain Legume Improvement Programme (GLIP)

The Bean and Groundnut components of GLIP continued to be implemented during the year in Arusha, Tanzania and Chitedze, Malawi, respectively. These are funded jointly with SADCC by Canada and West Germany. ICRIAT has used its core funds to initiate the construction of project offices and laboratories for the Groundnut Project. The Steering Committees comprising national scientists specialising in these commodities continued to meet during the year. A joint Bean, Groundnut and Cowpea Projects' Training Workshop for Portuguese speaking research

technicians took place in Maputo, Mozambique during the year.

The implementation of the Cowpea Component of GLIP was discussed with representatives of the European Commission in Luanda in January 1989, and in Gaborone in May, 1989. It was agreed that there was need for the Commission to fund (ECU 60 000 or US\$ 66 000) a market study of Cowpeas.

This would up-date the production and marketing data collected by SADCC consultants in 1983. At the same time the Commission was satisfied that information on subjects relating to the project that were not clear to them earlier had adequately been provided by SACCAR. The overall cowpea project component is estimated to cost ECU4.9 million for the first four years.

In August 1989, the EEC approved, an amount of ECU 1.5 million for the first year (1989-90), and the drafting of financial and implementation agreements will be initiated soon. It is hoped that the signing of these agreements between the Commission, Botswana and Mozambique, respectively, will be done so that funds could be released on time to enable the planting of research materials to start by November, 1989.

Project 3.0.4: Establishment of the Southern African Centre for Cooperation in Agricultural Research and Training (SACCAR)

The mid-term review of the Centre was undertaken during the year, and the following are the main recommendations which were approved by the Ministers of Agriculture and Natural Resources:

- a) The extension of Phase I of the Establishment of SACCAR from 1989/90 to 1991/92;
- b) Convening of annual meetings between SADCC and cooperating partners supporting SACCAR to review annual programme of work and budget; and
- c) The extension of the mandate of SACCAR to include "Extension".

Project 3.0.5: In-Service Training in Research Management

The aim of the project is to strengthen the research managerial skills of national scientists who are already employed in conducting research in the National Research Systems. The International Service for National Agricultural Research (ISNAR) based in the Hague, the

Netherlands, continued to implement the Project on behalf of SACCAR.

During the year under review, the following activities were undertaken:

1. A ten day course on Scientific Writing and Editing Communication, took place in Lusaka, Zambia between March 20 and 31, 1989.
2. A one week course on Human Resources Management in National Research Systems, took place in early May, 1989 in Harare, Zimbabwe.

The five-man review team comprising two from SADCC and one each from USAID, CIDA and ODA have already carried out the review, and the report was submitted to SACCAR in August 1989 for consideration.

Project 3.0.6: Agroforestry Research Programme

The implementation of the project, which aims at developing technologies related to sound management of the savannah grass and woodland areas, continued in Malawi, Tanzania and Zambia. Discussions were held between representatives of the Executing Agency, the International Council for Research in Agroforestry (ICRAF) and agriculture and forestry officials of the Zimbabwean Government, regarding the implementation of the project in Zimbabwe; where it was agreed that the implementation of the project would start during 1989-90.

The Board of SACCAR considered and accepted the recommendation of the Steering Committee for this project, that the project should cover the rest of the SADCC member states. A discussion between SACCAR and officials of the Executing Agency has taken place regarding this proposal. It has been agreed that the Agro Forestry project should cover Malawi, Tanzania, Zambia and Zimbabwe and phase 2 will cover the remaining member States. SACCAR was requested to launch a feasibility study on how an agroforestry project should be formulated and implemented for the remaining five SADCC member states.

The project is fully funded (US\$5.20) by Canada for the first five years.

Project 3.0.7: SADCC Crops and Forest Seeds Genebank

The objective of the project is to establish a facility for the long term storage of crops and forest germplasm for future plant improvement. It will be served by a satellite

of national seeds storage facilities. The latter will hold working collections for the plant breeders. Each SADCC member state will form a Plant Genetic Resources Committee and its Chairperson will be a member of the Board of the SADCC Regional Gene Bank (SRGB).

A Project Manager, Dr. Ake Wellving from Sweden, was appointed, and reported for work in January 1989.

The Board of the SRGB held its first meeting in Lusaka, Zambia between 24th and 27th May, 1989. A wide range of issues were discussed including:

- a) the Project Manager's progress report and future activities;
- b) siting of the SRGB and staff houses, including preparation of building plans and tendering procedures;
- c) status of Memoranda of Understanding between SACCAR and the Government of Zambia, and SRGB with SADCC member states. The documents are with the legal experts in Zambia;
- d) future staffing position and procedures for recruitment of staff; and
- e) issues raised at a recent Third Session of the FAO's Commission on Plant Genetic Resources, held in Rome between 17th and 21st April, 1989.

The NORDIC countries, which are co-funding the project with SADCC, and the collaborating institution on technical matters, the Nordic Gene Bank, were represented at the Board Meeting. The International Board of Plant Genetic Resources (IBPGR) was also represented.

A comprehensive "Plan of Operation 1989-92" for the SRGB, has been prepared, which describes the objectives of the project, justification for it, its activities at regional and national levels, and the broad categories of plant genetic resources which need to be collected, characterised and preserved for present generations and for posterity. The plan will be distributed widely in SADCC, so as to inform policy makers, government officials and universities on the need to conserve the rich plant genetic resources which the region possesses.

Project 3.0.8: SADCC Maize and Wheat Research Network

Although SADCC, with the assistance of cooperating partners, has invested a lot of resources in research on sorghum and

millet, maize continues to be the principal source of food calories in the majority of SADCC member states. Wheat is also an important cereal, mainly because the region spends its hard earned foreign exchange in importing the grain or its flour.

The UNDP agreed to provide funding (US\$0.23 million) for a feasibility study on the establishment of a Maize and Wheat Improvement Network. A breeder, an agronomist and a production economist have completed the study and submitted a report to SACCAR for consideration. This project is being undertaken in collaboration with the International Maize and Wheat Improvement Centre (CIMMYT), based in Mexico.

Project 3.0.9: Strengthening Faculties of Agriculture, Forestry and Veterinary Medicine in SADCC

Initially, the project will involve strengthening the following two-year Master of Science (M.Sc.) programmes, so that they can admit students from the whole of SADCC:

Animal Production	-	Bunda College, Malawi
Crop Production	-	University of Zambia
Agricultural Economics	-	University of Zimbabwe
Agricultural Engineering/- Irrigation Management		Sokoine University of Agriculture, Tanzania

This strengthening will involve staffing, training, supply of equipment, vehicles, journals, scholarships and rehabilitation of laboratories.

The Federal Republic of Germany has agreed to fund the initial four programmes above, and US\$1.2 m has been secured for 40 scholarships for 1988/89.

During the year, the regional programmes were launched at the Universities of Zambia and Zimbabwe, respectively. The regional programmes at Bunda College, and at the Sokoine University of Agriculture, will be launched during the second half of 1989, and during 1990, respectively.

Representatives of SADCC and Cooperating Partners formed a panel which visited all Faculties of Agriculture, Forestry and Veterinary Medicine in the region, and identified the needs of faculties for strengthening. A meeting of Deans of these faculties will soon be convened to consider the report of the panel and to prioritise the needs, before implementing the activities.

Project 3.0.10: Livestock Improvement in SADCC

The project aims at supporting the efforts of member States to increase the small-holder milk production from cattle and goats; meat from sheep and goats; mohair from Angora goats; developing draught animal power, and increasing forage production. The project will breed better livestock and conduct on-farm research and demonstrations of improved livestock production systems on smallholder farmers' herds and flocks.

SACCAR, in collaboration with the International Livestock Centre for Africa (ILCA) based in Addis Ababa, Ethiopia, and the Winrock International based in USA, organised a second workshop of livestock research scientists in November-December 1988, in Harare, to consider the report of a consultant on what steps should be taken to strengthen livestock research capabilities in SADCC. It was noted at the workshop, that already, some scientists in the region were members of the Pasture Network for Eastern and Southern Africa (PANESA), which was involved in research planning as well as information exchange. It also solicited funds from donors for disbursement to national pasture researchers. The workshop was also informed that ILCA was in the process of forming other Networks, namely, the Small Ruminant Meat and Milk, the Cattle Meat and Milk and the Animal Traction Network. Further, the Centre decided to establish a liaison office in the SADCC region.

The Board of SACCAR is studying these developments with a view to establishing how they might strengthen the capacity to undertake livestock research in SADCC, and whether or not SADCC should continue to develop its own livestock improvement networks.

Project 3.0.11: Regional Vegetable Research Programme

The development of horticulture in SADCC is still in its infancy. The per capita consumption of tropical and temperate vegetables in SADCC is among the lowest in the world. Increased vegetable production can lead to improved nutrition, cash incomes for families and potential for export. The project aims at setting up two centres - one for research on tropical vegetables and the other for temperate vegetables. Research will focus on breeding and production techniques for crops and seed.

The workshop on the subject, convened by SACCAR in April 1987, in Blantyre, Malawi, attended by three University researchers from each member State, concluded that there is great potential for the development of horticulture, and that this would improve food security of rural smallholder

farmers, through increased cash earnings. Also, since it is a labour intensive enterprise, it would generate employment not only at production level, but also at the levels of marketing and processing. There is also a great potential for export, from which foreign exchange could be earned. The workshop recommended that the region should start with projects to generate technologies to produce temperate and tropical vegetables.

The Ministers of Agriculture and Natural Resources approved this recommendation, and also directed that additional projects to improve fruits and nuts be developed. SACCAR will soon launch studies to determine an appropriate course of action which should be taken in these areas.

Project 3.0.12: A Network on Farm Power and Equipment for Smallholder and Large-scale Farming Systems in SADCC

This proposed Network addresses the great need to develop appropriate low-cost agricultural machinery, equipment, and farm power development, especially at the small-holder farmer level in the SADCC region. The Network will promote communication and exchange of information among researchers, professionals and technicians, and also promote training.

The UNDP has agreed to fund the study aimed at identifying areas requiring researcher with respect to efficient use of draught animal power, farm implements and machinery for tillage, transport, and other farm activities.

Project 3.0.13: Biological Control of Introduced Pests of Maize and Cassava

The introduction of natural pests of the Larger Grain Borer (Prostephanus truncatus), the Cassava Mealybug (Phenacoccus manihot) and the Cassava Green Mite (Mononychellus tanajoa) from the original habitat of these pests (South America) has been successful in reducing their incidence in West Africa. Because of the severity of the damage to the above crops in some SADCC member states, it was decided to extend the research to SADCC.

Project 3.0.14: Wool and Mohair Improvement in SADCC

There is a great potential for the improvement of wool and mohair in Lesotho. There is also scope for the production of these fibres in other SADCC member states. Zambia and Zimbabwe have started to rear Angora goats for mohair production. With the collaboration of Winrock International, SACCAR has finalised plans to phase the project. Phase I, costing about US\$28 000, to come from SACCAR's studies funds, involves a study to ascertain the

market for the fibres. Should the study confirm that SADCC has potential markets for the fibres, Phase II, Production, Enhancement and Market Development; and Phase III, Evaluation and Expansion, will be implemented. Two livestock specialists, identified by Winrock International and four SADCC livestock scientists, conducted a phase one study between 2nd and 22nd July, 1989. Their report is being studied by SACCAR.

5. OTHER ACTIVITIES

5.1 Research Grants

5.1.1 Seven research grants were awarded to SADCC Scientists as follows:

<u>Country</u>	<u>No. of Research Grants</u>			
	<u>1985/86</u>	<u>1986/87</u>	<u>1987/88</u>	<u>1988/89</u>
Angola	0	1	0	0
Botswana	0	1	0	1
Lesotho	1	0	0	0
Malawi	0	3	1	1
Mozambique	2	1	0	0
Swaziland	1	1	1	0
Tanzania	2	3	2	1
Zambia	2	1	0	2
Zimbabwe	1	2	2	2
	-----	-----	-----	-----
	9	13	6	7
	=====	=====	=====	=====

5.1.2 During the previous year only six such grants were awarded. The low utilization of the grants may be due to the fact that member States are not able to release Scientists who apply for these grants due to shortages of such personnel. Low utilization of the grants may also be attributed to the failure of appropriate authorities in member States to bring these grants to the attention of the scientists. Measures are being taken to improve the situation. This programme is funded by SAREC.

5.2 Travel Grants

SACCAR continues to use this fund to enable agricultural researchers, trainers, extension workers and policy makers in the region to exchange visits.

Twenty three visits took place involving universities, research centres, extension and parastatal organisations.

5.3 Publications

5.3.1 SACCAR Newsletter

The Centre published three issues (numbers 6 to 8) of the SACCAR Newsletter.

5.3.2 SADCC/Zimbabwe Journal of Agricultural Research

Arrangements for the printing of the Journal in Zimbabwe have so far not been successful. Efforts are now underway to seek other prospective printers in the region.

5.3.3 Occasional Publications

Two occasional publications were issued during the year. The first was based on the speeches delivered at the opening of the SACCAR Office Block on the 12th February 1989. The second publication was based on a paper delivered by the SACCAR Director at a high level meeting on African Agricultural Research and Technologies Development, held in Feldafing, Federal Republic of Germany, September 24-27, 1987. More publications are under preparation.

5.3.4 Workshop Proceedings

The centre caught up with its publications schedule, and produced proceedings of all SACCAR workshops held between March 1987 and August 1988 (Details of publications available from SACCAR).

5.4 Collaboration with outside Training and Research Institutions

SADCC agricultural research managers and staff of SACCAR interacted with their counterparts in international organisations and cooperating partners' research systems to facilitate information exchange on new technologies emanating from research, and in research planning, priority setting and conducting research aimed at increasing agricultural productivity in Sub-Saharan Africa. The following events fall under this heading:

a) Visit to India

Directors of Agricultural Research from SADCC member States visited India in September, 1988. The visit was

organised by USAID, GTZ, ICRISAT and the Indian Government. The Directors found the visit to the Indian Agricultural Research Institutes and ICRISAT Headquarters very worthwhile. They recommended that links be developed between SACCAR and the Indian Agricultural Research Council (IARC).

b) Special Programme for African Agricultural Research (SPAAR)

The Director of SACCAR continued to participate in the meetings of SPAAR. At these meetings, broad issues on agricultural research and training in Sub-Saharan Africa are discussed.

c) International Livestock Centre for Africa (ILCA)

ILCA participated in a livestock planning workshop which took place in Harare, Zimbabwe in November, 1989.

d) Technical Centre for Agricultural and Rural Cooperation (CTA)

SACCAR continued to exchange visits with the CTA of the ACP and EEC countries.

e) Commonwealth Agricultural Bureau

Collaboration between SACCAR and the Commonwealth Agricultural Bureau in running a workshop in SADCC Crop Protection was approved.

f) The Maize and Wheat Improvement Centre (CIMMYT) in Mexico

SACCAR participated in CIMMYT's future strategies meeting held in Addis Ababa, Ethiopia in March, 1989.

g) Workshop on Dryland Farming, Saskatoon, Canada 13-16 June, 1989

Directors of Agricultural Research from member States, and two scientists working on a Regional Collaborative Research Programme on Land and Water Management, attended this workshop in Canada, in June 1989.

h) UNDP Workshop on Project Planning

SACCAR participated in a five day workshop on Project Planning which took place in Harare, Zimbabwe in May, 1989.

5.5 Workshops and Seminars

The Centre continued to conduct conferences, workshops and technical meetings either on its own or in collaboration with regional programmes and projects. The main objective of these activities is to facilitate information flow between research, extension and training personnel regarding critical issues affecting smallholder productivity.

5.6 Feasibility Studies

SACCAR commissions studies on problems affecting agricultural productivity in the region. During the year, the Centre, through its Board and other SADCC sources, identified the following subjects as requiring investigation:

- a) Research on Edible and Industrial Vegetable Oil Production.
- b) Establishment of a Regional Seed Technology and Information Centre.

These will be additional to the projects identified earlier; namely, impact studies on research on maize, cotton, tobacco and tea, which will be launched during the latter part of 1989.

3.0.1(1): **MANAGEMENT OF BLACK COTTON SOILS (VERTISOLS)**

Estimate Cost

Total : US\$3.50m
Foreign : US\$3.10m
Local : US\$0.40m

Financing Gap: US\$3.10m

Executing Agency: SACCAR

Funding Secured

Foreign : -
Local : US\$0.40m

Commencement:

As soon as funds have
been secured.

Duration: 4 years

OBJECTIVE

The project's objective is to develop technologies on the management of the black cotton soils (vertisols) by employing different methods of drainage and tillage. The economic and social conditions which affect the adoption of the generated technologies will also be studied. More specifically the objectives will be:

- a) to study local agricultural systems in black cotton soils areas with the aim of identifying factors that limit crop production;
- b) to test the hypotheses that vertisols do not require deep tillage for efficient crop production;
- c) to identify and demonstrate economic forms of field preparation systems.

DESCRIPTION

The Black Cotton Soils (vertisols) are prone to water logging and hence poor or zero plant growth. They are inaccessible by farm machinery for tillage or transport if drainage, has been sufficient; and there is poor nutrient utilisation if techniques such as ridging or broad-base terraces are not used.

The project will, therefore, generate technologies for efficient use of these soils in the whole region. There will be mechanisms for scientists

engaged in the project to visit other SADCC member States to interact with counterpart researchers engaged in soils studies, and exchange views on the management of these soils. Workshops have also been planned at which progress in the management of these soils will be assessed.

STATUS: Funding is being sought.

3.0.3 GRAIN LEGUME IMPROVEMENT PROGRAMME

Estimated Costs:

Total :US\$16.30m
Foreign:US\$16.30m
Local :

Financing Gap: US\$7.15m

Executing Agency:

Bean Project - CIAT
Groundnut Project-ICRISAT
Cowpea Project - IITA

Funding Secured:

Foreign: US\$6.00m (CAN)
US\$1.50m (FRG)
Local :

Start:

Bean Project - 1986
Groundnut Project - 1986
Cowpea Project - 1989

OBJECTIVES

The objectives of this project are to:

- a) make available to national agricultural research systems improved germplasm of Phaseolus bean, groundnuts and cowpeas adapted in particular to smallholder farming systems in SADCC countries;
- b) develop viable strategies to control pests and diseases affecting these legumes;
- c) exchange information on research and production problems in the region; and
- d) strengthen national research on these three crops through advice and training.

DESCRIPTION

The bean and groundnut components of the Programme are both well established programmes directed to testing and developing adapted germplasm. A

Steering Committee for each crop has been formed and research networks in the region are operational.

STATUS

A. Bean Improvement

It is being implemented in Tanzania. The recruitment of a breeder for the sub-station in Malawi is in progress.

B. Groundnut Improvement

The laboratories and offices for the project are nearing completion. The Federal Republic of Germany will provide US\$1.5 million per three years. The Steering Committee for the Project continues to meet twice a year, and the EEC approved ECU 1.5 million for the year 1989/90.

C. Cowpea Improvement

EEC provided US\$0.7 million for market study of Cowpeas in SADCC.

Altogether US\$7.15m is required to fully fund the programme.

3.0.9 STRENGTHENING FACULTIES OF AGRICULTURE, FORESTRY AND VETERINARY MEDICINE

Estimated Costs:

Total : US\$13.20m
Foreign: US\$13.20m
Local :

Financing Gap: US\$12.00m

Executing Agency:

SACCAR and GTZ

Funding Secured:

Foreign: US\$1.2m (FRG)

Start: 1988-89 Academic year

Duration: 20 - 50 years

OBJECTIVES

The objectives of the project are to strengthen the University faculties of agriculture, forestry and veterinary medicine in SADCC, in order to

enable them to achieve quality and quantity of training and exchange of students.

DESCRIPTION

In most SADCC member states there are serious shortages of professional manpower especially at post-graduate levels in agriculture, forestry and veterinary medicine that are able to take leading roles in national research and extension structures. The cost of post-graduate training outside the region is very high and some post-graduate students fail to return after training, or do so only after a long period. Overseas course contents may also have little direct relevance to regional needs and concerns.

The capacity of universities in the SADCC region to train at post-graduate level is limited and needs strengthening to achieve regional self-sufficiency in basic subjects.

To maximise on staff and resources, and build on existing strengths, it has been agreed that centres of specialisation in post graduate training, initially to M.Sc level, be established as follows:

- * Animal Production - Bunda College, Malawi
- * Agricultural Engineering & Irrigation Management - Sokoine University of Agriculture, Tanzania.
- * Agricultural Economics - University of Zimbabwe.
- * Crop Production University of Zambia.

STATUS

A regional Master of Science (M.Sc.) degree programme in crop science and a regional Master of Philosophy (M.Phil.) later to develop into M.Sc. programme in Agricultural Economics were launched in the Universities of Zambia and Zimbabwe, respectively in 1988. The M.Sc. in Animal Science will commence during 1989, and the one in Agricultural Engineering, Land Use and Irrigation will commence during 1990. Representatives of Cooperating Partners who support a Special Programme for African Agricultural Research (SPAAR) and those of SADCC visited all SADCC Universities to identify needs for strengthening in the Faculties of Agriculture, Forestry and

Veterinary Medicine. The Team prepared a Report which is being evaluated by SADCC.

The FRG has provided US\$1.20 million for the initial activities, and US\$12.00 million is sought for the whole programme.

3.0.11 REGIONAL VEGETABLE RESEARCH PROGRAMME

Estimated Costs:

Financing Gap: US\$0.26m

Total : US\$0.26m

Foreign: US\$0.26m

Local :

Executing Agency:

Funding Secured: Nil

Start:

Duration:

OBJECTIVES

The objective of this project is to promote the development of new vegetable production technologies in the SADCC region, by establishing two regional centres respectively for temperate and tropical vegetable research.

DESCRIPTION

Per capita consumption of vegetables in SADCC region is among the lowest in the world. There is need to develop and promote technology for increasing the production of vegetables and vegetable seeds, thereby improving the nutrition of populations and increasing the supply of vegetables for export markets.

To develop and/or adapt technologies, and act as focal points for the region, it is proposed to establish two research centres in the region one (high altitude) for temperate, and the other (low altitude) for tropical vegetable crops.

STATUS

Funding is being sought.

3.0.13 **BIOLOGICAL CONTROL OF INTRODUCED PESTS OF MAIZE AND CASSAVA**

Estimated Costs:

Total : US\$13.0m
Foreign: US\$13.0m
Local :

Financing Gap: US\$13.0m

Executing Agency: IITA-ABCP

Funding Secured:

Foreign:
Local :

Duration: 3 years initially

OBJECTIVES

1. To reduce the losses of maize due to larger Grain Borer (Prostephanus truncatus) infestation.
2. To reduce the losses of cassava due to the Cassava Mealie-bug (Phenacoccus manihot) and the Cassava Green Mite (Mononychellus tonjoa).
3. Establish effective biological control programmes in the SADCC member states against the above pests.
4. Train nationals in the SADCC member states in research and development of new technologies and methodologies of controlling these and related pests.

DESCRIPTION

The Larger Grain Borer (Prostephanus truncatus), the Cassava green mite (Mononychellus tonjoa) and the Cassava mealie-bug (Phenacoccus manihot) have been introduced to Africa from Latin America. Using pesticides to control them is expensive to small-holder farmers, causes pollution and is dangerous to humans. The Africa-wide Biological Control Unit of the International Institute of Tropical Agriculture (IITA) based at Ibadan, Nigeria has successfully reared "wasps" which attack the above pests. Pilot release of these natural enemies have been undertaken in Malawi and Tanzania. The project will involve:

- construction and furnishing of laboratories and offices, purchase of vehicles, motor-cycles, laboratory and field equipment;
- recurrent operational expenditure; and
- training of personnel at technical and degree levels.

STATUS Funding is being sought.

3.0.14 WOOL AND MOHAIR IMPROVEMENT

Estimated Costs:

Financing Gap: US\$ 2.3m

Foreign : US\$2.3m
Local :

Executing Agency: SACCAR

Funding Secured:

Duration: Initially 5 years

Foreign :
Local :

- OBJECTIVES**
1. Increase income earning potential of wool and mohair producers through improvement of quality and quantity of these products in Lesotho.
 2. Expected to double production per animal through use of better bred animals, better management, and by providing the necessary inputs.
 3. Spread germplasm and production technologies to other SADCC member states through a network of wool and mohair producers.
 4. Train Basotho, and later other SADCC nationals on better technologies related to the production of these commodities.

DESCRIPTION Wool and Mohair are natural fibres which come from wool sheep and Angora goats. Lesotho ranks fourth in the world in the production of Mohair, and there are currently over 1,000 Angora goats in Zimbabwe. There is potential sheep and Angora goats in Angola, Botswana, Malawi, Mozambique, Swaziland, and Tanzania.

The average production of these fibres per animal in Lesotho is 2.40kg for wool and 0.80kg for mohair compared to 3.9kg and 3.86 kg respectively, elsewhere. The low production is due to lack of technologies for high productivity.

The project aims at establishing and equipping a research personnel and training of farmers, technicians, and regional scientists.

STATUS

With the collaboration of Winrock International, SACCAR has finalised plans to phase the project. Phase I, costing about US\$28 000 to come from SACCAR's Studies fund, involves a study to ascertain the market for the fibres. Should the study confirm that SADCC has potential markets for the fibres, Phase II, Production Enhancement and Market Development; and Phase III, Evaluation and Expansion, will be implemented. Two Livestock specialists identified by Winrock International conducted a Phase I study in July, 1989 and submitted a report which is being considered by SACCAR.

Project	Project Title	Estimated Cost US\$ Million		Funding Secured & Source Local US\$ Million	Funding Under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign				
AGRICULTURAL RESEARCH							
3.0.1	Land and Water Management Programme Phase I	4.63	4.63		2.75 (EEC) 1.88 (UK)	-	- Phase I ongoing. Phase II started with appointment of Pro- gramme Coordinator. Other component projects being prepared.
	Phase II	0.51	0.51	-	-	0.51 (UK)	-
3.0.1(1)	Management of Black Cotton Soil	3.50	3.10	0.40	0.40 (SADCC)	-	3.10 New project. Funding sought.
3.0.2	Sorghum and Millet Improvement Programme - Phase II	23.20	22.90	0.30	15.20 (USA) 5.90 (CAN) 1.80 (FRG) 0.30 (SADCC)	-	- Under implementation.
3.0.2(1)	Plant Breeding in Relation to Utilisation of Sorghum & Millets for Food, Bakery, Animal Feed & Industrial uses	-	-	-	-	-	- Costings included in 3.0.2. Construction of Food Science Laboratory nearly complete.
3.0.3	Grain Legume Improvement Program	16.30	16.30	-	6.00 (CAN) 1.65 (EEC) 1.50 (FRG)	-	7.15 Bean and Groundnut under implementation. Cowpea to commence November 1989. Additional funding sought.
3.0.4.	Establishment of SACCAR	5.30	5.10	0.20	1.50 (CAN) 1.50 (USA) 1.50 (NOR) 0.60 (SAREC) 0.20 (SADCC)	-	- Funded for first five years.
3.0.5	Training in Research Management	2.30	2.00	0.30	0.70 (USA) 0.80 (CAN) 0.10 (UK) 0.30 (SADCC) 0.40 (ISNAR)	-	- Funded for the first four years.
3.0.6	Agroforestry Research Programme	5.20	5.20	-	5.20 (CAN)	-	- Fully funded for 5 years.
3.0.7	SADCC Crops & Forest Seeds Genebank	22.60	11.00	11.60	11.60 (SADCC) 11.00 (WORDICs)	-	- Project Manager appointed. Operation Plan 1989 - 92 proposed.
3.0.8	Maize and Wheat Improvement Network	0.23	0.23	-	0.23 (UNDP)	-	- Under implementation.
3.0.9	Strengthening Faculties of Agriculture, Forestry & Veterinary Medicine	13.20	13.20	-	1.20 (FRG)	-	12.00 Four M.Sc. programmes underway.

Project	Project Title	Estimated Cost US\$ Million		Funding Secured & Source		Funding Under Negotiation	Financing Gap	Comments/Status
		Total	Foregin	Local	US\$ Million	US\$ Million	US\$ Million	
3.0.10	Livestock Improvement in SADCC	0.10	0.10	-	0.10 (UNDP)	-	-	Feasibility study to commence after review of PANESA and ILCA initiatives.
3.0.11	Regional Vegetable Research Programme	0.26	0.26	-	-	-	0.26	Funding sought.
3.0.12	Network on Drought Animal Power & other Farm Power and Equipment	-	-	-	-	-	-	Funding included in project 3.0.10.
3.0.13	Biological Control of Introduced Pest of Maize & Cassava	13.00	13.00	-	-	-	13.00	Funding sought.
3.0.14	Wool and Mohair Improvement	2.30	2.30	-	0.03 (SACCAR)	-	2.27	Study carried out.
TOTAL		112.63	99.63	12.80	74.34	0.51	37.78	

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1. EXECUTIVE SUMMARY

1.1 The Sector has fifteen regional projects. Phase I of two of these projects has been completed, and implementation of Phase II is awaiting funding. Three projects are under implementation; three projects are at pre-implementation stage; two projects have been merged into one project; two feasibility studies have been completed, one of them yielding six follow-up projects, and the report of the other is still being considered; and one other feasibility study is due to start. One project study which has been suspended for sometime has been withdrawn from the programme.

1.2 The following have been the main activities of the Food Security Programme:

- * Overall coordination of the Food, Agriculture and Natural Resources sectors.
- * Implementation of regional projects continued, including:
 - the improvement of the methodologies for assessing the food situation in the region and the quality and content of the food security bulletins;
 - compiling a physiographic soils map of the region;
 - assessment of the post production systems in member States;
 - Regional Information System for Food Security; and,
 - conducting seminars and workshops to identify potential areas of cooperation;
- * The Regional Food Reserve Project is being reformulated.
- * Supply of computer hardware and software to all member States, for improving their capacity to establish an inventory of agricultural resources base, and training in the use of these computers.
- * Completing the review of the feasibility reports on Seed Production and Supply, and Regional Food Marketing Infrastructure studies.

- * Development of proposals for the long term funding of the Food Security Programme and its projects;
- * Support to member States participating in the Food Security Policy Research project being conducted by the University of Zimbabwe, in collaboration with researchers in the region.
- * Development of proposals for the extension of the General Technical Assistance Programme for Coordination and Cooperation; the Regional Early Warning System; and the Post Production Food Loss Reduction projects.
- * Completion of the review of the management structure and capacity of the Sector Coordinating Unit.

1.3 Eight new projects were approved for inclusion in the programme.

2. REVIEW OF THE REGIONAL SITUATION

- 2.1 The Regional Early Warning Unit's latest assessment of the food security situation for the 1989/90 marketing year, based on information as at the end May, 1989, shows that the domestic availability of the commodities being monitored^{1/} is expected to be 16.90 million tonnes of maize equivalent (M.E.)^{2/}, an increase of 1.29 million tonnes on the previous year.
- 2.2 In contrast, the region's gross domestic requirement is 15.70 million tonnes M.E., a decrease of 0.2 million tonnes M.E. on the previous year. The reduction was partly due to a revision of the Tanzanian estimate of requirements, to take account of the results of the 1988 population census.
- 2.3 The region as a whole is, therefore, likely to have a net surplus amounting to 1.12 million tonnes M.E., representing some 7% of the region's staple food requirement. This compares with a net deficit of 0.28 million tonnes in 1988/89. The estimate for 1989/90 takes account of an estimated net surplus of 1.14 million tonnes of maize, and a net deficit of 0.56 million tonnes of wheat.

1/ Mainly: maize; sorghum/millet; wheat; rice; and, cassava.

2/ The concept of M.E. is used to facilitate data comparisons. It can be defined as the amount of maize needed to supply an equal amount of calories from a given amount of an alternative grain(s) or other food source.

2.4 The forecast for surpluses or deficits in individual member States is as follows:

Forecast of Surplus (+) or Deficits (-) ME
IN 1989/90 Marketing Year

('000 tonnes)

Angola	:	-517	Mozambique:	-686
Botswana	:	-49	Swaziland	: -38
Lesotho	:	-200	Tanzania	: +1462
Malawi	:	+78	Zambia	: +614
Mozambique			Zimbabwe	: +672
refugees in				
Malawi	:	-138		

- 2.5 While the foregoing reflects the overall regional prospect, it should be noted that five member States are facing deficits, and that all member States are not self-sufficient in every commodity being monitored.
- 2.6 The deficits for the five countries concerned amount to 1.63 million tonnes M.E. When the import needs for specific commodities, particularly wheat, in the remainder of the region are included, the total import requirement is 1.86 million tonnes of M.E. In addition, it is necessary to cater for the food needs of the large population of refugees, especially those from Mozambique presently living in Malawi.
- 2.7 Maize import requirements of the deficit States and the refugee population in Malawi, amount to 1.1 million tonnes. On the other hand, Malawi, Tanzania, Zambia and Zimbabwe are expected to have a combined maize surplus of 2.24 million tonnes. However, by the end of May, 1989 arrangements for the export of only 410,000 tonnes of maize (18% of the overall surplus) had been made. In contrast, arrangements for imports of wheat had largely been completed, with only 90,000 tonnes uncovered.
- 2.8 It is appreciated that the month of May is comparatively early in the marketing year for most member States, and that as the year progresses, further arrangements for the export of maize from surplus to deficit States may be concluded. Nevertheless, a similar situation prevailed in 1988/89, when six deficit member States wanted to import 1.5 million tonnes of cereals, but were able to import only 1.0 million tonnes. Three member States in surplus had 1.2 million tonnes available, but were able to export only 0.4 million tonnes, and some of that went outside the SADCC region. Given the necessary information on exportable surpluses and

transport availability, at least some of the exportable balance of 0.8 million tonnes could have been provided to meet the needs of the region, even taking into account the serious transport constraints.

2.9 As was the case last year, it is evident that opportunities for reducing SADCC's dependence on sources of food from outside the region may again be lost. These opportunities for raising demand for regional production, and increasing trade within the region are not being sufficiently utilised.

2.10 Several reasons have been advanced to explain why the region was not as successful as expected in achieving its objective of regional self-sufficiency in food in the 1988/89 marketing year. These include:

- i. The likelihood that national authorities were unaware of the size of the ultimate deficit or surplus in good time to make adequate import or export plans. To overcome this difficulty in future, every effort needs to be made to improve the content, presentational clarity, timeliness and overall quality of the food security early warning reports, at both national and regional levels. It is also vital that both the national and regional reports are rapidly made available to decision makers who can act on the information they contain.
- ii. Financial constraints, particularly in terms of foreign currency, may have obliged importing States to rely on food aid to secure a large proportion of their import needs. With the wisdom of hindsight, it is now possible to suggest that more could have been done by SADCC's cooperating partners to purchase greater quantities of maize from those member States with a surplus, for subsequent delivery to the deficit States they were attempting to assist.
- iii. It is also likely that, like the member States themselves, the region's cooperating partners might have been unaware, either of the dimension of import need in those member States with a deficit or, of the amount of maize which could have been available for export from those States with a surplus.
- iv. Delays in concluding marketing and delivery contracts, delays in delivery, problems of quality of the commodities, deliveries not being in accordance with agreed specifications, uncompetitive prices, storage constraints and, transport availability and organisation, would have also played an important part

in restricting trade in staple food commodities between member States during 1988/89.

- 2.11 By constraining intra-regional trade in staple food commodities during 1988/89, these problems lessened the degree of internal food security which the region could have otherwise enjoyed. Unless those constraints are urgently resolved, they will have a similar negative impact on regional food security in the current marketing year.
- 2.12 The added difficulties caused by these factors could be significantly alleviated in future, if there is a clear recognition of the scale of the problem; and a system of forward planning is instituted by all parties involved in the procurement of staple food commodities.
- 2.13 It should also be recognised that agroclimatic variations are bound to occur from one season to the next, in an area as large and subject to diverse weather influence as the SADCC region. In consequence, both the existence and level of food surplus or deficit will inevitably vary between the member States, from one season to another. For this reason, and to ensure that the region always remains self-sufficient to the maximum possible degree, it is, therefore, important that efforts to alleviate the financial, marketing and logistical constraints inhibiting intra-regional trade in food must be intensified.
- 2.14 In the longer term, member States will achieve better food security only when they provide their farmers with improved producer prices and other incentives, together with greater quantities of vital inputs such as improved seeds and fertiliser. Sustained efforts also need to be made to upgrade their food marketing, storage and transport systems. Without these developments, member States seem destined to remain importers of many of their major staple food.

3. REVIEW OF THE PROGRAMME

- 3.1 SADCC's programme for achieving regional food security has the following principal elements:
 - i. development of mechanisms for the exchange of technical and economic information;
 - ii. reinforcement of national food production capacity;
 - iii. improvement of the food storage, distribution and delivery, conservation and processing systems;
 - iv. diversification into cash crops and agro-industrial enterprises;

- v. the formulation of national food security strategies including the establishment of systems for the prevention of food crises;
 - vi. establishment of programmes for the control of major crop pests and diseases;
 - vii. the development of skilled manpower; and
 - viii. the enlargement of intra-regional trade in food and other agricultural products.
- 3.2 Implementation of three regional projects, viz.: the General Technical Assistance Programme; the Regional Early Warning System and the Regional Inventory of Agricultural Resource Base, is proceeding well.
- 3.3 Implementation of Phase I of the Post-Production Food Losses Reduction; and Food Processing Technology, ended on 30th June 1989. Subject to successful negotiations with some cooperating partners, it is anticipated that the implementation of phase II of these projects will commence in 1990.
- 3.4 The Regional Food Reserve and Regional Food Aid projects, have been merged into one. The Council of Ministers approved in August 1989, the policy basis and major elements of the project. Work is now underway to elaborate the details of the revised project.
- 3.5 Feasibility studies for the Regional Food Marketing Infrastructure, and the Regional Seed Production and Supply have been completed. Several specific regional and national proposals have been identified from these studies.
- 3.6 A detailed work plan for the implementation of the Regional Information System for Food Security was completed in September 1988. Funding for the implementation of the project is sought.
- 3.7 In addition to these projects, there are other food security projects initiated by member States which, though national in character, have a clear regional significance in that they complement the activities of regional projects and programmes.
- 3.8 The FSTAU assisted member States with the identification and preparation of a number of national projects in the post-production systems, rangeland management and soil analysis services; and in securing finance for their implementation.

3.9 The findings and recommendations of the consultant's review of the FSTAU have been accepted and used by the Government of Zimbabwe to develop the management structure of the FSTAU. The new structure entails:

- a) the merging of the regional food security project units into three main sections, namely:
 - i. Administration and Finance;
 - ii. Technical and Economic Planning;
 - iii. Data Management and Information System; and
- b) the creation of four new core positions, and the upgrading of the Sector Coordinator's position from Under Secretary to Deputy Secretary status.

This structure became effective on 1st July, 1989.

3.10 Additional support for the Unit is being sought from SADCC's cooperating partners in the following areas:

- Long-term and short-term technical assistance to strengthen the Unit's overall direction and administration of the Food Security Programme; technical and economic sectoral planning; identification preparation and appraisal of food security projects; and support for the preparation of technical papers for discussion at seminars, workshops and short-term courses;
- financial support toward the organisational costs and the attendance of participants from member States at seminars, workshops and meetings convened to further the various aspects of regional cooperation in the Food Security Sector; and
- financial support for those elements of the Unit's operating costs which incur a high foreign exchange element.

3.11 New Projects

The following new projects have been approved:

- 1.0.11(1) Regional Seed Technology and Information Centre
- 1.0.11(2) Plant Quarantine Project
- 1.0.11(3) Production and Breeding of Vegetable Seed

- 1.0.11(4) Advanced Training Courses in Plant Breeding and Seed Production
- 1.0.11(5) Regional Quality Laboratory and National Sub-Units
- 1.0.11(6) Harmonization of Seed Laws in the SADCC Region
- 1.8.6 Rehabilitation and Expansion of the Small Holder Irrigation Schemes (Zambia)
- 1.8.7 Small Holder Irrigation Coffee Schemes (Zambia)

4. CURRENT STATUS OF THE PROJECTS

Project 1.0.1: Technical Assistance Programme

The project, which is jointly funded by Australia, USA and Zimbabwe, continues to provide the core financial and technical support for the processes of cooperation within SADCC on all agrarian issues, and assists Zimbabwe in the planning, coordination and implementation of the Food Security Programme.

The Food Security Technical and Administrative Unit (FSTAU) has established links with the University of Zimbabwe's (UZ) Food Security policy research programme being conducted in Botswana, Malawi, Tanzania, Zambia and Zimbabwe. The project supported the attendance of representatives of member States at the UZ programme's annual conference in Harare in November, 1988, at the invitation of the University through the FSTAU.

The project financed an external review of the FSTAU's management structure, accounting systems and resource requirements, which was undertaken to enhance the Unit's technical and administrative capacity.

US\$6.6 million will be required to support the second five year phase of the project.

Project 1.0.2: Regional Early Warning System (REWS)

The project continues to make significant progress in the collection of information and the compilation of regular national and regional food security bulletins. In 1988, the project conducted two training courses for agro-economists and/or statisticians and for agro-meteorologists. As a result, the quality and content of the food security bulletins have continued to improve over time. Three bulletins were produced in 1988/89. Similar courses are planned for 1989.

The Regional Early Warning Unit (REWU) continues to provide a programme of technical backstopping and support visits to all national early warning units (NEWUs). All the national units are now established and operational. As a result, much progress is being made on unifying and improving the methodologies for assessing the food security situation in the member States.

However, despite these improvements, preparation of the regional bulletin is being seriously constrained by:

- a) incomplete information in the national bulletins;
- b) inaccurate and/or inconsistent information in the national bulletins;
- c) inadequate analysis in the national bulletins of the factors affecting the food security situation; and
- d) late submission of information to the REWU by some of the NEWUs.

The authorities responsible for supervising the activities of the NEWUs need to reappraise the resources required for their Units, to improve their performance and output. Whilst in some cases it may be necessary to appoint more staff to the Units, in others, improved coordination between the different ministries involved in providing information to the NEWUs may be all that is required.

Regarding the remote sensing component of the project, a FAO expert and an associate expert have been recruited and have now taken up their positions. Arrangements for the recruitment of a SADCC counterpart to the FAO expert are being finalised. The purchase of equipment and development of methodology are in progress.

The Sector Coordinator continues to receive numerous requests for copies of the regional food security bulletin from non-SADCC organs. The Ministers of Agriculture and Natural Resources have directed that the Regional Early Warning Bulletin should be distributed to appropriate SADCC organs, and also be made available, at cost, to other organisations supporting the SADCC programme, or interested in it.

In October/November, 1988 the project's performance was jointly reviewed by SADCC, DANIDA and FAO, to evaluate the achievements, and to assess problems and issues critical to the smooth operation of the project.

The review mission found that the project activities were in

line with the project objectives and recommended that:

- a) DANIDA be requested to provide additional funding for the project in order to bring all NEWUs to a common level of development by June 1990; and
- b) a second five year phase of the project be developed for the period following June 1990.

DANIDA has agreed to provide an additional US\$1 919 679, for the implementation of the project until June 1990; and has also indicated willingness to consider funding the second phase of the project for the period 1990-95.

A joint SADCC/DANIDA/FAO Team formulated Phase II of the project which is being considered.

Project 1.0.3: Regional Resources Information System for Food Security (RIS)

The project is concerned with the establishment of a regional information system (RIS) for food security planning, and involves the development of national and regional data bases on food production, distribution and consumption; inputs to food production, trade in food commodities and other socio-economic indicators.

The design of a regional information system for food security was completed and the project was approved for implementation in October 1988. US\$4.64 million for the implementation of this key project is being sought.

Project 1.0.4: Regional Inventory of Agricultural Resource Base (RIARB)

The project, which is funded by the Irish Government, is intended to establish a standardised inventory of the region's agricultural resource base, at both national and regional levels. The inventory will be used for land use and other planning purposes. National Technical Liaison Officers have been identified in the relevant Ministries of member States, as the key part of the system for the collection of the relevant data on agricultural resources.

Computer hardware and software for the establishment of the inventory, and for transfer and flexible presentation of the data, have been secured and distributed to the Technical Liaison Officers in all member States. Introductory training courses have been conducted in Malawi, Swaziland, Tanzania, Zambia and Zimbabwe.

Seminars and workshops, on Rangeland and Soil Fertility Analyses, previously conducted by the Central Unit of the project, have led to the development of two specific projects, SADCC Soil Fertility Analysis Services, and SADCC Rangeland Management. These projects have been approved in principle, pending further elaboration of the project proposals.

A pilot project has been established to develop a methodology for mapping land use in the region from satellite imagery. This pilot project is being developed in collaboration with Environmental Resources Analysis Limited (ERA); an affiliate of the Trinity College, Dublin. Further funding of US\$140 000 is being sought, to enable the technology to be applied to the whole region.

Using the information on soils and land resource maps supplied by member States, a regional physiographic soil resources map is being compiled. A workshop attended by all the member States was held in Harare in March 1988, with a view to identifying resources data gaps and the initiation of national projects with regional impact. The workshop recommendations have been circulated to all member States, together with guidelines on the submission of projects to fill the data gaps identified. One such project - Completion of the Soil Map of Zambia (Project 1.8.5) - has been approved.

The Irish Government reviewed the project activities in December, 1988, and recommended a preliminary two year extension (1990 and 1991) of Phase 1, subject to a detailed technical assessment of the work programme and its financial requirements. The detailed assessment took place in July 1989, and confirmed the need for an additional US\$400 000 for the project extension.

Project 1.0.5: Regional Food Reserve

The Regional Food Reserve and Regional Food Aid projects, have been merged into one. The Council of Ministers approved in August 1989, the policy basis and major elements of the project. Work is now underway to elaborate the details of the revised project.

Projects 1.0.6/7: Regional Post Production Food Loss Reduction and Food Processing

This project has been concerned with reducing post production food losses in the region, by encouraging more efficient post production operations; and the establishment of rural facilities for the storage, preservation, processing, distribution and marketing of food products.

Implementation is coordinated by the Post Production Food Industry Advisory Unit (PFIAU), which assesses the post production systems in member States, and conducts workshops and seminars to identify potential areas of useful intervention. It assists member States in the identification, initiation and monitoring of projects and obtaining support for their implementation. A number of projects are being implemented in Angola, Botswana, Lesotho, Malawi, Tanzania and Zimbabwe.

The first phase of the project came to an end in June 1989. An evaluation, which was undertaken in 1988, recommended continuation of the project, and a proposal for a five year extension of the project has been drafted.

US\$3.60m is required for the implementation of Phase II.

Project 1.0.8: Regional Food Marketing Infrastructure

The revised project study provides a basis for proposals to improve the capacity of the existing food marketing and distribution infrastructure in member States. It also identifies ways and means of improving the movement of commodities between member States. A project document has been produced and is being finalized.

The Australian Government has agreed to provide resources for the study on Angola to be undertaken, which was not covered because of logistical difficulties. The study is scheduled to commence in October 1989.

Project 1.0.11: Regional Seed Production and Supply

A feasibility study on the project was completed in February, 1988. The study report provides an analysis of production, availability and demand for improved seeds of major food crops in the region. It also identified the main constraints to production and availability of seeds, and proposed ways by which member States and SADCC can overcome these constraints.

The following regional projects identified by the study have been approved:

1. Regional Seed Technology and Information Centre
2. Plant Quarantine Project
3. Production and Breeding of Vegetable Seed

4. Advanced Training Courses in Plant Breeding and Seed Production
5. Regional Quality Laboratory
6. Harmonization of Seed Laws

The feasibility study also identified a series of short and long term measures which could be undertaken at national level, to overcome constraints to the production and supply of improved seed. The Food Security Technical Sub-Committee is examining these to assess the possibility of combining similar potential national initiatives into a single regional initiative.

Project 1.0.11(1): Regional Seed Technology and Information Centre

The project is concerned with the establishment of a centre, preferably attached to a suitable existing institution in the region to:

- a) provide training for personnel in seed production, processing and marketing; and,
- b) to serve as source of information on regional seed production and availability and on seed production and processing technology.

The cost of the pre-implementation phase, to plan the centre and assess its cost, is estimated at US\$211 000. New Project.

Project 1.0.11(2): Plant Quarantine Project

The project's main objective is to support the establishment or upgrading of quarantine facilities in member States, as part of a regional network, to facilitate movement of seed across national boundaries while at the same time avoiding the spread of crop diseases. The cost of a pre-implementation phase to determine national requirements and plan the regional network is estimated at US\$300 000. New Project.

Project 1.0.11(3): Production and Breeding of Vegetable Seed

The project's primary objective is to establish two vegetable seed production and breeding centres; one for temperate vegetables, and the other for tropical vegetables, linked to existing national production/breeding programmes; to meet the requirements for improved vegetable seed in the

region. The FSTAU will work very closely with SACCAR in the development of this project.

The cost of the pre-implementation phase, to determine suitable locations for the centres and plan and cost their requirements, is estimated at US\$200 000. New Project.

Project 1.0.11(4): Advanced Training Courses in Plant Breeding and Seed Production

The aim of this project is to provide support for advanced theoretical and practical training in plant breeding and seed production for senior personnel in the seed industry, at suitable existing institutions in the region, to reinforce their practical experience with modern technology in the industry.

The cost of the pre-implementation phase, to identify suitable institutions, determine course requirements, prepare cost estimates and implementation programmes, is estimated at US\$295 000. New Project.

Project 1.0.11(5): Regional Quality Laboratory and National Sub-Units

The aim of this project is to provide support initially for the up-grading or establishment of national seed quality laboratories and subsequently, for the establishment of a regional laboratory to meet the requirements of member States for analyses requiring more sophisticated technology.

The cost of the pre-implementation phase to assess the requirements for up-grading or establishment of national units is estimated at US\$55 000. New Project.

Project 1.0.11(6): Harmonization of Seed Laws in the SADCC Region

The aim of this project is to harmonize the different laws of member States, so as to achieve similar regulations and standards, which will facilitate intra-regional trade in seed. It is proposed that a working group comprising representatives of member States' organizations responsible for drawing up and implementing national seed laws be convened to determine how harmonization of seed laws should proceed, in order to enhance trade in seed in the region. This is a new project.

Project 1.0.12: Improved Irrigation in the SADCC Region

The objective of this study is to identify appropriate ways by which SADCC can improve regional food security through a

more effective exploitation of the region's extensive irrigation potential. The study is expected to establish a strategy and programme of activities in the irrigation sector which can be implemented through the SADCC programme of action.

The Australian Government has agreed to fully finance the study, and arrangements for the recruitment of consultants have now commenced. The study will involve field missions to all member States.

A meeting of technical experts from member States and the study consultants will be convened at the commencement of the study, to discuss and interpret the terms of reference, and agree on the content of country and regional reports.

Project 1.0.13: Strengthening and Coordination of Migrant Pest Control

The main objective of this report is the improvement of the capability of member States' Ministries of Agriculture to protect crops, particularly cereals, from migratory pests such as birds, African army worm and locusts; and, the development of a coordinated regional approach to the control of migrant pests. The project will also conduct training courses in pest control methods for extension personnel in member States.

The pre-implementation phase of the project, to design medium and long term projects that can be implemented at both national and regional levels to improve the capacity of the Plant Protection Units in member States, commenced in November 1988.

An assessment of migrant pest problems is underway, covering economic losses caused, the capacity of member States' plant protection units to deal with the problems of migrant pests and the need for training and for financial and material resources. A meeting of heads of plant protection services of member States, to jointly develop the concept of the project, is scheduled to take place in September 1989.

A detailed project proposal, containing specific activities to be undertaken both at national and regional level, will be produced before the end of 1989.

Project 1.8.5: Completion of the Soil Map of Zambia

The Zambian Soil Survey Programme has to-date enabled only approximately half of the country to be mapped. This project will enable the work on mapping of the soils at the 1:1 million scale to be completed. The map is needed for

planning at both national and regional levels, and is an essential requirement for the preparation of the Soil Map of the SADCC region being compiled under Project 1.0.4-Regional Inventory of Agricultural Resource Base (RIARB).

The mapping and preparation of an accompanying memoir will be undertaken by the Soil Survey Unit of the Department of Agriculture, which will also provide survey equipment, office accommodation and facilities and cartographic services. Cooperating partners' support is being sought for the supply and operation of a 4-wheel drive vehicle for field work; purchase of satellite imageries and specialised materials; and provision of technical assistance with correlation, classification and land evaluation. The estimated cost of this support is US\$138 000.

Project 1.8.6: Rehabilitation and Expansion of the Small Holder Irrigation Schemes (Zambia)

The project aims to help improve food security in rural areas and the country as a whole through expansion of the existing small holder irrigation schemes and the rehabilitation of the non operational small holder irrigation schemes. The total estimated cost of the project is US\$25.5m of which US\$0.5m is for surveys and US\$25m for the implementation of the project.

Project 1.8.7: Small Holder Irrigation Coffee Schemes (Zambia)

The project's main objective is to utilise abundant water and soils for coffee production in Luapula and Northern Provinces. The project is quite distinct from Project 1.8.6 and can best be implemented as a separate project. The estimated cost of the feasibility study is US\$0.8m while the implementation of the project is estimated at US\$3.0 million.

Project 1.9.1: Bunker Grain Storage: Phase I

The grain marketing systems of most member States are beset by inadequate storage capacity and high storage costs. The objective of this project is to evaluate and demonstrate the applicability of bunker grain storage technology in the SADCC region, and promote adoption of the technology.

The project involves the establishment of trial, commercial scale bunker storage facilities in collaboration with the Grain Marketing Board (GMB) in Zimbabwe, an associated research programme to monitor the effectiveness of the technology; and, demonstration of the system to personnel of grain marketing agencies in other member States.

Cooperating partners' support is being sought for:

- construction of the facility and the provision of specialised handling equipment;
- the associated research and demonstration programmes; and
- technical assistance.

The estimated cost of this support is US\$1.089 million.

National Projects

The sector also provides support for projects which, though national in character, when taken together contribute significantly to the achievement of SADCC's overall food security objectives . These national projects are generally directed toward enhancing production activities which have the potential to improve food supply.

Progress on the national projects is reported in the Funding Status of Projects.

1.0.1 **TECHNICAL ASSISTANCE PROGRAMME FOR COORDINATION AND COOPERATION**

Estimated Cost

Total : US\$7.07m
Foreign : US\$5.75m
Local : US\$1.32m

Financing Gap: US\$4.41

Executing Agency: FSTAU

Funding Secured

Foreign : US\$1.18m (USA)
 : US\$0.16m (AUS)
Local : US\$1.32m (ZIM)

Start: 1982

Duration: 13 years

OBJECTIVES

The objectives of the project are to provide financial and technical support for the process of cooperation within SADCC to ensure the development and implementation of coherent regional food security policies and programmes; and to enable regional food security policies and programmes; and to enable the Government of Zimbabwe to fulfil its responsibility for:

- a) coordinating and planning SADCC's regional food security programmes;
- b) development and implementation of SADCC's regional food security projects; and
- c) for undertaking overall coordination of SADCC's programmes covering food, agriculture and national resources.

DESCRIPTION

This project constitutes the core support for the operations of the SADCC Food Security Technical and Administrative Unit (FSTAU), and has been and will continue to be spring board for the development and implementation of the Regional Food Security Programme. By facilitating the process of cooperation it has played a central role in the development of all the existing regional food security projects and in the exchange of technical information and know-how among member States on a wide range of agrarian issues. The project provides financial support for salaries and travel costs of the core staff of the FSTAU; office equipment and running expenses; document production and distribution; library

reference material; funding of short-term consultancies; and funding of seminars, workshops and technical experts' meetings.

STATUS Since its inception in July 1982, the project has supported the establishment of the FSTAU, the funding of its core staff and the services of a technical adviser. The Unit has responsibility for managing SADCC's regional food security programme.

The Government of Zimbabwe (GOZ) commissioned a consultant to carry out a review of FSTAU's management structure and accounting systems financed under this project. Some of the findings and recommendations of the consultant have been used as a basis for the development of a new management structure of FSTAU.

On the basis of the approved new structure detailed proposals for continued support of FSTAU's activities have been developed, for which funding is sought.

1.0.2 REGIONAL EARLY WARNING SYSTEM

Estimated Cost

Total : US\$6.1m
Foreign : US\$5.8m
Local : US\$0.3m

Financial Gap: US\$1.10m

Executing Agency: SADCC/FAO

Start: 1987

Funding Secured:

Foreign : US\$3.7m (DEN)
: US\$1.0m (OAU)
Local : US\$0.3m (ZIM)

Duration: three years

OBJECTIVES

- a) to establish a SADCC Regional Early Warning Unit (REWU) to coordinate the early warning activities of the nine National Early Warning Units (NEWUs) in the SADCC member States;
- b) to provide various technical and organisational help to the NEWUs in the region;

- c) to improve the methodologies for assessing the food security situation in the SADCC countries;
- d) to organise and conduct the training of the professional staff of the National Early Warning Units; and
- e) to issue regular food security bulletins for the SADCC region so as to warn SADCC authorities and governments of impending food shortages or surpluses.

DESCRIPTION

The REWU analyses and summarises the food security situation received from the NEWUs in the form of national bulletins. This information is issued in the form of regular food security bulletins for the region as a whole. These summary bulletins are sent back to the countries or SADCC authorities for appropriate action or enable them to monitor the regional food situation regularly.

STATUS

The REWU and nine NEWUs are now operational and a sister project - the Remote Sensing component of the REWU - is being established. The REWU has so far produced eight quarterly food security bulletins since 1986/87 drought. The first phase of the project which was funded by DANIDA comes to an end in June 1990. A second phase of the project is being formulated, for which funding is being sought.

1.0.3 REGIONAL INFORMATION SYSTEM FOR FOOD SECURITY

Estimated Costs

Financing Gap: US\$4.64m

Total : US\$5.16m
Foreign : US\$5.16m
Local : -

Executing Agency: FSTAU

Duration: 3 years

Funding Secured

Total : -
Foreign : -
Local : -

OBJECTIVES

The long-term objectives of this project is to attain enhanced regional food security information system in the SADCC region to facilitate effective policy formulation and development, planning and decision-making, on the basis of adequate, reliable and timely data; and appropriate analytical methods.

- a) to develop regional and national data bases on food production, distribution and consumption, inputs to food production, trade in food commodities and relevant socio-economic indicators;
- b) to instal computing resources at the regional and national levels, in order to enable ready access to available data and the production of adequate food security information; and
- c) to train personnel of the SADCC countries in the fields of data processing and quantitative methods for food security.

DESCRIPTION

The project involves the development of a regional information system (RIS) for food security monitoring and planning. A system comprising a regional centre (FSTAU) linked to units in each SADCC country has been proposed. There will be data bases in the FSTAU and in the national units, containing frequently used data. The Project will also support the other regional food security projects, in the area of data storage, retrieval

and analysis. The project includes a training programme with activities at national and regional levels.

STATUS

The Commonwealth Fund for Technical Cooperation (CFTC) made available US\$150 000 for a feasibility study which was carried out and completed in 1982. The UNDP has made available US\$367 000 for the project's 22 months' pre-implementation phase which started in March 1987. The following activities have been completed:

- a) established of the nucleus of the project;
- b) establishment of initial contacts and assessment of the situation with regard to information for food security;
- c) appointment of National Liaison Officers in most member States;
- d) designing of the preliminary information system and drafting of a proposal for implementation of the first phase of the project.

The document for the implementation of the project was approved in October 1988.

Funding is being sought for implementation of the project.

1.0.4 REGIONAL INVENTORY OF AGRICULTURAL RESOURCE BASE (RIARB)

<u>Estimated Cost</u>		<u>Financing Gap:</u> US\$0.54m
Total	: US\$1.78m	
Foreign	: US\$1.78m	
Local	: -	<u>Executing Agency:</u> FSTAU
<u>Funding Secured</u>		<u>Start:</u> 1985
Foreign	: US\$0.20m (CFTC)	
Local	: US\$1.04m (IRE)	<u>Duration:</u> 5 years

OBJECTIVES The overall objective of the RIARB is to compile and correlate agricultural resources data in the SADCC countries and to estimate the potential agricultural production capacity of the region. The inventory is to provide guidelines for agricultural land use planning.

DESCRIPTION The inventory of agricultural resource base is a catalogue of the physical conditions which together constitute one of the basis factors of agricultural production. It includes, among other things, those elements which influence natural conditions such as water for irrigation and fertilisers to improve the fertility of the soil.

STATUS A comprehensive collection of maps, publications, reports and references have been made. A map catalogue and list of publications/reports which were collected has been published and is being updated.

All soil mapping units in the SADCC region have been correlated with the latest FAO soil Legend and the USDA Soil Taxonomy. The results are on computer spreadsheet programme for ease of editing.

Database, Computerised Agricultural Resource Inventory for Southern Africa, (CARISA), for the RIARB Central Unit, and National Agricultural Resource Inventory for Southern Africa, (NARISA) for member State have been established. Personal computers together with a range of appropriate software for use in compiling data for the

inventory have been distributed to all member States. Introductory training courses have been conducted in five SADCC member States.

The first phase of the project implementation is due to end in December 1989. A preliminary review of the project activities was undertaken in December 1988 and recommended the extension of the project. Detailed assessment of the project activities and the financial resource for the second phase of the project has been undertaken and completed. Funding sought.

1.0.5 REGIONAL FOOD RESERVE (PHASE I)

Estimated Costs

Total : -
Foreign : -
Local : -

Funding Secured

Foreign : US\$1.0m (EEC)
Local : -

Financing Gap: -

Executing Agency: FSTAU

Start: 1990/91

Duration:

OBJECTIVES

The revised objectives of the project are to:

- a) assist member State's efforts toward self-sufficiency in staple foodstuffs through stimulation of increased production, and establishment or strengthening of food storage and distribution facilities in member States;
- b) help build up stocks of staple foodstuffs, in member States, as a hedge against food deficits;
- c) establish a machinery for the exchange of information on food deficits and surpluses in the region;
- d) promote intra-regional trade in staple foodstuffs so as to facilitate their movement from surplus to deficit areas and households; and
- e) upgrade the skills of staff engaged in grain management and distribution.

The operation of the regional food reserve is expected to help stimulate increased food production, improve food distribution and help promote intra-regional trade.

Project details being worked out.

DESCRIPTION

Food aid made available from resources dedicated to regional use will be utilised to support food production and other development projects approved by SADCC.

A training component of the programme will provide support in technical and management functions, marketing and distribution, and in the identification and alleviation of chronic food insecurity. The pre-implementation phase of the training programme funded by the EEC is expected to commence during 1989.

The performance of Phase I of the project will be reviewed prior to the establishment of the regional food reserve project under Phase II.

STATUS

The project document is being reformulated in accordance with the revised objectives.

1.0.6/7

REGIONAL POST PRODUCTION FOOD LOSS REDUCTION AND FOOD PROCESSING - PHASE II

Estimated Costs

Financing Gap: US\$3.6m

Total : US\$3.60m

Foreign : US\$3.60m

Local : -

Executing Agency: FSTAU

Funding Secured

Start: January 1990

Foreign : -

Local : -

Duration: 10 years

OBJECTIVES

- a) to reduce post production food losses through efficient post production systems;
- b) to establish rural industries and facilities for preserving, processing distribution and marketing of food.

DESCRIPTION

Implementation of the project was coordinated by a small team of specialists constituting the Post Production Food Industry Advisory Unit (PFIAU). The Unit undertook assessments of post production systems, covering aspects such as harvesting, handling, storage, processing distribution and marketing, in all member States, to identify potential areas for the development of projects and programmes. On the basis of these assessments, project proposals were developed. The main focal points, of contact by the Unit were the National Post Production Systems Committees

which have been established in each member State. A regional Technical Advisory Committee, which includes a representative from each member State, provided technical guidance on the work of PFIAU.

STATUS

The first phase of the project, which was funded by Canada through CIDA and the IDRC, came to an end in June 1989. An evaluation in June 1988 recommended continuation of the project for a further five years. A proposal for the extension of the project based on the evaluation's recommendations, has been prepared and funding for Phase II of the project is being sought.

1.0.11(1) REGIONAL SEED TECHNOLOGY AND INFORMATION CENTRE

Estimated Cost

Total : US\$0.21m
Foreign : US\$0.21m
Local : -

Financing Gap: US\$0.21m

Executing Agency: FSTAU

Funding Secured

Foreign : -
Local : -

Start: As soon as funding is secured

Duration:

OBJECTIVE

To establish a Regional Information and Training Centre for Seed Technology.

DESCRIPTION

The project is concerned with the establishment of a Centre, preferably attached to a suitable existing institution in the region to:

- a) provide training for personnel in seed production, processing and marketing; and
- b) serve as a source of information on regional seed production and availability and on seed production and processing technology.

STATUS

Funding sought.

1.0.11(3) PRODUCTION AND BREEDING OF VEGETABLE SEED

Estimated Cost:

Total : US\$0.2m
Foreign : US\$0.2m
Local : -

Funding Gap: US\$0.2m

Executing Agency: FSTAU

Start: As soon as funding
is secured

Funding Secured:

Foreign : -
Local : -

Duration:

OBJECTIVES

The project aims to establish two vegetable seed production and breeding centres; one for temperate vegetables, and the other for tropical vegetables; both to be linked to existing national production/breeding programmes to meet the requirements for improved vegetable seed in the region.

DESCRIPTION

A pre-implementation phase is being proposed to determine suitable locations for the planned centres, and cost of their requirements.

STATUS

Funding is being sought for the pre-implementation phase of the project.

1.0.11(2) PLANT QUANTINE PROJECT

Estimate Cost

Total : US\$0.30m
Foreign : US\$0.30m
Local : -

Financing Gap:US\$0.30m

Executing Agency:FSTAU

Start: As soon as funding
is secured

Funding Secured

Foreign : -
Local : -

Duration:

OBJECTIVES

The project aims to support the establishment or upgrading of quarantine facilities in member States, as part of a regional network, to facilitate movement of seed across national boundaries, while at the same time avoiding the spread of crop diseases.

DESCRIPTION

A pre-implementation phase is being proposed to determine the national requirements and plan the regional network.

STATUS

Funding is being sought for the pre-implementation phase of the project.

1.0.11(4) ADVANCED TRAINING COURSES IN PLANT BREEDING AND SEED PRODUCTION

Estimated Cost:

Total : US\$0.295m
Foreign : US\$0.295m
Local : -

Financing Gap: US\$0.295m

Executing Agency: FSTAU

Start: As soon as funding is secured

Funding Secured:

Foreign : -
Local : -

Duration:

OBJECTIVES

The aim of this project is to provide support for advanced theoretical and practical training in plant breeding and seed production for senior personnel in the seed industry in the region, at suitable existing institutions in the region.

DESCRIPTION

A pre-implementation phase will be carried out to identify suitable institutions, determine course requirements, prepare cost estimates and implementation programmes.

STATUS

Funding is being sought for the pre-implementation phase of the project.

1.0.11(5) REGIONAL QUALITY LABORATORY AND NATIONAL SUB-UNITS

Estimate Cost:

Total : US\$0.6m
Foreign : US\$0.6m
Local : -

Financing Gap: US\$0.06m

Executing Agency: FSTAU

Start: As soon as funding
is secured

Funding Secured

Foreign : -
Local : -

Duration:

OBJECTIVES

The aim of the project is to provide support, initially for the up-grading or establishment of national seed quality laboratories and subsequently, for the establishment of a regional seed laboratory to meet the requirements of member States for analyses requiring more sophisticated technology.

DESCRIPTION

A pre-implementation phase will be carried out to assess the requirements if up-grading or establishment of national units.

STATUS

Funding is being sought for the pre-implementation phase of the project.

1.0.11(6) HARMONISATION OF SEED LAWS IN THE SADCC REGION

Estimated Cost:

Financing Gap: US\$0.3m

Total : US\$0.3m
Foreign : US\$0.3m
Local : -

Start: As soon as funding

Funding Secured

Foreign : -
Local : -

Duration:

OBJECTIVES

The aim of this project is to harmonise the differences which exist in the seed laws amongst member States so as to achieve similar regulations and standards which will facilitate intra-regional trade in seed.

DESCRIPTION

The project involves survey and collection of information from each country. Available documents, legal and non legal, will be collected and consultations held with ministry officials, seed quality control agencies, seed companies or national seed projects as well as plant breeding institutions. After the information has been collected, written proposals on harmonisation of the seed laws in the region will be produced for discussion with member States with a view to harmonising them. A working group will also be appointed to carry out the continuation of the project.

STATUS

Funding is being sought to carry out the above activities.

The mapping and preparation of the memoir will be undertaken by staff of the Soil Survey Unit of the Zambian Department of Agriculture which will also provide the necessary survey equipment, housing and office accommodation, stationery, computer facilities, laboratory facilities and cartographic services.

The support of cooperating partners is sought for: purchase and operation of a 4 - wheel drive vehicle for field work; purchase of satellite imageries, transparency papers and sensitized film; laboratory analysis; printing of maps and reports; and the provision of technical assistance with correlation, classification and land evaluation. A breakdown of materials and components is available from the Sector Coordinator, or from the Department of Agriculture direct.

STATUS Implementation can commence once funding is secured.

1.8.6 REHABILITATION AND EXPANSION OF THE SMALL HOLDER IRRIGATION SCHEMES (ZAMBIA)

Estimated Cost: Financing Gap: US\$25.00m

Total : US\$25.5m
Foreign : US\$25.00m
Local : US\$ 0.5m

Executing Agency

Department of Agriculture
(Irrigation and Land
Husbandry Branch)

Funding Secured

Foreign : -
Local : US\$0.5m (ZAM)

Duration: 3 years

OBJECTIVES The objectives of the project are to make available reliable irrigation water and to bring more land under irrigation. Most of the small holder irrigation schemes have either fallen out of production for various reasons or are operating at very low level. The ultimate objective is to improve food security in remote rural areas of the country.

DESCRIPTION The project will involve the expansion of the existing small holder irrigation schemes and the rehabilitation of the non operational small holder irrigation schemes in various parts of the country namely; Southern Province, in Gwembe Valley; Eastern Province, in Chipata and Lunduzi; Copperbelt Province, in Chingola and Kalulushi; and Luapula Province, in Mansa, Mwese and Kawamba. The hectarage to be irrigated will not be less than 2000 hectares.

STATUS Funds to implement the project are being sought.

1.8.7 SMALL HOLDER IRRIGATION COFFEE SCHEMES (ZAMBIA)

<u>Estimated Cost</u>	<u>Financing Gap:</u> US\$3.0m
Total : US\$3.8m	
Foreign : US\$3.0m	<u>Executing Agency</u>
Local : US\$0.8m	Department of Agriculture (Irrigation and Land)
<u>Funding Secured</u>	<u>Start:</u> As soon as funding is secured
Foreign : -	
Local : US\$0.8m (ZAM)	<u>Duration:</u> 3 years

OBJECTIVES The main objective of the project is to utilise abundant water and soils to increase coffee production.

DESCRIPTION The irrigation project will involve the diversion of river/stream water to small holder schemes for the production of coffee under a gravity fed system. The project will be located in the high rainfall areas of Luapula and Northern Provinces. Four projects, each covering 500 hectares are involved.

STATUS Funding is being sought to implement the project.

1.9.1 BUNKER GRAIN STORAGE : PHASE 1

Estimated Costs

Total : US\$1.339m
Foreign : US\$1.089m
Local : US\$0.250m

Financing Gap : US\$1.089m

Executing Agency

Grain Marketing Board,
Zimbabwe PPFAIU

Funding Secured

Foreign : US\$ -
Local : US\$0.250m

Start : 1989

Duration : 3 years

OBJECTIVES

The initial objective of this project is to demonstrate and evaluate the applicability of bunker grain storage technology in the SADCC region through the initiation of a commercial scale trial in Zimbabwe. Following confirmation of the technical and economic feasibility of the technology, the secondary objective is to promote its adoption to meet the growing demand for bulk grain storage in the region.

DESCRIPTION

The grain marketing systems of most member States are beset by inadequate storage capacity and high costs. Storage systems are principally silos (either ferroconcrete or corrugated iron) and bags in sheds or on open "hard stands". The silo system involves large capital expenditures while bag storage, the most widely used system, involves large recurrent foreign exchange expenditure on bags.

A study commissioned by the Post Production Food Industry Advisory Unit (PFIAU) on the potential application of bunker storage technology in SADCC, concluded that these systems could be a favourable impact on reducing maize handling and storage costs in Zimbabwe.

The work involved in implementation of this project comprises:

- the establishment, in collaboration with the Grain Marketing Board (GMB) in Zimbabwe, of a trial bunker storage facility of 20 000

tonnes capacity using of locally procured materials;

- the initiation of an associated research programme to monitor the temperature and moisture regimes, pest control and fumigant retention levels within the stored grain over a three year period;
- an assessment of the cost effectiveness of the bunker system, compared with extant alternatives such as bag stacks, silos and sheds;
- demonstration of the system to senior management personnel of the grain storage and marketing organizations of all member States during construction and operation; and
- initiation of a programme to extend use of the bunker storage system throughout the region.

The GMB has identified a potential site for the trial bunker storage system at its Banket depot. It will provide all services for the site such as electricity, water and security, and 20 000 tonnes of maize required to fill the storage. Funding is required for : civil works; bunker bulk-head construction; purchase of system specific mechanical and electrical handling plant; employment of a full time research worker; research equipment; technical and administrative supervision; publication of research results and provision of extension material; and demonstration visits for personnel from all member States.

STATUS

Implementation can start once funds are secured.

Project	Project Title	Estimated Cost US\$ Million		Local	Funding Secured & Source US\$ Million	Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign					
FOOD SECURITY								
1.0.1	Technical Assistance Programme for Coordination & Cooperation	7.07	5.75	1.32	1.18 (USA) 0.16 (AUS) 1.32 (ZIM)	-	4.41	Under implementation. Additional funding sought.
1.0.2	Regional Early Warning System (REWS)	6.00	5.80	0.20	3.70 (DEN) 1.00 (DAU) 0.20 (ZIM)	-	1.10	Formulation of second phase of project underway.
1.0.3	Regional Resources Information System	5.16	5.16	-	0.37 (UNDP) 0.15 (CFTC)	-	4.64	Funding sought.
1.0.4	Regional Inventory of Agricultural Resource Base (RIARB)	1.78	1.78	-	1.04 (IRE) 0.20 (CFTC)	-	0.54	First phase ends December 1989. Two year extension approved. Funding sought.
1.0.5	Regional Food Reserve	-	-	-	-	-	-	Project being reformulated.
1.0.6/7	Regional Post-Production Food Losses Reduction & Food Processing - Phase II	3.60	3.60	-	-	-	3.60	Phase I ended June 30th 1989. Funding sought.
1.0.8	Regional Food Marketing Infrastructure	0.37	0.35	0.02	0.20 (CFTC) 0.15 (AUS) 0.02 (TAN/ZAM/ZIM)	-	-	Study report being finalised. Extension of the study to include Angola commences October, 1989.
1.0.10	Recruitment & Retention of Professional & Technical Staff in the Ministries of Agriculture in the SADC Region.	-	-	-	-	-	-	Project withdrawn.
1.0.11	Feasibility Study on Regional Seed Production and Supply	(0.59)	(0.59)	-	(0.59) (DEN)	-	-	Study completed, recommended projects approved (See 1.0.11(1) - (6)).
1.0.11(1)	Regional Seed Technology and Information Centre	0.21	0.21	-	-	-	0.21	Funding being sought.
1.0.11(2)	Plant Quarantine Project	0.30	0.30	-	-	-	0.30	Funding being sought.
1.0.11(3)	Production and Breeding of Vegetable Seed	0.20	0.20	-	-	-	0.20	Funding being sought.
1.0.11(4)	Advanced Training Courses in Plant Breeding and Seed Production.	0.30	0.30	-	-	-	0.30	Funding being sought.
1.0.11(5)	Regional Quality Laboratory	0.06	0.06	-	-	-	0.06	Funding being sought.
1.0.11(6)	Harmonisation of Seed Laws	0.30	0.30	-	-	-	0.30	Funding being sought.

Project	Project Title	Estimated Cost US\$ Million		Local	Funding Secured & Source US\$ Million	Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign					
1.0.12	Improved Irrigation in the SADCC Region	0.50	0.48	0.02	0.48 (AUS) 0.02 (SADCC)	-	-	Recruitment of Consultants commenced.
1.0.13	Strengthening & Coordination of Migrant Pest Control	0.53	0.53	-	0.53 (GTZ)	-	-	Pre-implementation phase underway.
Sub total		26.38	24.29	1.56	10.19	0.00	15.66	
NATIONAL PROJECTS WITH REGIONAL IMPACT								
1.1.2	Reinforcement of the Department of Soils & Climate of the Agronomic Research Institute, ANGOLA	(2.64)	(1.14)	(1.50)	(1.14) (ITA) (1.50) (ANG)	-	-	Complete.
1.1.3	Establishment of a preparation and Monitoring of Projects in the Field of Agriculture, ANGOLA							Under review.
1.1.4	Reinforcement of the National Service for Plant Protection, ANGOLA	8.26	1.18	7.08	7.08 (ANG)	-	1.18	Funding sought.
1.3.1	National Food Reserve, LESOTHO	-	-	-	-	-	-	Under review.
1.3.2	Irrigation Vegetable Production, LESOTHO	5.96	5.96	-	4.68 (EEC)	-	1.28	Implementation underway.
1.3.3	Watershed Management Programme LESOTHO	-	-	-	-	-	-	Study completed.
1.3.4	Feed Mill, LESOTHO	-	-	-	-	-	-	Completed, feed mill commissioned.
1.3.5	Destocking Programme, LESOTHO	14.74	10.50	4.24	4.24 (LES)	1.40 (DEN)	9.10	Funding sought.
1.3.6	Establishment of National Food Reserves and Self Sufficiency Programme in Staple Food grains, LESOTHO	8.00	8.00	-	-	-	8.00	Funding sought.
1.4.1	Interim Grain Reserves, MALAWI	-	-	-	-	-	-	Government examining study report.
1.4.2	Small Irrigation Schemes, MALAWI	-	-	-	-	-	-	Government examining study report.
1.5.5	Establishment of Network Quarantine, MOZAMBIQUE	0.73	0.50	0.23	0.50 (DEN) 0.23 (MOZ)	-	-	Quarantine Stations set up in Maputo, Beira and Nacala, training commenced in Maputo.
1.5.6	Storage Facilities, MOZAMBIQUE	20.60	15.20	5.40	3.60 (NET) 5.40 (MOZ)	-	11.60	Logistic problems hampered implementation of Nacala silos.

Project	Project Title	Estimated Cost US\$ Million			Funding Secured & Source US\$ Million	Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign	Local				
1.6.1	Rehabilitation of Irrigation Schemes, SWAZILAND	9.20	6.40	2.80	2.80 (SWA) 6.40 (IFAD)	-	-	Under implementation.
1.7.1	Kapunga Rice Project, TANZANIA	26.10	20.60	5.50	5.50 (TAN)	-	20.60	Funding sought.
1.7.2	Madibira Rice Project, TANZANIA	22.50	19.00	3.50	3.50 (TAN)	-	19.00	Funding sought.
1.7.3	Eradication of the Larger Grain Borer	0.93	0.73	0.20	0.20 (TAN)	-	0.73	Under implementation, more funding sought.
1.8.1	Construction of Food Storage Facility, ZAMBIA	4.02	4.02	-	4.02 (CAN/EEC/NOR)	-	-	Under implementation.
1.8.2	Zambezi Water Resource Enhancement & Irrigation Programme, ZAMBIA	-	-	-	-	-	-	Withdrawn from the programme.
1.8.3	Lukhenga Water Development, ZAMBIA	5.00	5.00	-	-	-	5.00	Funding sought.
1.8.4	Luano Area Irrigation Project, ZAMBIA	-	-	-	-	-	-	Withdrawn from the programme.
1.8.5	National Soil Mapping Programme ZAMBIA	0.20	0.14	0.06	0.06 (ZAM)	-	0.14	Funding sought.
1.8.6	Rehabilitation and Expansion of the Small Holder Irrigation Scheme ZAMBIA	25.50	25.00	0.50	0.50 (ZAM)	-	25.00	Funding is being sought.
1.8.7	Small Holder Irrigation Coffee Schemes (ZAMBIA)	3.80	3.00	0.80	0.80 (ZAM)	-	3.00	Funding is being sought.
1.9.1	Bunker Grain Storage (ZIMBABWE)	7.61	2.16	5.45	5.45 (ZIM)	-	2.16	Funding sought.
Sub-Total		155.15	119.39	35.76	54.96	1.40	98.79	
GRAND TOTAL		181.53	143.68	37.32	65.15	1.40	114.45	

1. EXECUTIVE SUMMARY

- 1.1 1988/89 has been a relatively good year for the livestock population in the region. There was plenty of pasture for grazing in all the member States, and no shortage of water was experienced.

None of the major epidemic diseases occurred. Rinderpest is under control in Tanzania, while Malawi and Zambia continued with their surveillance activities along their borders with Tanzania. Foot and Mouth Disease is still a problem in Tanzania, Mozambique and Zambia; while Zimbabwe recorded her latest outbreak in May, 1989, in the southern part of the country.

- 1.2 The Sector now has 15 projects, 10 of which are on animal health, and five on livestock production; four are fully funded and under implementation; one is partially funded and under implementation, four have received funding pledges, and negotiations with prospective donors are underway to realise the pledges; and six require funding. Out of these six, two are new (Projects 2.2.4 Dairy Heifer Multiplication, and 2.9.6 Production of Small Stock). One (Project 2.9.5) has been transferred to the Soil and Water Conservation and Land Utilization Sector.
- 1.3 The total cost of the programme is estimated at US\$97.24 million, out of which US\$54.94 million is in foreign resources, and the rest (US\$42.30 million) in local costs. So far US\$62.92 million (64.71%) has been secured, US\$15.70 million is under negotiation, leaving a gap of US\$15.74 million.
- 1.4 Rinderpest Control projects are no longer within the SADCC Programme of Action, having been left to the Pan African Rinderpest Control Programme (PARC). Malawi, Tanzania and Zambia, have already presented projects to PARC for funding. During 1988/89, 3.2 million calves and yearlings were vaccinated in Tanzania, and a final two year vaccination campaign, under the auspices of PARC, to cover the whole country, is anticipated to commence later this year; after which only border vaccination will be conducted.
- 1.5 A training programme for middle-level personnel is continuing as planned. At the Tsetse and Trypanosomiasis Control Training Centre, Lusaka, 15 SADCC students out of 20, completed the second course successfully, in December 1988. Further, 5 students are in the United Kingdom pursuing post-graduate training courses relevant to the field of Tsetse and Trypanosomiasis control.

- 1.6 The Tsetse and Trypanosomiasis Training Project, which ends in February, 1990, was evaluated. The final report recommended, among other things, that the project should be extended by another two years, with the provision that the number of established posts for regional counterpart staff be increased to at least four; that necessary institutional structures should be created to consolidate the status of the centre within the SADCC region, and that all necessary steps should be taken to promote the permanence of the regional staff. This final evaluation report has been distributed to the member States involved in the project, for their study and comment.
- 1.7 The sixth course in Meat Inspection and Meat Technology at the Lobatse School, commenced in August 1988, and ended in December 1988. There were 46 students, out of which 27 (59%) were from the region. This session was to have been the last one, as the project was to end on March 31, 1989. But due to savings, its duration has been extended to the end of December, 1989. During this extension, one more course will take place from August to December, 1989. A second phase of the project has been developed.
- 1.8 The Animal Disease Reference Laboratory was reviewed to determine how best it could serve the other laboratories in the member states. The review report recommended that another consultancy be commissioned to visit all SADCC member States.

2. OVERVIEW OF THE REGIONAL SITUATION

- 2.1 During 1988/89 better rains than in 1987/88 were received in all member States. This improved grazing and water availability, and the quality of the livestock.
- 2.2 The cattle population stood at about 28.6 million head (Angola 1.2 million, Botswana 2.5 million, Lesotho 2.1, Malawi 0.8 million, Mozambique 0.5 million, Swaziland 0.6 million, Tanzania 12.4 million, Zambia 2.7 million and Zimbabwe 5.8), a decline from about 29 million head. While this may be attributed to controlled offtake, mainly through slaughter; poor reproduction, high calf mortality rates and bandit activity in Angola and Mozambique, have contributed much to this decline in the cattle population. The situation in Mozambique is very serious. The country has about 0.5 million head of cattle, to a human population of about 14 million. This represents a critical imbalance in the ratio of human population to animal protein.
- 2.3 Although statistical figures are not available, the small stock did not fair well either. Apart from goats which increased slightly, the rest experienced a downward trend.

- 2.4 However, despite this relatively large livestock population, the region as a whole is still a net importer of milk and milk products, while some countries also import some meat. In Tanzania, for instance, 80% of the milk consumed in the urban areas is imported as milk powder and butter oil. Furthermore, while Tanzania does not import any meat, it has yet to reach the per capita consumption target of meat products of 11.5 Kg per annum. Mozambique produced only 2 895 tonnes of beef, 2 207 tonnes of pork, 1 400 tonnes of chicken and 2 485 million litres of milk, mainly for the urban population. Even though this was slightly higher than the 1987/88 figures, the supply of animal protein remained depressed. Although no statistical data have been collected for the other countries, it is known that they did not do any better.
- 2.5 On the international scene, Botswana continued to export beef to the EEC and other countries, while Zimbabwe had her meat exports to the EEC suspended, due to the outbreak of Foot and Mouth Disease in May, 1989.

3. PROGRAMME REVIEW

- 3.1 The programme now has a total of 15 projects, four of which are fully funded and under implementation; one is partially funded and under implementation, four have received funding pledges, and six are seeking funds.
- 3.2 Of the fifteen projects, five relate to animal production. The region is a net importer of dairy products, and, in accordance with regional objectives, policies and strategies, the Sector will continue to focus on animal breeding and nutrition; and range and pasture management. This strategy will reinforce the efforts and measures taken so far in the control of animal diseases.
- 3.3 Two projects were evaluated:
- * the SADCC Regional Training Centre for the Control of Tsetse and Trypanosomiasis, based in Lusaka; and,
 - * the Animal Disease Reference Laboratory, based in Harare.

The evaluation report on the Training Centre has recommended that the project be extended for another two years, and plans are underway to contact prospective cooperating partners. The current project ends in February, 1990. A second phase is now under preparation.

- 3.4 The review report on the Animal Disease Reference Laboratory recommended that another mission to all member States should be undertaken, to discuss how best the Reference Laboratory can support their national laboratories.
- 3.5 The training programme for middle-level personnel continued as planned. At the Tsetse Training Centre in Lusaka, 20 students, out of which 15 were from SADCC, completed the second course in December, 1988. Further, under the same project, 5 students went to the United Kingdom for post-graduate training in Applied Entomology.
- 3.6 The sixth course in meat inspection and meat technology at the Lobatse Meat Inspection School, commenced in August, and ended in December, 1988. There were 46 students, of whom 27 were from the region. This course was to have been the last one, as the project was to end in March, 1989. However, due to previous savings, the project has been extended to December, 1989, and one more course will be held from August to December, 1989. Proposals for the extension of the project have been presented to DANIDA.
- 3.7 The following new projects were approved:
- * 2.2.4 Strengthening of Dairy Heifer Multiplication Units and Distribution to Smallholder Farmers
 - * 2.9.6 Support for Cooperative Production of Small Stock
- 3.8 The programme is still suffering from a shortage of full time staff in the Coordinating Unit. Efforts to attach an economist and an animal production officer to the Unit are still continuing. The Ministry of Agriculture, Botswana, has promised to second an Economist by 1990/91, and in the meantime consultants could be employed to carry out work on specific issues.

4. CURRENT STATUS OF PROJECTS

Project 2.0.3: Regional East Coast Fever and Heartwater Vaccines Production and Immunization

This project involves four countries - Malawi, Mozambique, Tanzania and Zambia. It has the long term objective of creating a self-supporting regional centre for the production of East Coast Fever vaccine in order to eliminate this major disease, which is an obstacle to the improvement of dairy and beef production; and thus, enhance the living standards of smallholder farmers in the region. In the short term, the project aims at applying and evaluating the ECF immunization technique under field conditions, in these

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member States, at an expanding scale, with regard to economy, safety and applicability.

Expansion of the Laboratory has already started, with US\$ 1.3 million from the Netherlands Government. A team of representatives from SADCC, UNDP, Netherlands and FAO, has produced a project document, which is being considered by the interested parties. The implementation of the project is expected to start in mid-1990.

The project has also been expanded to include the project for the production of Heartwater vaccine by biotechnology, based in Zimbabwe, and funded by USAID. This project, which has been bilateral for the last three years, will now become regional, and is extended for the next three years at a cost of US\$4.25 million. USAID will provide US\$4.0 million. The Government of Zimbabwe will pay the balance of US\$0.25 million in local currency. Apart from training SADCC nationals in the latest diagnostic techniques of heartwater, field trials of the vaccine will also be undertaken in other member States.

Because of this expansion the Project is now known as: "Regional East Coast Fever and Heartwater Vaccines Production and Immunization".

Project 2.0.5: Training of Animal Health Auxiliary Personnel In the Diagnosis of Animal Diseases

The objective of the project is to strengthen SADCC veterinary manpower by up-grading the knowledge of auxiliary personnel who are in the forefront in the fight against animal diseases; by holding short courses (6-7 weeks) in SADCC member States, on a rotating basis.

After conducting, successfully, two similar courses in Botswana in 1986, and in Malawi in 1987, a third course was held in Tanzania from 3 July to 19 August, 1989. SIDA is supporting the course to the tune of about US\$110 000.

Project 2.0.7: Production and Distribution of Pasture Seeds and Legumes-Study

This project aims at identifying constraints to the production of pasture seeds and legumes, and their distribution to the target group. The study will also recommend measures which should be taken, both in the short and long term, to alleviate and/or solve the current difficulties experienced by member States. The project is estimated to cost US\$180 000.

Project 2.1.1: Veterinary Assistance to South West Angola

The objectives of this project is to rehabilitate veterinary infrastructure in the Provinces of Huila, Cunene, Namibe and Banguela, in order to facilitate handling of cattle during animal disease control campaigns. In this way earnings of small holders will be increased, as more animals will survive; and the spread of diseases to neighbouring countries will also be minimised.

To-date 48 cattle dips and 56 cattle crushes have been rehabilitated, while over 0.90 million cattle have been vaccinated against infectious diseases.

Financial support from UNDP/FAO (US\$0.446 million) and from the Italian Government (US\$1.0 million) has been secured. There is still a financing gap of US\$0.95 million, for which the support of cooperating partners is being sought.

Project 2.1.2: Assistance for the Establishment and Organization of the National Laboratory in Luanda - Angola

This project aims at expanding, equipping and reorganization of the existing laboratory so as to enable the Government to accurately diagnose, treat and apply appropriate control measures against contagious and parasitic animal diseases. The project also aims at strengthening zoo-sanitary measures to avoid contamination of human food by animal products and by-products. The project is estimated to cost US\$2.4 million in foreign exchange, and US\$2.8 million in local funds, for a period of six and a half years. To-date no resources have been secured for the project.

Project 2.2.2: Regional Foot and Mouth Disease Control Phase II

The objective of the project is to control Foot and Mouth Disease in Botswana, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe, by conducting annual vaccination campaigns. The project also entails a study on the epidemiology of the disease in both wildlife and cattle, and training of technical field staff. The project is continuing for a period of 4 years.

The total cost of the project is estimated at about US\$34.0 million, of which US\$16.0 million is in foreign exchange and US\$18.0 million in local currency. It has already been submitted to the EEC for consideration. An EEC/SADCC project finalisation mission will visit the countries involved in the near future, to start negotiations on the structure and the implementation of the project.

Project 2.2.3: Regional Training Centre for Meat Inspection and Meat Technology - Phase II

The objective of this project is to train middle-level technicians in meat inspection and meat technology, so as to alleviate the shortages of this cadre in the member States. The current phase of the project, which is being supported by DANIDA, ends in December, 1989. Phase II of the project, estimated to cost about US\$4.8 million, and planned to commence in January 1990, has been prepared.

This phase will continue to offer courses in meat inspection and technology, short courses specific to individual member States; and the following new activities:

- a) training in hides and skins improvement;
- b) training in microbiology and veterinary public health;
- c) assisting in the setting up/strengthening of national institutions; and,
- d) facilitating post-graduate fellowship in veterinary public health in preparation of Centre's take-over.

Project 2.2.4: Dairy Heifer Multiplication Units

The project aims at increasing the supply of dairy cross-bred heifers to smallholder farmers, in order to enhance national self-sufficiency in milk and milk products. It will also improve the living standards of the population, especially women and children, by making animal protein readily available to them. The project involves the strengthening of national Dairy Heifer multiplication units, training of farmers in range management of dairy cattle and the establishment of marketing channels.

This new project, which will be coordinated by Botswana, will initially involve Botswana, Mozambique, Tanzania and Zimbabwe. The project is estimated to cost US\$1.55 million.

Project 2.7.1: Regional Training Centre in Range and Ranch Management

The project's main objective is to expand the existing Training Centre in Morogoro, Tanzania, so as to increase its capacity to accommodate and train more students from the member States at technical level to alleviate the shortage of trained extension staff in ranch and range management.

The cost of the project is estimated at US\$2.8 million, over a five year period. Of this cost, US\$2.4 million is in foreign exchange, and US\$0.4 million in local currency.

Project 2.8.1: Regional Tsetse and Trypanosomiasis Training Centre

The objective is to train personnel from SADCC countries in the skills of tsetse fly and trypanosomiasis control, so as to increase the number of personnel who are capable of managing and implementing control activities.

This project costs US\$2.17 million, and is fully funded by NORAD (US\$1.0 million), CIDA (US\$0.29 million) and UNDP (US\$0.85 million). It is operational, and executed by FAO. The second Project Steering Committee meeting took place in Lusaka in February 1989.

The five candidates selected for post-graduate training are now in place in the United Kingdom. Three more candidates were selected during the February, 1989 Committee meeting, and their applications are now being processed.

The project has undergone evaluation. The final evaluation report, has recommended an extension of the project for a further two years. The report has been distributed to, and is now being studied by member States.

Project 2.9.1: Animal Disease Reference Laboratory Zimbabwe

The main objectives of the project are to diagnose animal diseases, and to provide a regional reference centre for zoonotic and other diseases, as well as providing data on animal diseases in the region.

The construction of this Reference Laboratory is complete, and it is fully operational. It also offers some training to technicians from member States, if and when requested. During the first year of its operation (i.e 1987/88) it received over 1500 specimen from SADCC member States. However, in 1988/89 only 753 specimen were received. As a result of this unsatisfactory situation, a review mission was commissioned to examine how best this Laboratory can support other SADCC Laboratories. The report has been completed, and has recommended that another mission should visit member States, to discuss with them how best they can make use of this regional laboratory. Terms of reference for the first mission did not include visits to other countries. DANIDA provided funding for the first review mission, and is expected to fund the second mission.

Project 2.9.2: Regional Tsetse and Trypanosomiasis Control

The objective of the project is to eradicate tsetse fly in the Zambezi Valley by aerial spraying and by use of traps, baits and targets.

This project involves four countries, viz. Malawi, Mozambique, Zambia and Zimbabwe, and is funded by the EEC at a cost of US\$19.8 million.

In Malawi, both tsetse and trypanosomiasis surveys continued, with 200 centres being sampled, yielding a total of 770 positives. Three species have been identified as T.congolense, T.vivax and T.brucei. The tsetse fly survey revealed that the commonest fly in Malawi is Glossina morsitans morsitans.

In Mozambique, due to the security situation, work was limited to the Beira Corridor only. A large area of the Corridor was surveyed using F3 box and Epsilon odour-baited traps. These surveys have revealed that the area is infested by the four tsetse species existing in the country. They have also revealed that trypanosomiasis is widespread in the Corridor.

In Zambia, surveys in Eastern Province and Lusaka East have been hampered by breakdown of vehicles assigned to those areas. Other activities, however, were carried out as planned, albeit at a slow pace. Surveys were carried out across the Great North Road to the west, and fly pockets have been found in the Keembe area. Deployment of targets between Kafue-Chirundu Road, and the Kafue River was successful, and over 200 sq.km. were covered.

In Zimbabwe, research on odours and targets continued as planned, while trials on the use of other prospective insecticides were conducted with encouraging results.

The report of the evaluation of the project has been finalised and distributed to member States for study and comments.

Project 2.9.3: Training of Laboratory Technicians for the Maintenance and Repair of Scientific and Technical Equipment in Veterinary Laboratories

The aim of the project is to train technicians in the maintenance and repair of laboratory equipment. It will also endeavour to rehabilitate the laboratories when necessary.

It is estimated to cost about US\$1.8 million, for a period of five years. One hundred and forty-five (145) SADCC nationals are expected to be trained over that period. Negotiations with the Swiss Development Corporation are in progress. Terms of reference have already been approved for a Swiss/SADCC fact-finding mission to member States, starting in September, 1989.

Project 2.9.4: Regional Artificial Insemination Service

The project aims at establishing a Regional Artificial Insemination Centre in Zimbabwe, for the production and distribution of semen to member States, and hence reduce dependence on outside suppliers, especially South Africa. The programme includes the rehabilitation of national artificial insemination schemes, so as to enable them to utilize efficiently the semen produced at the Regional Centre. Training of middle-level technicians will also be undertaken by the Regional Centre, at the rate of about 20 trainees per year.

In the long run, this project will improve the productivity of the region's dairy and beef herds, improve nutritional standards of the smallholder community, and increase their income; as well as save on the foreign exchange used for the importation of dairy products.

This project which involves Botswana, Mozambique, Swaziland, Tanzania and Zimbabwe, is estimated to cost about US\$6.9 million, over a 5 year period; out of which US\$3.4 million is in foreign exchange and US\$3.5 is in local currency.

Project 2.9.5: Range Inventory Monitoring and Rehabilitation Trial

This project has been transferred to the Soil and Water Conservation and Land Utilization Sector.

Project 2.9.6: Production of Small Stock

The objective of the project is to improve the standard of living of small-holder farmers.

This project will involve Botswana, Zambia and Zimbabwe, and will be coordinated by Zimbabwe.

In Botswana, it will involve the establishment of pig production units in two districts (Kgatleng and Bamalete/Tlokweng), as well as a pig processing complex for the manufacture of various pig products.

In Zambia, seven sheep and goat multiplication centres will be established in Southern Province (2), Eastern Province (2), Lusaka Province (1), and Luapula Province (2). The Centres will produce cross-bred sheep and goats which will be distributed to individuals and cooperatives in the rural areas.

In Zimbabwe, both pig production units and goat breeding centres will be established on a cooperative basis.

In all the countries, training of individual farmers and cooperative members on modern small stock husbandry will be an important component of the project. The project is estimated to cost US\$1.83 million.

2.0.3 REGIONAL EAST COAST FEVER AND HEARTWATER VACCINES
PRODUCTION AND IMMUNIZATION.

Estimated Costs

Total : US\$12.25m
Foreign: US\$ 9.75m
Local : US\$ 2.45m

Financing Gap: US\$4.75m

Executing Agency:

FAO/UNIVFLOR/ZW

Funding Secured:

Foreign: US\$1.30m (NET)
: US\$4.00m (USA)
Local : US\$2.45m (SADCC)

Start: 1989/1990

Duration: 5 years

OBJECTIVES: In the long-term, the project aims at:

- i) creating a self-supporting Regional Centre for East Coast Fever (ECF) vaccine production, to eliminate a major disease obstacle for the improvement of dairy and beef production, and an increase in living standard of small holder in the region; and
- ii) creating a capacity within the Regional Centre, to coordinate the control of ticks and tick-borne diseases, and related applied research and training in Southern Africa.

In the short-term, the project has six main objectives:-

- i) application and evaluation of the ECF immunisation technique under field conditions on an expanding scale in Malawi, Mozambique, Tanzania and Zambia;
- ii) improvement of the immunization technique with regard to economy, safety and applicability;
- iii) isolation of breakthrough strains for cross-matching studies in vitro and in vivo, for possible inclusions in the cocktail where necessary;

- iv) to conduct wider field immunisation programmes against ECF in the four countries;
- v) to field-test the heartwater vaccine in a wider context in other SADCC countries; and
- vi) to train veterinarians, other scientists and technologists in heartwater research and control.

DESCRIPTION

Based on the results of the work which has been done in Malawi and Zimbabwe, and the successful application of the immunisation technique to the field conditions in Malawi and Zambia, the work should now go into extended field immunization trials in the most affected countries within the SADCC region. This would be achieved by:

- i) assuring a continuing production of quality controlled stabilates for the immunizing cocktail, and heartwater vaccine to be provided to all countries of the region, as required;
- ii) the Lilongwe laboratory in Malawi, acting as reference centre for advice and back-stopping in the monitoring of ECF-immunized animals in the region;
- iii) the Lilongwe laboratory acting as a coordinating centre for the regional needs of the immunisation of cattle against ECF, babesiosis, anaplasmosis and heartwater;
- iv) continuing to improve the infection and treatment method of immunization against ECF, as regards standardization of the infectivity and efficacy of new drugs and formulation when available, best age of immunization, methods of stabilate production, storage, distribution to member states and ways of preventing contamination by pathogenic micro-organisms; and
- v) assisting in the training of SADCC nationals in the field of immunization against ECF and heartwater and monitoring immunised animals.

Training of SADCC nationals at post-graduate levels within or outside the region will also take place.

STATUS

The Netherlands Government is financing a two year preparatory phase in Malawi for production of vaccine. Construction of Laboratory extensions has already started, and Laboratory equipment ordered. A team comprising UNDP, Netherlands, FAO, and SADCC experts has already finalised the ECF project document and implementation will start as soon as all parties involved come to an agreement on the financing and modus operandi of the project. It is, however, expected to start in mid-1990. The heartwater component of the project started in August, 1989, and is progressing as planned. More funding sought.

2.0.7 PRODUCTION AND DISTRIBUTION OF PASTURE SEEDS AND LEGUMES - STUDY
Estimated Costs

Total : US\$0.18m
 Foreign : US\$0.18m
 Local : NIL

Financing Gap: US\$0.18m

Executing Agency: SADCC

Funding Secured

Foreign: NIL
 Local : NIL

Start: 1989

Duration: 16 months

OBJECTIVES

- i) To identify important pasture and legumes in the major agro-ecological zones of the SADCC countries;
- ii) To examine the current demand for high quality certified pasture and legume seeds in the region;
- iii) To examine the current seed production and supply capacity of the SADCC countries;
- iv) To identify the major factors constraining the production and supply of high quality pasture seeds and legumes; and
- v) To recommend short and/or long term measures which will alleviate the present difficulties.

DESCRIPTION

The study will be undertaken in all the nine SADCC countries for a period of about 16 months. It is anticipated that experts from the region will be

actively involved in the study. On the basis of an analysis and evaluation of data collected in each of the member States, the study will:

- i) provide a description of the current situation in regard to production and supply capacity and availability of improved pasture and legume seeds;
- ii) determine the demand and estimates of supply of pasture and legume seeds till the year 2000;
- iii) identify constraints faced by this seed sub-sector; and
- iv) on the basis of the above, make recommendations for improvements to the seed production and supply systems in member States, and propose specific projects for the implementation of these recommendations.

STATUS Funding sought.

2.1.1 VETERINARY ASSISTANCE IN THE SOUTH WEST OF ANGOLA

Estimated Costs

Total : US\$18.90m
Foreign: US\$ 2.40m
Local : US\$16.50m

Financing Gap: US\$0.95m

Executing Agency: Angola

Funding Secured

Foreign: US\$ 1.45m
Local : US\$16.50m (ANG)

Start: 1986

Duration: 5 years

OBJECTIVES

The project aims at improving and extending sanitary coverage of livestock in the Provinces of Huila, Cunene, Namibe and Bengwela so as to increase the earnings of small holders livestock farmers. The project also aims at minimising the spread of some disease to neighbouring countries.

PROGRESS

To date, cattle dips and cattle crushes have been rehabilitated and over 0.9 million head of cattle vaccinated against infectious diseases.

STATUS

UNDP/FAO have made available US\$0.446 million, and Italian Government US\$1.0 million. More funding sought.

2.1.2 **ASSISTANCE FOR THE ORGANISATION AND ESTABLISHMENT OF
THE NATIONAL LABORATORY- ANGOLA.**

Estimated Costs

Total : US\$5.20m
Foreign: US\$2.40m
Local : US\$2.80m

Financing Gap: US\$2.40m

Executing Agency

Government of Angola

Funding Secured:

Foreign: NIL
Local : US\$2.80m (ANG)

Start:

Duration: Six and half
years

OBJECTIVES

Long-term objectives are:

- i) to increase the capacity of the Government to accurately diagnose, treat and apply appropriate control measures against contagious and parasitic animal diseases;
- ii) to facilitate the development of commercial farming in Angola;
- iii) to check/stop possible dissemination of diseases to neighbouring countries; and
- iv) to attain self-sufficiency in animal protein.

Short-term objectives are:

- i) expansion of the National Veterinary Laboratory in Luanda;
- ii) to equip the laboratory with functional equipment;
- iii) to reorganise the laboratory into different functional sections;
- iv) to train suitable staff for the different laboratory sections; and
- v) to reinforce research and surveillance programme on field animal diseases.

DESCRIPTION The project has a duration of six and half years, and will be implemented in phases.

Phase I: This will take two and half years and involves preliminary and detailed planning of the buildings and then construction of the buildings. It will cost US\$3.734 million.

Phase II: This will take one year, costing a total of US\$560 000. The main activity will be procurement of equipment and appointing laboratory Director and Technicians.

Phase III: This final phase will take 3 years and this is when organisation will take place. It will involve setting up scientific departments, standardization of technical works and training of staff.

STATUS Funding sought.

2.2.3 **REGIONAL MEAT INSPECTOR TRAINING SCHOOL - LOBATSE IN BOTSWANA - PHASE II**

Estimated Costs

Total : US\$4.80m
Foreign: US\$4.70m
Local : US\$0.10m

Financial Gap: US\$4.70m

Executing Agency: FAO

Funding Secured

Foreign: -
Local : US\$0.10 (BOT)

Start:

Duration:

OBJECTIVE This project has the objective of training middle level technicians in meat inspection and meat technology so as to alleviate the shortage of this cadre in the SADCC countries.

PROGRESS The project has been reviewed and extension has been approved.

STATUS Funding sought

2.2.4 STRENGTHENING OF DAIRY HEIFER MULTIPLICATION UNITS

Estimated Costs

Total : US\$1.55m
Foreign: US\$1.10m
Local : US\$0.45m

Financing Gap: US\$1.10m

Executing Agency:

Botswana Veterinary
Services

Funding Secured

Foreign: NIL
Local : US\$0.45m (BOT, MOZ, ZW)

Start:

Duration: 5 years

OBJECTIVES

Short-term objectives are: _

- i) to increase the supply of dairy cross-bred heifers available to smallholders;
- ii) to enable smallholder farmers acquire dairy heifers at affordable prices; and
- iii) to afford demonstration of appropriate methods of dairy farm management at the multiplication units.

Long-term objectives are:

- i) to attain self-sufficiency in milk and milk products; and
- ii) to improve the living standards of smallholder farmers, especially of children and women, by making animal protein readily available to them.

DESCRIPTION

In Botswana, the existing unit will be expanded to a capacity of about 100 simmental heifers. These will be bred to Tswana bulls to eventual offspring of 3/4 simmental heifers. Artificial insemination will also be used when necessary. Identified smallholders with reasonable management will be given the first opportunity to purchase the improved heifers. Some 20 hectares of the breeding ranch will be set aside for rainfed fodder production. Doliclos lab as well as Cinchros

ciliaris and seratro will be grown and fed during the dry season. Training will be an essential part of the project; extension workers as well as the farmers will be exposed to dairy management practices.

In Mozambique, two farms will be selected to be the breeding units. Each will have about 200 indigenous cows with 10 Friesian bulls to produce F1 cross-breds. Artificial insemination may also be used. Males will be reared in the farm up to about 2.5 years and then sold as draught animals. Females will be crossed with Friesian bulls and after positive pregnancy at three months, they will be sold to smallholder farmers. Also, all the farmers involved in this project will follow a 15-day training course on nutrition, milking, and milk conservation and processing.

In Zimbabwe, the first project site will be at Domboshwa Training Centre Farm. The present breeding herd consists of approximately 150 females, about 2/3 are of the Mashona breed and the rest are of the Nkone breed. The heifers will be put to Friesian bulls to generate F1 crosses, some of which will be sold prospective smallholder farmers. It is also planned to improve the grazing on about 200 hectares by using Katambora Rhodes grass and the pasture-legumes Siratro and Stylo. The pasture development programme will be phased out over a four year period, establishing pasture and reinforcing veld at the rate of 50 hectares per year. Demonstration and training will be part of this project. This will include the conservation of forage for dry season feeding as well as milking techniques.

STATUS

This is a new project seeking financial support.

2.7.1 REGIONAL TRAINING CENTRE IN RANGE AND RANCH
MANAGEMENT - TANZANIA

Estimated Costs

Total : US\$2.80m
Foreign: US\$2.40m
Local : US\$0.40m

Financing Gap: US\$2.40m

Executing Agency:

Funding Secured

Foreign: NIL
Local : US\$0.4m (TAN)

Start:

Duration: 5 years.

OBJECTIVES

The long-term objectives are:

- i) to alleviate the shortage of technicians currently experienced in the region;
- ii) to attain the required levels of skills for range resource management and utilization; and
- iii) to disseminate the knowledge acquired to rural population.

The short-term objectives are:

- i) to extend the existing Institute at Morogoro in terms of buildings, manpower and other logistics in order to accommodate its expanded mandate; and
- ii) to train more middle-level technicians from SADCC countries.

DESCRIPTION

Following the persistent drought in a number of SADCC countries, the grazing potential/capacity of the rangelands has been drastically reduced both in commercial ranches and communal areas. This has been exacerbated by the fact that the lot of the peasants have low knowledge on rangeland management. There is considerable evidence to suggest that the productivity of the range is declining, and will continue to do so for a considerable length of time. It will take years of careful use of the range to bring back the grazing to its normal capacity. This calls for an increase in knowledgeable staff in range and ranch

management, especially those at the middle level, of the extension services. The centre would therefore conduct courses for in-service personnel in this discipline from both the public and private sector.

The courses would involve both theory and field practicals to acquaint the students with the real situation. Field trips to a number of SADCC countries will also be undertaken. In order to accommodate extra students and staff, the existing centre will be expanded by building new staff houses and students dormitories, renovation of existing buildings, by purchasing of extra kitchenware, field gear and by expanding the library.

STATUS Funding sought.

2.9.3 TRAINING OF LABORATORY TECHNICIANS FOR THE MAINTENANCE AND REPAIR OF SCIENTIFIC AND TECHNICAL EQUIPMENT IN VETERINARY LABORATORIES

Estimated Costs

Total : US\$118m
Foreign: US\$118m
Local : NIL

Financing Gap: US\$118m

Executing Agency:

Funding Secured:

Foreign: NIL
Local : NIL

Start: 1990

Duration: 5 years

OBJECTIVES

- i) To train technicians in the field of mechanics and electronics to be assigned to national laboratories;
- ii) To organize and develop a maintenance and repair workshop for training at the SADCC Animal Disease Reference Laboratory in Harare, Zimbabwe;
- iii) To establish and organise store for maintenance material, tools and spare parts for the equipment utilized by the Veterinary Laboratories in the SADCC member States; and
- iv) Assist in the procurement of new equipment when necessary.

DESCRIPTION

A central training and repair workshop will be established in Harare, Zimbabwe, where appropriate staff from SADCC countries will receive training in repair and maintenance of freeze-drying and low temperature and electronic equipment; ordering and storage of spare parts and establishment of national repair shops. Two experts, mechanical and electronic engineers or technicians, will be attached to the centre. The experts will regularly visit the laboratories in the region, checking existing equipment, assisting with the installation of new equipment and advising on the planning and establishment of suitable work shops.

STATUS

A fact-finding mission to include Swiss and SADCC officials has been proposed to visit SADCC countries. Its Terms of Reference are being negotiated between the two parties and it is anticipated that the mission will commence in September, 1989. Funding sought.

2.9.4 ARTIFICIAL INSEMINATION SERVICESEstimated Costs

Total : US\$6.90m
 Foreign: US\$3.40m
 Local : US\$3.50m

Financing Gap: US\$3.40m

Executing Agency: SADCC

Funding Secured

Foreign: NIL
 Local : US\$3.50m (SADCC)

Start: 1989

Duration: 5 years

OBJECTIVES

- i) To establish a Regional Artificial Insemination Centre for the production and distribution of semen to SADCC member States.
- ii) To rehabilitate/consolidate SADCC member States national A.I. Schemes.
- iii) To improve the productivity of existing dairy and beef cattle through rapid genetic improvement, thereby:
 - (a) improving the nutritional standards among the smallholder farming community through increased supply of milk;

- (b) increase the income and thus the level of living of, particularly, the small scale farmer; and
- (c) reduce foreign exchange expenditure on import of livestock products, and consequently contribute substantially to the overall economy of the SADCC countries.

iv) To combat/control reproductive diseases.

DESCRIPTION

The Regional Artificial Insemination Centre will be established in Harare, Zimbabwe, and will be run jointly by SADCC and the Animal Breeders Company Ltd of Harare. In order for the Centre to meet the demands of SADCC, the quarantine area will be expanded so as to accommodate more bulls; the laboratory facilities will be increased, while initially some extra genetic material will be imported, to ensure that bulls to be used at the centre are of high quality. While the current school facility is adequate, additional training aids, e.g. video and TV monitors, will be required to upgrade the course.

In the participating countries - i.e. Botswana, Mozambique, Swaziland, Tanzania and Zimbabwe, the national artificial insemination schemes will be rehabilitated by provision of transport facilities, re-building of infrastructure, supply of laboratory and field equipment and training of staff.

STATUS

This is a project of high priority to the region. Funding sought.

2.9.6 SUPPORT FOR COOPERATIVE PRODUCTION OF SMALL STOCK

Estimated Costs

Total : US\$1.83m
Foreign : US\$1.21m
Local : US\$0.62m

Financing Gap: US\$1.21m

Executing Agency: SADCC

Funding Secured

Foreign: NIL
Local : US\$0.62m (BOT, ZAMB, ZW)

Start: 1990

Duration: 5 years

OBJECTIVES

The long-term objectives are:

- i) to increase the size and meat potential of local sheep, goats and pigs by suitable cross-breeding to a degree which can be sustainable in the local ecological conditions;
- ii) to improve the standard of traditional animal husbandry management practices; and
- iii) to improve the standard of living of the rural population.

The short-term objectives are:

- i) to establish small stock (sheep, goats and pigs) cross-breeding units for smallholder farmers;
- ii) to assist in the setting up of smallstock raising units on a cooperative or individual basis; and
- iii) to establish marketing systems for livestock and their products from the farmers.

DESCRIPTION

In Botswana, the project seeks to establish a pig processing complex consisting of a chilled room, processing facilities, a retail outlet and an office. It will also need transport for the collection and distribution of pig products to individuals and butchers. The whole complex will be managed by pig production management association, with some advice from the Ministry of Agriculture.

In Zambia, seven sheep and goat multiplication centres will initially be established in Southern Province (2), Eastern Province (2), Luapula (2) and Lusaka Province (1). Offspring from these centres will be distributed to smallholders after these farmers have been given some training in the management of the stock. The establishment of the centres will be preceded by a comprehensive survey on goat and sheep development constraints in the rural areas.

In Zimbabwe, interested groups will be organized to embark on the project. For the goat production component, 100 indigenous does will be run with three selected billies. Progeny will be sold at 18 months to butchers. The project entails the purchase of 100 breeding does, equipment, drugs and other essentials during the first 18 months. Revenue realised from the sale of progeny will be used to sustain the project in subsequent years. As for the pig component, there will be building of pig pens, purchase of equipment and breeding stock, purchase of medicine and feeds for the year of operation. In subsequent years, the cooperatives are expected to pay for all the variable inputs from profits generated in the first year.

Training of producers in the management of small stock will feature in the project, as a way of overcoming management problems. And to train the producers effectively, there is a need to train trainers in various aspects of small stock management.

STATUS This is a new project, seeking funds.

Project	Project Title	Estimated Cost US\$ Million		Local	Funding Secured & Source US\$ Million	Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign					
LIVESTOCK PRODUCTION AND ANIMAL DISEASE CONTROL								
2.0.3	Regional ECF & Heartwater Vaccine Production and Immunisation.	12.25	9.75	2.50	2.50 (SADCC) 1.30 (NET) 4.00 (USA)	-	4.45	Expansion of Laboratory & Heartwater component underway.
2.0.5	Training of Animal Health Auxilliary Personnel Region	0.11	0.11	-	0.11 (SWE)	-	-	Third course started in July 1989 in Tanzania
2.0.7	Production and Distribution of Pasture Seeds and Legumes - Study	0.18	0.18	-	-	-	0.18	Funding sought
2.1.1	Veterinary Assistance to South West Angola	18.90	2.40	16.50	0.45 (UNDP/FAO) 1.00 (ITA) 16.50 (ANG)	-	0.95	Under implementation but more funds required
2.1.2	Assistance for the Establishment and Organization of the National Laboratory Angola	5.20	2.40	2.80	2.80 (ANG)	-	2.40	Funding sought
2.2.2	Regional Foot and Mouth Disease Control Phase II	34.00	15.70	18.30	18.30 (SADCC)	15.70 (EEC)	-	EEC/SADCC mission to finalise document starts Sept. 1989.
2.2.3	Regional Training Centre for Meat Inspection and Meat Technology - Phase II	4.80	4.70	0.10	0.10 (BOT)	-	4.70	Phase I ended in March, 1989 Funding sought for phase II.
2.2.4	Strengthening of Dairy Heifer Multiplication Units	1.55	1.10	0.45	0.45 (BOT/MOZ/ZIM)	-	1.10	New project, seeking funding
2.7.1	Regional Training Centre in Range & Ranch Management - Tanzania	2.80	2.40	0.40	0.40 (TAN)	-	2.40	Funding sought.
2.8.1	Regional Tsetse & Trypanosomiasis Training Centre - Zambia	2.17	2.14	0.03	0.29 (CAN) 1.00 (NOR) 0.85 (UNDP) 0.03 (ZAM)	-	-	On-going.
2.9.1	Animal Disease Reference Laboratory	(2.50)	(2.50)	-	(2.50) (DEN)	-	-	Under review.
2.9.2	Regional Tsetse and Trypanosomiasis Control	19.80	19.80	-	19.80 (EEC)	-	-	On-going Evaluation Report with member States.
2.9.3	Training of Laboratory Technicians for the Maintenance of Scientific and Technical Equipment in Veterinary Laboratories	1.80	1.80	-	-	-	1.80	TCR for SWISS/SADCC fact-finding mission being drawn-up. Mission expected to start September 1989.

1. EXECUTIVE SUMMARY

1.1 Fisheries

- 1.1.1 The Sub-Sector has twelve approved projects. Ten of these have received funding, and are at various stages of implementation; and efforts are being made to raise resources for the implementation of the other two.
- 1.1.2 The two regional studies funded by EEC, Project 4.0.1 Regional Fish Production, Processing and Marketing Survey; and Project no. 4.0.2 Identification of Production and Commercialisation of Fishing and Fish Processing Materials and Equipment, have been completed. Four projects and several project ideas have emerged out of these studies.
- 1.1.3 A Seminar on "Needs and Priorities for Marine Fisheries Development" took place in Luanda, Angola in May, 1989. A report on the proceedings of the Seminar and an action programme on the development of Marine Fisheries are under preparation. Four project proposals emerged out of the Seminar and are being developed.
- 1.1.4 Three new projects: Development of Aquaculture (4.0.7); Provision of Extension Services (4.0.8) and Support of Fisheries Development Planning (4.4.4) have been approved.
- 1.1.5 Under the Nordic/SADCC Initiative, an agreement has been signed between ICEIDA and Malawi, for ICEIDA's support to the Fisheries Coordinating Unit.

1.2 Forestry

- 1.2.1 The Sub-Sector has 19 approved projects, of which nine are under implementation; and four have received funding pledges, and are awaiting implementation. Efforts to mobilise resources for the other projects are continuing.
- 1.2.2 The Italian Government has agreed to meet the additional costs arising out of inflation, depreciation of the US Dollar against the Italian Lira, and the decision by FAO to make the project a turn-key project. An advisory Board, comprising two representatives from each member State, has been established to oversee the implementation of the project.

Measures have been agreed with FAO and Italy to guarantee effective SADCC control and direction of the project.

- 1.2.3 Several workshops have been held to identify forestry priorities in the region, to assess the role of forestry extension in rural development, discuss the problems of indigenous forest management, and determine training needs for forestry officials.

1.3 Wildlife

- 1.3.1 The Sub-Sector has 15 approved projects, five of which are partly funded, and under implementation, and the rest awaiting funding for implementation.
- 1.3.2 Two new projects, 6.0.16: Regional Development of Community-Based Management and Utilisation of Wildlife Resources in Rural Areas; and 6.1.1: Rehabilitation of KISSAMA National Park, to be developed in conjunction with the Tourism Sector were approved by the Ministers of Agriculture and Natural Resources in Lusaka in June, 1989.

2. REVIEW OF THE REGIONAL SITUATION

2.1 Fisheries

- 2.1.1 The SADCC Region is endowed with abundant and diverse fish resources. Three of the member countries, Angola, Mozambique and Tanzania, produce about half a million metric tonnes of fish annually. The potential is much greater than this yield. In addition to these marine resources, the Region has about 900 000 square kilometers of inland water surface, such as Lakes, rivers, swamps and man made water reservoirs from which about 400 000 metric tonnes of fish are harvested annually. Even in this area, the potential is much higher than the present output.
- 2.1.2 Because of its relatively low price, fish constitutes a major source of animal protein, particularly in the diet of rural population. However, the rapid population growth, in the region in relation to the production rate of the fish resource, is causing grave concern that fish production will not keep pace with population increases. Should the demand for Fish continue to grow at the present rate, then an additional production of 550 000 metric tonnes of fish per annum will be required to meet the demand by the year 2000. It is, therefore, essential that the

region increases fish production in order to meet the ever growing demand for fish. However, it will also be essential to ensure that the tapping of this resource to meet the demand also guarantees sustainability of this resource. To ensure that the resource is utilised on sustainable basis, it will be necessary to introduce fish technologies capable of monitoring carefully fish stock for sustainability and environmental effects, and also of developing better processing and marketing methods in order to reduce post-harvest losses and ensure better distribution of fish products from coastal, river and Lake production areas, to deficit inland consumption areas.

- 2.1.3 Another important area, which could contribute greatly towards meeting demand for fish is Aquaculture. Although aquaculture is still in its early stages of development in the region, it offers great scope for increased fish production. Aquaculture also has a viable possibility for integration with various rural land use systems, which would, in turn, result in increased overall productivity of these systems.

Considering that the fisheries sector in the region is generally labour intensive, its development could create employment opportunities, particularly in low income communities. The sector also has great potential for earning foreign exchange for the region. The development of the fisheries sector has, therefore, a socio-economic importance for the overall development of the region, apart from the nutritional aspect.

2.2 Forestry

- 2.2.1 The natural vegetation of the SADCC countries is predominantly open woodland, relatively dry savanna and dry wooded steppes. Sixty-seven percent (67%) of the total area is made up of woody vegetation, of which 41% consists of open and closed forests and only 9% of the total woody area is made up of relatively productive forests. The unproductive forests, classified in terms of low level of wood supply for commercial purposes, accounts for 30% of the total woody area; with the remaining 15% of the woody area being shrubland and about 5% fallow. The remaining 33% of the total area is made up of water, mountains and deserts.
- 2.2.2 Forest plantations have been established largely on grasslands, higher elevation and moist locations and comprise 610 000 ha., of which 73% are industrial plantations; and about 23% fuelwood plantations.

- 2.2.3 Because commercially productive natural forests are quite limited, considerable industrial output comes from portions of natural woodland areas and plantations. Total forest harvest per annum is in the order of 83 million cubic metres of fuelwood, and 7.7 million cubic metres of industrial roundwood (sawlogs, pulpwood, pit props, poles and posts).
- 2.2.4 Output of processed forest products in the region is not substantial, accounting for only 7% of Africa's sawnwood production, 9% of the panels, 12% of the wood pulp and only 4% of the paper and paper board. Two-thirds of the paper consumed in the region is imported.
- 2.2.5 Wood supplies 70% of the energy consumed in the region. In Malawi and Tanzania, wood supplies about 90% of the energy consumed. Sustainable supply of fuelwood is, therefore, critical to millions of rural households. Per capita fuelwood consumption in the region is amongst the highest in the world. For the bulk of the rural population, wood is the most affordable household energy source.
- 2.2.6 The region is more than self-sufficient in industrial wood products. With the exception of two-thirds of paper consumption, sawn wood and wood pulp which is imported, the region has a substantial export balance for sawn wood products. However, some member States are still importers of forest products.
- 2.2.7 Generally there is a great potential for forest industry development, and intra-regional trade in forest products from the region's own forest resources.
- 2.2.8 Forest authorities and industrial enterprises employ some thirty thousand persons, excluding the labour engaged in commercial fuelwood, charcoal operations and in activities related to the auto-consumption of households.
- 2.2.9 Annual investment opportunities in plantation establishment and in industry rehabilitation, improvement and expansion could be in excess of US\$100 million.
- 2.2.10 SADCC has, in recent years, given high priority to the development of Forestry, and to the serious issues of fuelwood supply and environmental degradation. Although the results have been significant, economic, environmental and political issues, especially bandit activity, have caused a deterioration in or slowed

down, forest industry development in some member States.

2.3 Wildlife

- 2.3.1 Wildlife of the SADCC Region is of exceptional diversity. Of Africa's 84 species of the larger herbivores, more than half occur in the region; some of them in spectacular numbers, and others in less conspicuous populations. Many of these species have direct economic value, others have scientific, medicinal or ritual significance. The arid Savanna zone, in particular, contains important populations of game animals.
- 2.3.2 Through evolution, these have become particularly well adapted to the arid and often agriculturally marginal environment. They have traditionally provided the rural population with meat, skins and other raw materials. As agricultural development has progressed, wild animal populations have come more and more into conflict with man's endeavour.
- 2.3.3 It is now being recognised that the controlled and sustainable utilisation of the wildlife resource is a desirable and feasible alternative form of land use and that it would be economically beneficial to integrate it into agricultural production systems. Further, it is also accepted that controlled and sustained development and utilisation of wildlife would contribute to the maintenance of ecological balance and long-term resource conservation.
- 2.3.4 The greater part of the semi-arid savanna woodlands of Angola, Mozambique, Tanzania, Zambia and Zimbabwe; and the arid thorn bush steppe of Botswana, still support significant game populations. These provide the some of the animal protein for the nutrition of the rural human population, through subsistence hunting.
- 2.3.5 As increased demand for wildlife products leads to high prices, the original subsistence hunting is being replaced by unlawful and commercialised poaching for monetary gain. Poaching has, therefore, now become one of the major headaches of the region, entailing wanton slaughter of rare species such as the rhinoceros, elephants, leopards and lions; with poachers using very sophisticated weapons. Human life has also been lost in anti-poaching operations.
- 2.3.6 Unless the wildlife resource is subjected to control and sustainable forms of utilisation, it is likely to

be destroyed within the next few decades. This will deprive the region of one of its most productive natural resources. There is, therefore, an absolute need to support anti-poaching programmes and projects.

- 2.3.7 Apart from its importance for nutrition, wildlife is the backbone of the region's tourist industry, which also generates important incomes both in local and foreign currency for the region. Almost 15% of the region's land surface is set aside as National Parks or game reserves. Wildlife based tourism is of particular economic importance to the region. The area set aside for this purpose by member States is as follows: Botswana, 37%; Malawi, 11.3%; Tanzania, 28.4%; Zambia, 30%; and Zimbabwe, 12.9%; of total land.
- 2.3.8 Many of the conservation areas of the region, like the Okavango Delta in Botswana; Lake Malawi/Nyassa in Malawi and Tanzania; the Gorongosa Area in Mozambique; the Serengeti Steppe and Ngorongoro Crater in Tanzania; the Luangwa Valley in Zambia; and Whange in Zimbabwe, are not only of economic importance in terms of tourism, but also have great scientific and educational value for the entire international community.
- 2.3.9 The Sector has, therefore, developed programmes and projects aimed at taking an inventory of the region's wildlife resource, and developing better methods of utilisation of the resource.

3. PROGRAMME REVIEW

3.1 Fisheries

- 3.1.1 The policy framework and objectives for the development of Fisheries in the SADCC Region may be summed up as follows:
- (a) Fish is recognised as a natural resource that has great importance for the production of protein food;
 - (b) The supporting water systems have significant environmental functions which shall be considered in the management of the fish resource;
 - (c) Management and utilisation of the fish resource aim at maximising sustainable yields from natural waters with a view to promoting self-sufficiency in the supply of fish for the nutrition of the people of the region.

(d) Self-sufficiency in fish production will be attained by:-

- development of marine fisheries;
- increase of the productivity of inland fisheries by improvement of fishing techniques;
- integration of aquaculture in rural development;
- utilisation of under-exploited fish species;
- improvement of distribution and marketing of fish and fish products within the region.

(e) Fisheries industries will be developed and expanded wherever opportunities exist for the processing of fish and by-catches into fish products for local export demands.

(f) Research into fish biology and ecology will be promoted as an important pre-requisite for fisheries development within the region.

3.1.2 SADCC's fisheries development programme, therefore, generally aims at optimum and sustainable exploitation of the great potential of both marine and inland fisheries, and thus at making a significant contribution to the overall socio-economic development of the region.

3.1.3 A number of key projects, which are basic to the development of fisheries in the region have secured support and are now at various stages of implementation. These include Joint Research on Pelagic Fisheries Resources of Lake Malawi/Nyasa, Fisheries Research on Lake Kariba, a Regional Survey of Fish Production, Processing and Marketing as well as the Production and Commercialisation of Fishing and Fish Processing Materials and Equipment, Regional Fisheries Training Programme, Fisheries Investigations in Botswana and Integrated Fish - Cum - Duck Farming Development in Lesotho. Negotiations are underway for the funding of two more projects namely, Catch Assessment study in Lake Tanganyika and Pilot Integrated Fish/Pig Farming Development and Research Project at Kasinthula, Malawi.

3.1.4 Three new projects have been approved by the Ministers of Agriculture and Natural Resources at a meeting held in Lusaka, in June, 1989; viz: Development of Aquaculture (4.0.7); Provision of Extension Services (4.0.8) and Support to Fisheries Development Planning (4.4.4).

3.2 Forestry

3.2.1 The framework and the objectives for the development of forestry in the SADCC Region have been analysed and are presented in SADCC's Natural Resources Policy and Development Strategy. These are as follows:

- (a) Forests are recognised as a natural resource that has great productive value as well as important environmental functions for water, soil and wildlife conservation and for social and recreational activities. Management of Forestland shall be reared to these different functions, giving always consideration to protecting it as one of man's most important environments;
- (b) Management and use of the forest resources aim at maximizing productivity with a view to promoting regional self-sufficiency in the supplies of all forest and wood products to households, commerce and industry;
- (c) Production of wood shall be increased by the establishment of more plantations and woodlots which will be subjected to protection; control and sustained utilisation for domestic and industrial purposes;
- (d) Trade in forest products shall be developed and promoted within the region to reduce dependence on imports;
- (e) Public awareness of the importance of forestry to society in its broadest sense shall be improved through extension, training and educational programmes and publicity campaigns;
- (f) Forestry research capabilities shall be enhanced as an important pre-requisite for environmental management of the forest resources and for the development and introduction of improved forestry technologies within the region.

3.2.2 SADCC's Programme of Action on Forestry is being developed in this framework. In collaboration with the Energy Sector, the Sector aims particularly at increased production of fuelwood as the region's most important source of energy. To this end, efforts were made during 1988/89 to develop Community Forestry and Village Fuelwood Projects and Plantations, in addition to Urban Fuelwood Projects already under implementation. A project to determine appropriate tree species for fuelwood production in dry zones and high altitude is also being developed.

3.2.3 A number of approved projects are either under implementation or have been reviewed and reformulated to make them bankable, to address specific concerns of the member States. These projects include: Improvement and Strengthening of Forestry Colleges; the establishment of a Forest Industries Training Centre; Documentation and Information in Forestry; and a Regional Forestry Inventory.

3.2.4 The Italian Government has agreed to meet the additional costs arising out of inflation, depreciation of the US Dollar against the Italian Lira, and the decision by FAO to make the project a turn-key project. An advisory Board, comprising two representatives from each member State, has been established to oversee the implementation of the project.

Measures have been agreed with FAO and Italy to guarantee effective SADCC control and direction of the project.

3.2.5 Other important projects, which integrate forestry with other land use and conservation needs, such as Soil Erosion Control and Reforestation at Nacala, Optimal Management of Watershed Areas, Agroforestry in Arable and Pastoral Farming, Management of Indigenous Forests, Development of Beekeeping and Silviculture, and Timber Processing in Rural Areas, were reviewed and elaborated for funding.

3.3 Wildlife

3.3.1 SADCC's strategy on the development of Wildlife Sector is based on the following important factors:

- (a) Wildlife is a complex natural resource that has positive as well as negative effects in relation to human needs, and requires to be managed in a scientific manner for the benefit of the people of the region;

- (b) Management of wildlife encompasses conservation, utilisation, and control of activities aimed at providing sustained utilisation, and benefits such as food, hides and other wildlife products; creation of employment opportunities in low income rural areas; ensuring optimum productivity of agriculturally marginal lands, and enhancement of environmental stability;
- (c) Conservation of wildlife shall also be effected by setting aside protected areas to preserve selected samples of the region's ecosystems, to protect areas of aesthetic beauty and special interest, and preserve populations of endangered species etc.; and
- (d) Research into wildlife biology and ecology shall be promoted as an important pre-requisite for management and sustainable utilisation of the wildlife resource.

3.3.2 Following the adoption of the SADCC Natural Resources and the Environment Policies and Development Strategy, the Wildlife Sector has gained increased recognition by both member States and cooperating partners, as an important area in the overall economic development of the region.

3.3.3 The ecological inter-relationships between different natural resources, and the need for their long term conservation and sustainable utilisation are also now fully appreciated and understood.

3.3.4 Among the priorities of the Sector is the generation of knowledge and understanding of the potential of the wildlife resources as a basis for meaningful economic development. In this regard, specific initiatives have been taken to develop programmes and projects which will enable the region to optimise the utilisation of its wildlife resources. A major highlight in this respect is the approval of a regional project on the development of Community-Based Management and Utilisation of Wildlife Resources in Rural Areas, involving initially three member States; Botswana, Zambia and Zimbabwe, and funded by the USAID. Implementation of this project is expected to commence in September, 1989. Another new project, Rehabilitation of Kissoma National Park, Angola, was approved.

3.3.5 The Sector is also giving priority to manpower training and development; law enforcement and assessment of wildlife on the environment.

4. CURRENT STATUS OF PROJECTS

4.1 Fisheries

Project 4.0.1: Regional Fish Production, Processing and Marketing Survey

The project is aimed at an overall assessment of Fish production, processing and marketing methods in the region with a view to developing specific follow-up bankable projects. A survey, which was funded by the EEC has been completed and a number of new projects and project ideas have been developed.

Project 4.0.2: Identification of Production and Commercialisation of Fishing and Fish Processing Materials and Equipment

The objective of the project is to assess existing secondary fisheries industries, the artisanal production of fishing gear in individual SADCC member States, in relation to regional requirements, and the import of fishing and fish production equipment and materials. The project will complement project No. 4.0.1 in identifying projects which have potential for promotion of secondary fisheries industries and regional commercialisation of fishing gear. The survey, jointly funded with project No. 4.0.1, at a cost of US\$300 000, has been completed and a number of new project proposals and ideas have been developed.

Project 4.0.3: Support to SADCC Coordination of Fisheries, Forestry and Wildlife

This is a technical assistance project to the Ministry of Forestry and Natural Resources in Malawi, in order to enable it to discharge its regional coordination responsibility effectively. The project is to cover the costs of technical assistance experts, consultancies, workshops, procurement of equipment, etc; and is supported by EEC and Iceland. It now includes projects 4.0.4 (USAID); 4.4.2 (France); 5.0.1 (Canada); 5.4.7 (Canada) and 6.0.2 (EEC). Programmes with the USA and France have been completed, and part of their activities are being implemented with support from Iceland.

Project 4.0.5: Regional Fisheries Training Programme

The project aims at the promotion of training in the different sub-sectors at various levels. A fact finding consultancy mission, financed under project 4.0.3, has been undertaken to investigate training needs and priorities, and to produce a project document. The document is now available and describes in detail the required regional training programme, which is estimated to cost US\$5.95 million. NORAD has pledged to support the project, and has set aside NOK 1 000 000 (US\$158 000) for the preparatory phase, which is expected to commence in August 1989.

Project 4.0.6: Regional Fisheries Documentation and Information System

The project aims at the establishment of a regional documentation and information system for fisheries, which will serve to collect, compile and disseminate information on fisheries and related fields, in the region. A fact finding consultancy mission, financed under project 4.0.3, was carried out to investigate and establish the status of fisheries documentation at both national and regional levels. The consultancy, which has been completed, has confirmed what requires to be done to establish the regional documentation and information system at an estimated cost of US\$7.26 million. The report was considered in 1987, in Malawi, by member States who approved the establishment of a regional centre, with components for the strengthening of national centres. The national centres have not been funded.

Project 4.0.7: Development of Aquaculture

The main objective of the project is to assist member States to increase farmed fish production in areas which are currently unable to engage in fish farming, in order to increase the income and protein in the diet of rural communities, generate and increase employment in the region.

The project has four components: Development of Aquaculture in Angola; Fish Farming in Cool Water Areas; Aquaculture for Local Community Development Programme, and Regional Trout Management.

Under this project, national fish farming staff will be trained to broaden their skills and experience.

The project will establish an aquaculture centre in Angola, for support to the planned aquaculture development.

It will also select suitable varieties of marketable fish be capable of good growth rates in temperate water areas, and demonstrate suitable technologies for their propagation and culture in small rural ponds.

The total cost of the project is estimated at US\$13.858 million. So far only the Aquaculture for Local Communities component has secured US\$1 186 500 from Sweden.

Project 4.0.8: Provision of Extension Services

The project aims at improving:

- (a) public awareness of the potential and importance of fisheries as a development resources; and
- (b) the effectiveness of the national extension services, including production of technical extension messages.

The project involves the development and production of new extension messages and their transfer to the fishing industry.

Project 4.2.1: Fisheries Investigation in Botswana

The objective of the project is to assess the fisheries potential of Botswana with a view to formulating a national development plan for the country's relatively un-tapped fisheries resources. It is funded by Norway and Denmark, and is presently being implemented. Implementation involves boat building, fish processing and marketing, development of fishing-gear technology and training.

Project 4.3.1: Integrated Fish-Cum-Duck Farming Development in Lesotho

The project aims at increasing fish production through integration of fish farming with duck husbandry. It is funded by FAO and its first phase has been completed. The second phase of the project is under implementation, with financing and technical support from the FAO.

Project 4.4.1: Joint Research of Pelagic Fisheries Resources of Lake Malawi/Nyasa

The project is aimed at carrying out research on off-shore fish stocks in Lake Malawi/Nyasa as a basis for their improved sustainable exploitation. A feasibility study for this project has been carried out with assistance from the UK. Letters of agreement have been signed by the three member States involved in this project, for implementation of the required research activity; and premises for the

headquarters of the project have been acquired. The implementation of the research work is awaiting the arrival of the research vessel. The boat is under construction, and is due to be delivered by March 1990.

Project 4.4.3: Pilot Integrated Fish/Pig Farming Development and Research Project at Kasinthula, Malawi

The project aims at increasing fish production by integrating fish farming with pig and duck husbandry. A feasibility study has been carried out and completed. A project document has been produced, and discussed by member States in 1985 in Malawi. The pilot research project which was approved by the member States, will start as soon as funding is secured.

Project 4.4.4: Support for Fisheries Development Planning

The objective of the project is to improve fisheries development planning capabilities in member States. The cost of the project is estimated at US\$4.09 million. Funding is being sought.

Project 4.7.1: Catch Assessment Study in Lake Tanganyika

The project is intended to assist in establishing a long term monitoring system on Lake Tanganyika, which will highlight the effects of various fishing methods on fish stocks, and facilitate joint management and exploitation of the fish resource. Norway has pledged support for the project, and is presently studying with the Sector Coordinator, the possible modalities of implementation. The foreign cost of the project is estimated at US\$1.076 million.

Project 4.8.1: Lake Kariba Fisheries Research and Development

The project aims at carrying out multi-disciplinary research into various aspects of fisheries on Lake Kariba, with a view to recommending the most appropriate management of the fish resource for its sustainable utilisation. It is funded by Norway and Denmark, and is under implementation.

4.2 Forestry

Project 5.0.2: Establishment of a Regional Herbarium

This project, the cost of which is estimated at US\$1.7 million, is aimed at collecting information on herbaria and botanical collections in the SADCC region, and identifying for conservation, endangered species; with a view to

establishing a regional herbarium. The project will be reformulated with new terms of reference, as soon as the forest specialist arrives in Malawi in September 1989.

Project 5.0.3: Urban Fuelwood Project

This project has four components: Lesotho, Malawi, Mozambique and Tanzania. It is intended to supply fuelwood to some urban centres in the four countries. At present only the Malawi component is receiving financial support from Norway, and is under implementation. Funding is being sought for other components.

Project 5.0.5: Regional Tree Seed Centre

The objective of this project is to identify problems in the collation of information, and the collection and storage of seeds for specific regions.

On the basis of this information, solutions would be identified and a work programme developed. A feasibility study on the establishment and/or strengthening of national tree seed centres, funded by CIDA has been completed, and reviewed. A follow-up mission was fielded by the Sector Coordinator comprising a Canadian consultant, between April and June, 1989 to identify particular needs of each member State. A report is expected in September 1989.

IDRC of Canada has provided US\$250 000 for the regional facility in Zimbabwe.

Project 5.0.6: Dry Zone and High Altitude Fuelwood Research

The aim of the project is to help solve the problem of fuelwood availability, especially in those countries with arid, semi-arid and high altitude ecological zones. A study has been done in Lesotho, Malawi and Zimbabwe, to develop the project proposal, and to identify the appropriate trial sites. A similar study will be conducted in Mozambique in 1989. Finland has provided US\$124 000 for the project planning phase. It has been agreed that this project should be integrated into Project No. 5.0.23.

Project 5.0.8: Forest Industries Training Centre

The project is aimed at training middle level forest industries personnel (technicians and technical assistants). A site for the centre has been acquired in Mutare, Zimbabwe; and an FAO Project Coordinator as well as a saw-milling specialist have been appointed. Consultations have been held between Malawi and Zimbabwe, on behalf of SADCC, and Italy and FAO, on the costs of, implementation and

operational arrangements for, the project. The Italian company awarded the contract in April, 1987 is now at the site, and construction work has started. The Italian Government has agreed to meet the additional costs arising out of inflation, depreciation of the US Dollar against the Italian Lira, and the decision by FAO to make the project a turn-key project. An advisory Board, comprising two representatives from each member State, has been established to oversee the implementation of the project.

Measures have been agreed with FAO and Italy to guarantee effective SADCC control and direction of the project.

Project 5.0.9: Improvement and Strengthening of Forestry Colleges

The aim of this project is to improve and strengthen some of the existing forestry training colleges in the SADCC region. The project's estimated cost is US\$38 million over a 12 year period. Two workshops have been held, one in Zambia, in September 1988, involving three officials from each member State; and the other in March 1989, in Zimbabwe; and a manpower survey carried out. Finland has supported these activities at a cost of US\$342 000.

Project 5.0.11: Pilot Project on Rehabilitation of Mining Areas

The aim of this pilot project is to establish fuelwood and pole plantations to provide wood for coal mining and domestic use in Karonga, Malawi. It is hoped that the experiences from this project can be repeated in coal and other mining areas in other member States. The estimated cost of the project is US\$696 000.

Project 5.0.12: Community Forestry Development for Fuelwood Production

This project is intended to assist in the development of community forestry for fuelwood production, environmental conservation and reclamation of degraded lands in SADCC member States. Total cost of the project is estimated at US\$9.84 million. Funding is being sought.

Project 5.0.17: Optimal Management of Watershed Areas

The aim of this project is to develop experimental watersheds which could be used as a nucleus for the development and management of watersheds in general. The estimated cost of the project is US\$0.9 million.

Project 5.0.18: Edible Mushroom Farming

The aim of this project is to assess the feasibility of general cultivation and production of edible mushrooms in order to supplement the dietary in-take and income of the rural people, and also to increase the species diversity of edible mushrooms, by introducing exotic species. The estimated cost of the project is US\$247 000.

Project 5.0.20: Management of Indigenous Forests

This project which has been merged with Project 5.5.4 is intended to address the problem of management of natural forests, including forest inventory, regeneration trials, multiple land-use and forest conservation. The cost of the project is estimated at US\$1.22 million.

Project 5.0.21: Bee-keeping Development in the SADCC Region

The project is intended to assist the region in the development of the bee-keeping industry. The project will entail agricultural research, training and bees-wax production. The project cost is estimated at US\$1.76 million. Funding is being sought.

Project 5.0.22: Rural Plantation and Timber Processing in the SADCC Region

The purpose of the project is to establish and/or expand existing plantations to provide raw materials for rural sawmills, and pole and post treatment plant for the furniture and related industries for regional and export markets. The total project cost is US\$8 439 000.

Project 5.0.23: Strengthening of Forestry and Forest Products Research Institutions in the SADCC Region

The project aims at developing an institutional framework for effective research in forestry and forest products, by conducting a comprehensive review, evaluation and analysis of the current situation of forestry and forest products research institutions and programmes; in order to make recommendations on ways and means of effecting improvements in the sector. This project complements efforts arising from Project 3.0.6 of the Agricultural Research Sector which seeks to develop technologies related to sound management of woodland and savannah grasslands.

Project 5.3.1: Village Fuelwood Plantation (Lesotho)

The project is intended to assist in the harvesting and re-generation of the plantations already established under the

Lesotho Woodlot Project. Another plantation of 9 700 ha is to be established over a five year period. The total cost of the project is US\$5.4 million. The project is under implementation, with assistance from the United Kingdom, which has provided US\$2.2 million.

Project 5.3.2: Agroforestry in Arable and Pastoral Farming, Lesotho

This project is intended to assist in the improvement of soil fertility by introducing certain tree species in arable and pastoral farming areas; in order to provide stockfeed, and as shelter belts to protect arable land from desiccating winds. Funding is being sought.

Project 5.4.1: Development of Montane Forest Resources

The objective of this project is the development of the montane forest resources of Mulanje Mountain in Southern Malawi. This area has the valuable Mulanje Cedar species (Widdringtonia nofilora) distributed in an area of about 300 square kilometres. The project requires US\$4 million.

Project 5.5.1: Regional Forest Inventory

The project is intended to facilitate the provision of information and production of maps, to enable SADCC member States to monitor the rate of deforestation in the region, on a regular basis. Terms of reference have been agreed upon between the Sector Coordinator and Mozambique.

Project 5.5.2: Nacala Reforestation and Erosion Control

The project will assist in the afforestation and prevention of soil erosion in the Nacala province of Mozambique. The hill slopes are at present occupied by 5 000 families. There is a proposal in the Nacala Master Plan to move these families elsewhere. The foreign cost of the project is estimated at US\$1.4 million. Funding is being sought.

Project 5.7.1: Centre for Advanced Practical Forestry Training

The project is aimed at improving and developing facilities at Sokoine University of Agriculture and Olmotonyi Forestry College, in Tanzania in order to cater for refresher courses for foresters. The cost of the project is estimated at US\$4.1 million. Funding is being sought.

4.3 Wildlife

Project 6.0.4: Processing and Marketing of Durable Wildlife Products

The project is a feasibility study aimed at assessing the potential and actual development of new technologies for the processing and marketing of wildlife products. A survey is to be carried out, of the volume and economic importance of wildlife utilisation, the processing methods, marketing and regional trade in wildlife products; with a view to promoting the use of the wildlife resources and identifying existing constraints. The projects, costs approximately US\$85 000. The Government of Federal Republic of Germany, through the Manpower Development Sector, has provided funds for a workshop. The survey is expected to begin in November 1989, which will be followed by the workshop to discuss the findings. Two officials from each member State are expected to attend the workshop.

Project 6.0.5: Strengthening of Wildlife Colleges

The objective of the project is to strengthen and improve the performance of regional training facilities for medium level wildlife personnel. A consultancy report with detailed proposals has been received, considered and approved in May 1989 in Mbabane, Swaziland. On the basis of this report, projects 6.0.5 and 6.0.9 have been merged into one project.

Project 6.0.6: Wetlands Conservation Programme

This project is aimed at creating greater awareness for the need to conserve wetlands in the SADCC region, in terms of the international convention on Wetlands (RAMSAR). It consists of a preparatory mission to investigate the special problems of wetland conservation and development. Funding is being sought.

Project 6.0.7: Conservation Education in the SADCC Region

This project aims at increasing the acceptance by the public of protection and wise use of natural resources, particularly wildlife. The project will establish a Regional Conservation Education Unit. The project is estimated to cost US\$0.65 million. Funding is being sought.

Project 6.0.8: Infrastructure Development in Conservation Areas

The project aims at developing infrastructure in National Parks in the framework of the regional tourism development,

as identified in the SADCC Regional Tourism Demand Study. Priority regional tourism packages, into which specific infrastructural developments will be incorporated, and for which funds will then be sought, are being developed in collaboration with the Tourism Sector. Funding is being sought.

Project 6.0.10: Research and Monitoring Development

The project addresses the broad needs of National Parks and Wildlife Departments in the member States to develop their own research and management capabilities. In its original form, this project was too broad. It is therefore, being reviewed, in order to re-define it.

Project 6.0.11: Environmental Impact Assessment Workshop

The project is aimed at introducing concepts and methods which will facilitate assessment of the environmental impact of national and regional development projects, particularly with regard to the wildlife resource. Funding is being sought.

Project 6.0.12: Training on Wildlife Utilisation Techniques for Food Production

The purpose of the project is to review Wildlife as a source of food, and the development of wildlife utilisation in the rural development context. FAO, which sponsored a pan-African International Symposium on this project in October, 1987 in Zimbabwe, has provided funds (US\$0.109 million) for training, scheduled to start in September, 1989. The training of local communities will take place in Botswana, Zambia and Zimbabwe.

Project 6.0.13: Law Enforcement in Wildlife Management and Utilisation

The project is to assist in law enforcement for protection of wildlife in strategic border areas in Botswana, Malawi, Zambia and Zimbabwe, and to assist wildlife administrations with the control and monitoring of intra-regional trade in wildlife products. The project comprises consultancy services, a training element and logistical support, at an estimated cost of US\$1.8 million. Funding sought.

Project 6.0.14: Crocodile Management and Utilisation - Study

The pre-feasibility study is intended to examine the possibilities of developing crocodile farms in the region

for the production of crocodile hides, as a special export commodity. The cost of the Study is estimated at US\$100 000.

CIDA financed a Workshop on Crocodile Management in 1987 at Kariba, Zimbabwe, at a cost of US\$30 000, as a first phase of this project; resulting in the formulation and adoption of a common SADCC policy. This common policy has been presented to the Conference of Parties to Convention of International Trade in Endangered Species of Fauna and Flora (CITES), with a view to obtaining crocodile export quotas for SADCC member States, as a pre-requisite for the development of crocodile farming. CITES is compiling a report which is expected in September 1989, and is to be discussed at a CITES meeting in Sweden in October 1989.

Project 6.0.15: Coordination of Regional Tsetse Fly Eradication with Wildlife Management Programme

The objective of this project is to investigate the economic potential of wildlife in areas scheduled for tsetse fly eradication, and to determine the impact of tsetse fly control on wildlife. The cost of the initial mission from which specific land use studies may follow is estimated at US\$40 000. The project will be implemented in cooperation with the Livestock Production and Animal Disease Control Sector. Funding is being sought.

Project 6.0.16: Regional Development of Community-Based Management and Utilisation of Wildlife Resources in Rural Areas

The objective of the project is to find long-term solutions to the problems of wildlife management and utilisation in rural areas, by transferring to target communal areas, the necessary skills by designing and implementing different administrative models. The project covers Botswana, Zambia and Zimbabwe, and is estimated to cost US\$22.0 million.

Implementation is scheduled to start in 1990.

Project 6.1.1: Rehabilitation of Kissama National Park

The project aims at assisting Angola in developing the Kissama National Park for conservation of flora and fauna for tourism.

The project will entail the rehabilitation of the Park infrastructure and re-organisation of the protected area management responsibilities, training and education programmes. The estimated cost of the project is US\$ 2.288 million. New project.

Project 6.4.1: Regional Wildlife Resource Inventory

The project is aimed at compiling an inventory of wildlife resources in the region to assist wildlife administrations to determine distribution and status of wildlife species for purposes of management and sustainable utilisation. The project has two components:

- (a) development of a special regional wildlife inventory and monitoring service in Malawi through training and institutional building; and
- (b) planning and execution of wildlife resources surveys and institution of subsequent monitoring in specific selected areas of the region.

The project is estimated to cost US\$2.1 million.

Project 6.9.1: Development of Ostrich Production System in the SADCC Region

The project seeks to assess the potential for fostering the development of ostrich production systems as a source of foreign exchange, through sale of feathers, hides and meat, from semi-domesticated ostriches. The cost of establishment and operation of the Breeding and Extension Centre for an initial period of three years is estimated at US\$2 million.

Project 6.9.2: Regional Rhino Conservation Programme

The project is intended to re-inforce the efforts of the member States to conserve the Black Rhinoceros, which is a unique feature of the wildlife resources of the SADCC region, but is endangered. The number of this species has declined from an estimated 65 000 in 1970, to less than 4 000; of which more than 50% occur in Tanzania, Zambia and Zimbabwe. In other SADCC countries the species is on the verge of extinction. The project is estimated to cost US\$3.5 million.

Fisheries

4.0.5 REGIONAL FISHERIES TRAINING PROGRAMME

Estimated Costs

Total : US\$5.95m
Foreign : US\$5.95m
Local : -

Financing Gap

US\$5.95m

Executing Agency
FFWSCU

Funding Secured

Foreign
Local : -

Start : Not specified

Duration : 5 years

OBJECTIVES

The lack of adequate training opportunities is a major constraint on fisheries development. The project aims at ensuring that training facilities, in the region, are adequate to meet this need. To achieve this, it is proposed that certain selected national institutions will be strengthened to provide for regional needs as well. Specific objectives are to:

- a) strengthen such National Institutions as have been identified for inclusion in the programme;
- b) utilise, in consultation with the Regional Training Council (RTC), the SADCC fellowship programme to enable SADCC students to attend courses for which they have been selected; and
- c) establish links with institutions outside the region for the exchange of information on fisheries training.

DESCRIPTION

The programme will provide for most regional fisheries training needs, through collaboration and coordination in the utilisation of national institutions. The institutions identified may, however, need support; which the project will make available through the provision of funds for building works, equipment and staff. The project will be managed by two coordinators who will ensure that all participating countries can optimise the use of facilities offered by the

programme. The training will cover all aspects of fisheries development and management.

The following institutions have been identified:

- research training in marine fisheries- Eduardo Mondlane University, Maputo;
- research training in fresh water and aquaculture - University of Zimbabwe;
- diploma level training for development, technical and extension officers - Bunda College, Malawi;
- training in specialist subjects, e.g. capture electronics, refrigeration etc.- Fisheries Training Centre, Mbegani, Tanzania; and,
- training of fisheries assistants, extension workers and scouts - Natural Resource Training Centre, Mpwapwe.

STATUS

A fact finding consultancy mission, financed under project 4.0.4 has been undertaken to investigate training needs and priorities and a project document has been produced, indicating that funding in the sum of US\$5.95 million is required to meet regional training needs. Norad is interested in particularly in the project and has set aside NOK 1 million for preparatory phase expected to start in 1989.

4.0.6 REGIONAL FISHERIES INFORMATION & DOCUMENTATION SYSTEM

Estimated Costs

Total : US\$7.25m
Foreign : US\$6.084m
Local : US\$1.171m

Financing Gap

US\$6.084m

Executing Agency:
FFWSCU

Funding Secured

Foreign :
Local : US\$1.171m (SADCC)

Start :

Duration : 7 years

OBJECTIVES

The objectives of the project are to create and put into operation a SADCC Fisheries Documentation and Information System through:

- a) the establishment of a regional fisheries documentation and information services;
- b) the strengthening of national fisheries documentation and information services;
- c) the standardisation of the regional system in order to attain full compatibility and unification of the national and regional centres;
- d) the training of documentalists and information specialists required for the system.

DESCRIPTION

A regional fisheries documentation and information system would be composed of a Regional Fisheries Documentation Centre (the Regional Centre) and nine national fisheries documentation and information centres (National Centres). The role of the regional centre would be:

- a) gathering, storage, retrieval and dissemination of fisheries management and development information generated in the region, especially on: research programmes and projects; development projects; published results of completed research and progress reports; Fisheries management measures introduced by individual countries or groups of countries; development affecting the state of natural fish stocks both in marine and inland waters; catalogues of fisheries documentation available at the national level; national and regional bibliographies; directories; an adequately designed capture system for grey literature; and computerised databases and information retrievals systems.
- b) acting as a regional focal point for accessing, on behalf of member States, global information systems of relevance to fisheries and at the same time functioning as a regional input centre to such global databases.

STATUS

Implementation can commence once funding is secured.

Forestry

5.0.2 REGIONAL HERBARIUM AND CONSERVATION OF ENDANGERED SPECIES.

Estimated Costs :

Total US\$1.7 m

Funding Secured :

Foreign :

Local : -

Financing Gap :

US\$1.7 m

Executing Agency :

SADCC Governments

Start :

Duration :

OBJECTIVES

- To collate existing information on herbaria and botanical collections within the region;
- To organize collection of botanical material in those areas of the region which are poorly represented in herbaria;
- To identify indigenous species which are becoming endangered due to deforestation and to establish botanical reserves where their germ plasm can be conserved;
- To investigate the need for the establishment of the regional herbarium to provide a reference collection of botanical material for the Region, to conduct research and training and to assist those member states who are unable at present to maintain an adequate national herbarium.

STATUS

Funding sought.

5.0.3 URBAN FUELWOOD PROJECT

Estimated Costs :

Total : US\$14.32 m
LES Component : US\$ 0.28 m
MAL Component : US\$ 8.9 m
MOZ Component : US\$ 4.2 m
TAN Component : US\$ 0.94 m

Financing Gap :

US\$6.42 m

Funding Secured :

Foreign : US\$6.5 m (NOR)
Local : US\$1.3 m (MAL)
 : US\$0.1 m (MOZ)

Executing Agency

Each component by
respective govt.

Start :

MAL only 1986

Duration : 5 years

OBJECTIVES

The project is intended to supply fuelwood to urban centres: Blantyre and Zomba in Malawi, Beira and Nampula in Mozambique, Dar-es-Salaam in Tanzania and Leribe in Lesotho.

STATUS

Only the Malawi component has secured funding. NORAD is funding a pilot project. An agreement was signed between Malawi and Norway; and a contract concluded between Malawi and the Norwegian Executing Agency Forest and Forest Industries Development and consulting Company (FORINDECO), in October, 1986. To-date most project activities have been initiated e.g. 1,690 hectares of fuelwood and pole plantations have been established, 10,000 hectares of indigenous woodland have been identified for intensive forest management; species and provenance trials; 83 officers and 3,000 workers employed, of whom 25% are women; 59 housing units constructed; etc.

Funds are still being sought for the Lesotho, Mozambique, and Tanzania components.

5.0.5 REGIONAL TREE SEED CENTRE

Estimated Costs :

Total : US\$4.25 m
Foreign : US\$4.25 m
Local :

Financing Gap :

US\$4.00 m

Executing Agency:

ZIM Government for regional centre, member States governments for national centres.

Funding Secured :

Foreign : US\$0.25 m (IDRC)
Local :

Start :

Duration : 5 years

OBJECTIVES

The objectives of this project are to identify problems in the gathering of information and the collecting and storing of seed for specific regions and suggest solutions; to define the purpose, needs and role of a regional seed centre; and to define terms of reference and prepare a programme of work. In addition, it is envisaged that the project will at a later stage incorporate the establishment of satellite seed centres in the SADCC member States.

STATUS

A feasibility analysis on the establishment of satellite tree seed centres in the member States has been conducted, the outcome of which was positive.

Funding sought for implementation.

5.0.9 IMPROVEMENT AND STRENGTHENING OF FORESTRY COLLEGES

Estimated Costs :

Total : US\$38.342m
Foreign : US\$38.342m
Local :

Financing Gap

US\$38.00m

Executing Agency :
FFWSCU and FINNIDA

Funding Secured :

Foreign : US\$0.34m (FIN)
Local :

Start : 1989

Duration : 12 years

OBJECTIVES To strengthen and improve forestry training programmes and institutions in the SADCC region as a way of fostering manpower development in the field of Forestry.

STATUS A mission which included Finnish and SADCC experts, has visited member states to gather background information necessary to produce the project document.

A planning workshop on forestry training, which was funded by FINNIDA, took place in 1986. The workshop recommended that a Curriculum Development Committee be formed in each member state with the following responsibilities:

- curriculum development;
- curriculum implementation and continuous evaluation; and
- regional standardization of the core curriculum wherever it is possible at the technical level.

Four workshops and a manpower survey have been financed from the US\$342,000 grant provided by FINNIDA; which was used in the planning stages of the project.

The final project document has been approved. Financing sought for the project implementation.

5.0.11 A PILOT PROJECT ON REHABILITATION OF MINING AREAS

<u>Estimated Costs</u> :	<u>Financing Gap</u> :
Total : US\$0.70m	US\$0.70m
Foreign : US\$0.70m	
Local :	<u>Executing Agency</u> :
	Malawi Government
<u>Funding Secured</u> :	
Foreign :	<u>Start</u> :
Local : In Kind (MAL)	<u>Duration</u> : 5 years

OBJECTIVES To establish fuelwood and pole plantations, and preserve the existing indigenous forests for water catchment in coal mining areas.

DESCRIPTION This pilot project involves establishing and managing plantations, as well as control measures on indigenous forests in a coal mining area, as a rehabilitation and conservation measure.

STATUS Malawi has started work on forest reservation, community forestry and forestry extension.

External resources are needed for implementation of the fuelwood plantation programme.

5.0.17 **OPTIMAL MANAGEMENT OF WATERSHED AREAS, MALAWI**

Estimated Costs :

Total : US\$0.913m
Foreign : US\$0.744m
Local : US\$0.169m

Financing Gap :

US\$0.744m

Executing Agency:

Government of Malawi

Funding Secured:

Foreign :
Local : US\$0.17m (MAL)

Start :

Duration : Ten years

OBJECTIVES The objectives of this project are to develop appropriate management techniques for the optimization of outputs from forested watersheds in Malawi; to select and construct experimental watersheds for collection of data on various forest management and land use practises; and to study and evaluate physical conditions of experimental watersheds.

DESCRIPTION In order to advise government on management policy in watersheds, which has a number of shortfalls, it is necessary to obtain quantified data on the impact of the proposed changes. It is therefore proposed to initiate research projects in three small catchment areas in which various management prescriptions, or a combination of these, would be done and data properly collected, analyzed and interpreted. On the basis of the findings, a set of recommendations would then be made to the government for consideration and approval.

STATUS Implementation can commence once funding has been secured.

5.0.18 EDIBLE MUSHROOM FARMING

Estimated Costs :

Total : US\$0.247m
Foreign: US\$0.247m
Local :

Financing Gap :

US\$0.247m

Executing Agency :

SADCC member states

Funding Secured :

Foreign :
Local :

Start :

Duration :

OBJECTIVES

The objective of the project is to supplement the diet and income of rural people through mushroom cultivation; to perpetuate the existence of edible indigenous mushrooms; and increase the species diversity of edible mushrooms through the introduction of exotic species.

DESCRIPTION

The dietary importance of mushrooms and the need to have them available throughout the year is well known. The project involves investigations into ways of improving production methods and technologies in order to increase the level of mushroom production.

STATUS

Implementation can commence once funding is secured.

5.0.20 **MANAGEMENT OF INDIGENOUS FORESTS (TANZANIA AND ZIMBABWE)**

Estimated Costs:

Total : US\$1.22m
Foreign: US\$1.22m
Local :

Funding Secured:

Foreign :
Local :

Financing Gap:

US\$1.22m

Executing Agency :

Tanzania and Zimbabwe Governments

Start :

Duration : 5 years

OBJECTIVES

The objective of this project, which at present has two components, one in Tanzania (costing US\$0.260m) and one in Zimbabwe (costing US\$0.960m), is to institute proper indigenous forest management practices, including forest resource inventories, sustainable supply of wood products, regeneration trials and other research activities, multiple land use, controlled grazing and wildlife management, conservation of the natural resources and the environment.

DESCRIPTION

The work involved in the implementation of this project comprises:

- Information gathering and updating the previous inventory reports and enumeration surveys.
- Reviewing and/or re-establishing the project organisation.
- Regeneration and tending of young saplings.
- Protection and management of indigenous forest and wildlife resources.
- Purchases and operation of motor vehicles and equipment.
- Provision of buildings, water supplies and related basic services.

STATUS Implementation can commence once funding has been secured.

5.0.21 **BEE KEEPING DEVELOPMENT IN THE SADCC REGION (LESOTHO AND ZAMBIA)**

Estimated Costs :

Total : US\$1.76m
Foreign : US\$1.76m
Local :

Financing Gap :

US\$1.76m

Executing Agency

Lesotho and Zambia Governments

Funding Secured :

Foreign :
Local :

Start :
Duration : 5 years

OBJECTIVES To provide the necessary facilities for the development of the bee-keeping industry.

DESCRIPTION This project, which at present has two components, one in Lesotho (costing US\$0.140m) and one in Zambia (US\$1.620m), involves research into: bee breeding; effects of crop pesticides on bees; pollen analysis; honey storage; honey production and processing methods; traditional bark hive efficiency; etc. The project will also include technical training.

STATUS Implementation can commence once funding has been secured.

5.0.22 **RURAL PLANTATIONS AND TIMBER PROCESSING IN THE SADCC REGION (LESOTHO, TANZANIA AND ZAMBIA)**

Estimated Costs :

Total : US\$8.45m
Foreign : US\$8.45m
Local :

Financing Gap :

US\$8.45m

Executing Agency:

National Forestry Services

Funding Secured :

Foreign :
Local :

Start :

Duration : 5 years

OBJECTIVES

The project has four objectives:

- to establish and/or expand the existing planted forest resource in order to provide raw material for saw-mills, and pole and post treatment plants;
- to provide portable saw-mills, logging and back-up service facilities; and
- to provide suitable low pressure mobile CCA plants suitable for the treatment of poles and posts in rural areas.

DESCRIPTION

The implementation of this project, which at present has three components, one in Lesotho (costing US\$1.060m), one in Tanzania (costing US\$3.260m) and one in Zambia (costing US\$4.119m), principally comprises : establishment and/or operation of rural forest plantations in Lesotho, Tanzania and Zambia; establishment and management of sawmilling, pole/post treatment, and furniture manufacturing enterprises; and provision of support infrastructure and services i.e. buildings, transport, communication facilities, etc.

STATUS

Implementation can begin once funding has been secured.

5.0.23 **STRENGTHENING OF FORESTRY RESEARCH INSTITUTIONS**

Estimated Cost :

Total : US\$0.341m
Foreign : US\$0.341m

Financing Gap :

Local :

Executing Agency:
FFWSCU

Funding Secured:

Foreign : 0.341m (FIN)
Local

Start :

Duration : 5 months

OBJECTIVES

The objective of the project is to develop an institutional framework for effective management and use of research capabilities in forestry and forest products, for the improvement of forest resources.

DESCRIPTION

The project involves conducting a comprehensive review, evaluation and analysis of the current situation in forestry and forest products research institutions and programmes; identifying all existing institutions in each SADCC country; studying the structure of research organizations, research policies, priorities, programmes; dissemination and implementation of research results; identifying the types of research institutions, organizations which need improvement, strengthening or establishment; prioritize the interventions necessary.

The outcome of the survey should be a project proposal including project objectives, scope, activities, costs, and implementation arrangements.

STATUS

FINNIDA has agreed to finance part of the project. Consultations were underway to identify forestry research specialists to undertake the study. Additional funding sought.

5.3.2 **AGRO-FORESTRY IN ARABLE AND PASTORAL FARMING, LESOTHO**

Estimated Costs:

Total : US\$0.365 m
Foreign : US\$0.365 m
Local :

Funding Secured :

Foreign :
Local :

Financing Gap:

US\$0.365 m

Executing Agency :
Lesotho Government

Start :

Duration : 5 years

OBJECTIVES

Appropriate deep-rooted and nitrogen-fixing trees will be used to mitigate the effects of drought in arable and pastoral farming systems by producing nutritious stock-feed, to protect arable land from desiccating winds so as to reduce evapo-transpiration, and reduce erosion of organic content of agricultural soils to improve their water-holding capacities.

DESCRIPTION

The agro-forestry trees will be raised for direct use by farmers who are already convinced of their benefits, but initially the major effort will be to establish demonstration centres throughout the country where standard practices can be modified to local conditions. This will involve the establishment of centres, purchase of hand tools and equipment, recruitment of staff and labourers, and the raising of tree seedlings.

STATUS

Implementation would commence as soon as funds are available.

5.4.1 DEVELOPMENT OF MONTANE FOREST RESOURCES, MALAWI

Estimated Costs :

Total : US\$4 m
Foreign : US\$4 m
Local

Funding Secured :

Foreign : -
Local : -

Financing Gap :

US\$4 m

Executing Agency :

Start:

Duration : 5 years

OBJECTIVES

The objectives of this project are to:

- a) construct approximately 15 km of access road from the foot of Mulanje Mountain to the Chambe Basin for economic harvesting of forest produce;
- b) install and operate a small sawmill, with an annual log input capacity of 11,300 cubic metres, to process soft wood logs from the Chambe timber plantation and the natural forest (Mulanje Cedar);
- c) protect, manage and conserve Mulanje Mountain Forest Reserve;
- d) conduct research and scientific studies of the vegetation (particularly Mulanje Cedar and fauna of the highest mountain in Central and Southern Africa; and,
- e) provide employment to the local population.

DESCRIPTION

Mulanje Mountain covers an area of about 300 sq. km rising to an altitude of 1,800 - 2,000 metres above sea level. The highest peak is about 3,000 metres above sea level. There are some 490 ha of pine and 140 ha of cedar (Widdringtonia nodiflora). Presently the pine logs are brought down hill and trucked for 90km to a sawmill with 60% log waste. This is expensive. The mountain, if accessible, is a remarkable recreation area.

STATUS

Funding sought.

5.5.1 REGIONAL FOREST INVENTORY

Estimated Costs

Total : US\$6.1m
Foreign : US\$6.1m
Local :

Financing Gap:

US\$6.1m

Executing Agency

FFWSCU, Governments of
Mozambique, Tanzania and
Zambia

Funding Secured:

Foreign :
Local :

Start

Duration: 5 years

OBJECTIVES

The objectives of this project are:

- a) the identification and coordination of effective indigenous forest management inventory systems for the region;
- b) the provision of technical assistance, training and equipment to enable member States to meet their forest inventory needs; and
- c) to provide adequate information and maps that will enable SADCC countries to evaluate the forest resource and monitor the rate of deforestation in the region on a continuing basis.

DESCRIPTION

An appraisal of the stocking, species composition and size distribution of forest stands is the basis for planning the proper management and utilisation of existing forest resources. Most of the SADCC countries do not have sufficient information of this nature, particularly with respect to the indigenous forests resources in an efficient manner. This project aims to solve these problems.

The project will be based in Mozambique with satellite projects in Tanzania and Zambia. The project proposal highlights the need for

standardisation of methodology, as well as for the region to become self sufficient in forest inventory operations.

In addition to the main project proposal, it has been agreed to examine the possibility of undertaking a satellite imagery-based forest inventory of all SADCC member States; in order to obtain a clearer picture of the present state of the region's forest resources. A consultancy is underway, in consultation with the Energy Sector, to define such a project and to draw-up terms of reference.

STATUS Funding sought.

5.5.2 **REFORESTATION AND EROSION CONTROL AT NACALA, MOZAMBIQUE**

Estimated Costs

Total : US\$1.63m
Foreign : US\$1.42m
Local : US\$0.21m

Financing Gap

US\$ 1.42m

Executing Agency

Government of Mozambique

Funding Secured

Foreign :
Local : US\$0.21m (MOZ)

Start :

Duration : 8 years

OBJECTIVES

The objective of this project is to establish forest plantations of fast growing species in order to guarantee the supplies of ligneous biomass to the population removed from the hill slope area to the plateau around Nacala.

DESCRIPTION

The master plan for Nacala aims at removing 5,000 families from the hill slopes prone to erosion to the plateau. This number represents about 25% of the ligneous biomass demand at Nacala. The project should create conditions for maintaining the forest reserves with a view of controlling erosion and providing fuelwood. The plantation will be located in the surroundings of Nacala. At present a planting area of over 2,520 has been identified.

STATUS

Financing is sought.

5.7.1 CENTRE OF ADVANCED PRACTICAL FORESTRY TRAINING,
TANZANIA

Estimated Cost

Total : US\$4.14m
Foreign : US\$3.3m
Local : US\$0.83m

Financing Gap

US\$3.3m

Executing Agency

Sokoine University of
Agriculture

Funding Secured

Foreign :
Local : US\$0.83m (TAN)

Start

Duration : 4 years

OBJECTIVES

The project has four objectives:

- a) to attract foresters and scientists in related fields in the SADCC region to meet regularly and exchange experiences through conferences, seminars, workshops, etc;
- b) to conduct refresher courses for practising foresters as well as non-foresters;
- c) to assemble and disseminate forestry related information; and,
- d) to promote the practice of forestry by farmers and other land users.

DESCRIPTION

The faculty of Forestry of the Sokoine University of Agriculture has developed limited facilities for advanced practical forestry training at Olmotonyi campus in Arusha.

The proposed project would involve the following work:

- Erection of a conference building to accommodate up to 70 conference participants.
- Installation of communication facilities i.e. 4 direct telephone lines, telex facility.

- Purchase and installation of office equipment, secretarial, audio-visual and computing facilities.
- Construction of 200 sq.m. store and purchase of forestry equipment.
- Engagement of short-term technical support.
- Construction of staff housing.
- Building of hostel and cafeteria facilities.
- Purchase of motor vehicles (2 mini buses, and 2 cars).

STATUS Funding is sought.

Wildlife

6.0.6 **WETLANDS CONSERVATION PROGRAMME**

<u>Estimated Costs</u>		<u>Financing Gap</u>
Total	: US\$0.288m	US\$0.288m
Foreign	: US\$0.288m	
Local	: -	<u>Executing Agency</u>
		IUCN/FFWSCU
<u>Funding Secured</u>		<u>Start</u>
Foreign	: -	
Local	: -	<u>Duration</u> : 14 months

OBJECTIVES To improve the use and productivity of the SADCC region's Wetlands.

DESCRIPTION The project will:

- review the current status of the wetlands resources of the region, and in particular the use made of, and threats to them;
- identify priority actions, including research, analysis and planning required in order to counteract these threats, and achieve sustainable use of wetlands of the region;

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- integrate these actions into a strategy for the conservation and sustainable use of the wetlands;
- introduce the concept of integrated land use as a management approach which can yield sustainable benefits from wetland resources;
- in particular identify areas of cooperation between member States in the protection and utilisation of shared wetlands;
- build support among member States for the implementation of the SADCC strategy, and obtain the assistance of the international community in addressing these.

An overview of the conservation and development of the wetland resources of the region based on field investigations by a consultant will be produced. This report will provide the principal background documentation for a Regional Wetlands Conference, which will produce a Wetlands Conservation Strategy and Action Plan for the region.

STATUS IUCN has assisted the Sector Coordinator in planning and elaborating the project, which is now ready to commence as soon as funding is secured.

6.0.7 CONSERVATION EDUCATION IN THE SADCC REGION

<u>Estimated Costs</u>		<u>Financing Gap</u>
Total	: US\$0.650m	US\$0.650m
Foreign	: US\$0.650m	
Local	:	<u>Executing Agency</u>
<u>Funding Secured</u>		FFWSCU
Foreign	: -	
Local	: -	<u>Start</u> :
		<u>Duration</u> : 2 years

OBJECTIVES To increase the awareness and acceptance by the public, of protection and wise use of natural resources, particularly wildlife.

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DESCRIPTION

SADCC Policies and Strategies for the conservation and wise use of natural resources require support through programmes and measures which create environmental awareness among the people. The project will establish a Regional Conservation Education Unit:

- to advise member countries on the integration of conservation concepts in school curricula at various levels;
- to investigate the availability of audio visual material and aids already available in SADCC member countries and their possible use in others;
- to assist member countries in the development, production and use of audio visual materials teaching aids;
- to assist Wildlife Departments and institutions of member States in establishing and operating mobile education units and various types of non-formal education in selected areas.

STATUS Funding sought.

6.0.14 CROCODILE MANAGEMENT AND UTILISATION

Estimated Costs

Total : US\$0.28m
 Foreign : US\$0.28m
 Local : -

Financing Gap

US\$0.10m

Executing Agency

FFWSCU

Funding Secured

Foreign : US\$0.08m (CITES)
 Local : US\$0.03m (CAN)

Start

Duration : 6 months

OBJECTIVES

To assist in the promotion of the production and utilisation of crocodiles.

DESCRIPTION

The Project will:

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- assess the potential in different member countries for the production of crocodile hides;
- adapting legislation and institutional frame works to allow efficient and controlled utilisation;
- identifying production sites and evaluation factors inherent in utilisation, and drawing up of production plans;
- devising extension and management training programmes;
- developing marketing channels.

The project consists of a pre-feasibility phase covering most of the SADCC countries, and a feasibility phase concentrating on a few most appropriate sites. From the feasibility studies, investments in the production of crocodiles and their utilisation, are expected.

STATUS

A Workshop was held to develop a common policy on crocodile management and utilisation, as it relates to the Convention of International Trade on Endangered Species (CITES). As a result, SADCC member States were awarded individual quotas for export of crocodile skins, as a basis for development of crocodile utilisation. The studies will commence as soon as funding is secured.

6.0.15 **COORDINATION OF REGIONAL TSETSE FLY ERADICATION WITH WILDLIFE MANAGEMENT PROGRAMMES**

Estimated Costs

Total : US\$0.040m
Foreign : US\$0.040m
Local : -

Financing Gap

Executing Agency
FFWSCU

Funding Secured

Foreign : -
Local : -

Start :

Duration : 3 months

OBJECTIVES

In order to assist in the coordination of regional Tsetse Fly control with wildlife management the project aims at:

- investigating the wildlife potential in areas scheduled for tsetse fly eradication in terms of the SADCC Regional Tsetse Fly Control Programme;
- determining the impact of tsetse fly control on wildlife as one of the most important environmental elements;
- assessing the practical, controlled and sustainable utilisation of the wildlife resource in the concerned areas.

DESCRIPTION

The project consists of a fact finding consultant mission to study the areas scheduled for tsetse fly eradication, and recommend how tsetse fly control can be coordinated and harmonised with the conservation and sustained utilisation of wildlife.

STATUS

The project will be developed in cooperation with the Livestock Production and Animal Disease Control Sector. Implementation can commence once funding is secured.

6.0.16 REGIONAL DEVELOPMENT OF COMMUNITY BASED MANAGEMENT AND UTILISATION OF WILDLIFE RESOURCES IN MARGINAL AREAS

<u>Estimated Cost</u>		<u>Financing Gap</u>	
Total	: US\$22.0m	US\$112.47m	
Foreign	: US\$22.0m		
Local	: -	<u>Executing Agency</u>	
		FFWSCU and USAID	
<u>Funding Secured</u>		<u>Start</u>	: 1990
Foreign	: US\$19.53m (USA)	<u>Duration</u>	: 6 years

OBJECTIVES To develop community based management and utilisation of wildlife resources on marginal lands and increase their sustainable productivity for the direct benefit of the rural population.

DESCRIPTION The project will:

- establish different models for community based natural resources management in at least four pilot communal areas in Botswana, Zambia and Zimbabwe to demonstrate the feasibility and viability of and the approach to integrated resource management in rural areas;
- enhance Government willingness to delegate responsibility for natural resources management and control of locally generated revenue to local communities;
- increase the organisational and managerial capacity of District Natural Resources Officials to serve as conduits of information to and from local communities and central government authorities and thereby support community based management programme;
- enhance technical managerial and material assistance to selected communities who are willing to accept responsibility for sustainable utilisation of the wildlife resources in :-

- the protection of these resources;
 - the monitoring of wildlife resources;
 - the training of local personnel in skills of wildlife management and utilisation;
 - the education of the rural population in respect of the benefits which they can derive from sustainable resources use;
 - foster better understanding and of technical knowledge at the local, district, regional and national political and administrative levels of actions required and benefits to be expected from sustainable wildlife utilisation.
- The project will not attempt to address all natural resources management, but rather be limited to the wildlife resources in specific selected target areas of Botswana, Zimbabwe and Zambia. The project design anticipates, however, that the experience gained and the techniques developed will serve to expand the concept of community based natural resources management to other areas and countries throughout the SADCC Region.

The project has four major components:

- a) Community based wildlife management and utilisation;
- b) Research and planning;
- c) Conservation of the resource base;
- d) Regional communication and exchange of information.

STATUS Additional funding sought.

6.4.1 REGIONAL WILDLIFE RESOURCES INVENTORY

<u>Estimated Costs</u>		<u>Financing Gap</u>	
Total	: US\$2.1m	US\$2.1m	
Foreign	: US\$2.1m		
Local	: -	<u>Executing Agency</u>	
<u>Funding Secured</u>		FFWSCU	
Foreign	: -	<u>Start</u>	:
Local	: -	<u>Duration</u>	: 3 years

OBJECTIVES In order to ensure conservation and sustainable use of the wildlife resources, the project aims at:

- improving the capabilities of Wildlife Departments to determine the distribution and status of wildlife species, populations and communities in the national and regional context;
- carrying out wildlife resource inventories in specific areas;
- evaluating the survey data for application in land use planning and wildlife conservation and management;
- instituting standardised monitoring methods in a regional frame work.

DESCRIPTION The project comprises two components:

- (1) Development of a special wildlife inventory and monitoring service in one of the SADCC member states through training and institution building.
- (2) Planning and execution of wildlife resource surveys and the introduction of subsequent monitoring in specific areas in the Region by the Service under (1).

Within this scope, the following project activities are planned:

- Establishment of Survey Unit and general planning of work;
- Identification of specific inventory activities in collaboration with member States;
- Training of Unit personnel and compilation of data on wildlife distribution and abundance in the Regional context;
- Carrying out inventory surveys;
- Evaluation of the survey results to ascertain their national or regional application;
- Monitoring in surveyed specific areas.

Training, regional advisory work, building up and dissemination of data on wildlife species in a regional framework will be a continuous process.

STATUS Implementation can commence once funding is secured.

6.9.1 DEVELOPMENT OF OSTRICH PRODUCTION SYSTEM IN THE SADCC REGION

Estimated Cost

Total : US\$2.0m
Foreign : US\$1.26m
Local : US\$0.74m

Financing Gap

US\$1.26m

Executing Agency

ZIM Government/FFWSCU

Funding Secured

Foreign : -
Local : US\$0.74m (ZIM)

Start :

Duration : 3 years

OBJECTIVES The Project will foster the development of ostrich production in the SADCC Region as a supplementary wildlife based industry, capable of earning considerable foreign exchange.

DESCRIPTION The production of birds, feathers and meat from semi-domesticated ostriches is a well established

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industry in South Africa, which earns considerable foreign exchange, apart from its contribution to the nutrition of humans. The technical know-how and markets are carefully guarded by South Africa and Zimbabwe, have abundant wild ostriches. These could serve as a basis for the development of ostrich production systems in the SADCC Region which would compete well on the international markets.

The project intends to establish an Ostrich Breeding and Extension Centre in Zimbabwe as a focal point for the promotion of ostrich production systems in the region. The Centre will pursue the following operations:

- (1) survey and monitoring of wild ostrich populations in specific areas, with a view to collecting eggs;
- (2) hatching of ostrich eggs and production of four-week old chicks as breeding stock for farmers;
- (3) Provision of specialised extension services for individuals and technical departments of member countries and research into international markets for ostrich products;
- (4) to accumulate and disseminate knowledge and information on ostrich farming, wild ostrich resources, and markets for ostrich products;

STATUS

Zimbabwe Government has conducted a technical pre-feasibility study; implementation can commence when funding is secured.

Project	Project Title	Estimated Cost US\$ Million		Funding Secured & Source US\$ Million		Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign	Local	US\$ Million			
FISHERIES, FORESTRY AND WILDLIFE								
FISHERIES								
4.0.1	Regional Fish Production, Processing and Marketing	(0.30)	(0.30)	-	(0.30) (EEC)	-	-	Completed
4.0.2	Identification of Production & Commercialisation of Fishing & Fish Processing Materials & Equipment	-	-	-	-	-	-	Completed under 4.0.1
4.0.3	Support to SADCC Coordination of Fisheries, Forestry and Wildlife	3.50	2.90	0.60	2.40 (CAN) 0.30 (EEC) 0.60 (MAL) 0.15 (ICE)	-	-	Under implementation
4.0.5	Regional Fisheries Training Programme	5.95	5.95	-	-	0.14 (NOR)	5.81	Funding sought
4.0.6	Regional Fisheries Documentation Centre	7.26	6.09	1.17	1.17 (MAL)	-	6.09	Funding sought
4.0.7	Development of Aquaculture in SADCC	13.86	13.86	-	1.19 (SWE)	-	12.67	Funding sought
4.0.8	Provision of Extension Services	-	-	-	-	-	-	Details being worked out.
4.2.1	Fisheries Investigation in Botswana	0.75	0.75	-	0.75 (NOR/DEN)	-	-	Under implementation
4.3.1	Integrated Fish-cum-Duck Farming Development, Lesotho	0.31	0.31	-	0.31 (FAO)	-	-	Under implementation
4.4.1	Joint Research of Pelagic Fishery Resources of Lake Malawi/Niassa	3.00	3.00	-	3.00 (UK)	-	-	Feasibility study completed. Agreement signed for implementation of research activity.
4.4.3	Pilot Integrated Fish/Pig Farming Development and Research Project at Kasinthula, Malawi	0.73	0.73	-	-	-	0.73	Funding sought
4.4.4	Support to Fisheries Development Planning	4.09	4.09	-	-	-	4.09	New Project. Funding sought
4.7.1	Catch Assessment Study in Lake Tanganyika	1.51	1.08	0.43	0.43 (TAN)	-	1.08	Funding sought
4.8.1	Lake Kariba Fisheries Research and Development, Zambia/Zimbabwe	0.72	0.72	-	0.72 (NOR/DEN)	-	-	Under implementation
Sub-Total		41.68	39.48	2.20	11.02	0.14	30.47	

Project	Project Title	Estimated Cost US\$ Million		Funding Secured & Source US\$ Million		Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign	Local	US\$ Million			
FORESTRY								
5.0.2	Establishment of a Regional Herbarium - Study	1.70	1.70	-	-	-	1.70	Funding sought.
5.0.3	Urban Fuelwood Project							
	- Lesotho	0.28	0.28	-	-	-	0.28	Malawi component under implementation. Funding being sought for Lesotho/Mozambique/Tanzania components.
	- Malawi	8.90	7.60	1.30	6.50 (MOR) 1.30 (MAL)	-	1.10	
	- Mozambique	4.20	4.10	0.10	0.10 (MOZ)	-	4.10	
	- Tanzania	0.94	0.94	-	-	-	0.94	
5.0.5	Regional Tree Seed Centre	4.25	4.25	-	0.25 (IDR)	-	4.00	Funding sought.
5.0.6	Dry Zone and High Altitude Fuelwood Research	-	-	-	-	-	-	Merged into 5.0.23.
5.0.8	Forest Industries Training Centre	28.59	27.39	1.20	27.39 (ITA) 1.20 (SADCC)	-	-	Under implementation.
5.0.9	Improvement and Strengthening of Forestry Colleges	38.34	38.34	-	0.34 (FIN)	-	38.00	Funding sought.
5.0.11	Pilot Project on Rehabilitation and Reforestation of Mining Areas	0.70	0.70	-	-	-	0.70	Funding sought
5.0.12	Community Forestry Development							Funding sought
	- Lesotho	1.95	1.95	-	-	-	1.95	
	- Malawi	2.85	2.85	-	-	-	2.85	
	- Tanzania	3.84	3.84	-	-	-	3.84	
	- Zambia	1.20	1.20	-	-	-	1.20	
5.0.17	Optimal Management of Watershed Areas	0.91	0.74	0.17	0.17 (MAL)	-	0.74	Funding sought
5.0.18	Edible Mushroom Farming and Development	0.25	0.25	-	-	-	0.25	Funding sought
5.0.20	Management of Indigenous Forests							
	Tanzania Component	0.26	0.26	-	-	-	0.26	Funding sought
	Zimbabwe Component	0.96	0.96	-	-	-	0.96	Funding sought
5.0.21	Beekeeping Development							
	Lesotho Component	0.14	0.14	-	-	-	0.14	Financing sought
	Zambia Component	1.63	1.63	-	-	-	1.63	Financing sought
5.0.22	Rural Plantations & Timber Processing							
	Lesotho Component	1.07	1.07	-	-	-	1.07	Financing sought
	Tanzania Component	3.26	3.26	-	-	-	3.26	Financing sought
	Zambia Component	4.12	4.12	-	-	-	4.12	Financing sought

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Project	Project Title	Estimated Cost US\$ Million		Funding Secured & Source US\$ Million		Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign	Local				
5.0.23	Strengthening of Forestry Research Institutions	14.53	14.53	-	0.13 (FIN)	-	14.40	Includes 5.0.6. Study underway
5.3.1	Village Fuelwood Plantation Project	5.39	2.20	3.19	2.20 (UK) 3.19 (LES)	-	-	Under implementation
5.3.2	Agro-Forestry in Arable and Pastoral Farming	0.37	0.37	-	-	-	0.37	Funding sought
5.4.1	Development of Montane Forest Resources	4.00	4.00	-	-	-	4.00	Funding sought
5.5.1	Regional Forestry Inventory	6.10	6.10	-	-	-	6.10	Funding sought
5.5.2	Reforestation and Erosion Control at Nacala	1.63	1.42	0.21	0.21 (MOZ)	-	1.42	Funding sought
5.7.1	Centre of Advanced Practical Forestry Training	4.14	3.30	0.84	0.84 (TAN)	-	3.30	Funding sought
Sub Total		146.50	139.49	7.01	43.82	0.00	102.68	

WILDLIFE

6.0.4	Processing and Marketing of Durable Wildlife Products	0.37	0.37	-	0.03 (FRG)	-	0.34	Funding sought
6.0.5	Strengthening of Wildlife Colleges	4.20	4.20	-	-	-	4.20	Funding sought
6.0.6	Wetlands Conservation Programme	0.29	0.29	-	-	-	0.29	Funding sought
6.0.7	Conservation Education	0.65	0.65	-	-	-	0.65	Funding sought
6.0.8	Infrastructure Development in Conservation areas	0.03	0.03	-	-	-	0.03	Funding sought
6.0.11	Environmental Impact Assessment Workshop	0.08	0.08	-	-	-	0.08	Funding sought
6.0.12	Training on Wildlife Utilisation Techniques for Food Production	0.11	0.11	-	0.11 (FAO)	-	-	Training to commence in September 1989
6.0.13	Law Enforcement in Wildlife Management and Utilisation	1.80	1.80	-	-	-	1.80	Funding sought
6.0.14	Crocodile Management and Utilisation Study	0.10	0.10	-	0.03 (CIDA)	-	0.07	Funding sought

1. EXECUTIVE SUMMARY

- 1.1 The Sector now has thirteen projects with an estimated cost of US\$35.78 million. US\$14.4 million for five of these projects has been secured, and funding for the rest is being sought. Four projects are under review. The sector's activities have focussed on training, monitoring, research, economics of conservation, people's participation, etc.
- 1.2 ZACPLAN continues to be a central programme of the Sector. The feasibility study for this project has been undertaken by SADCC and the Nordic countries. The Sector Coordinating Unit has completed the project identification and formulation. An institutional mechanism for coordinating the implementation of ZACPLAN projects has been submitted to the Ministers of Agriculture and Natural Resources for consideration before the end of 1989.
- 1.3 The interim report of the Sub-Saharan Hydrological Assessment Project (SSAHAP), funded by UNDP and executed by the World Bank, has been submitted to the member States.
- 1.4 Other highlights have been the publication of the first map in the Erosion Hazard Mapping series; implementation of the programme on Impact of Soil Erosion on Crop Yields, which has started in three member States, and is about to commence in the fourth. Terms of Reference for the preparation of a 10-year SADCC Environmental Development Plan are being elaborated.
- 1.5 Coordination with other SADCC sectors, and other institutions has been intensified. Project development and design assistance to member States has continued. Communication functions such as the Newsletter SPLASH, the Report series, and the Documentation Service have expanded. The Coordination Unit organized five workshops, seminars and training courses relating to Phase II of the Programme of Work.
- 1.6 An agreement between the Government of Lesotho and the Swedish International Development Authority (SIDA) was signed, under which SIDA will fund the activities of the Coordinating Unit, as set out in the Phase II Programme of Work. SIDA will provide US\$5.0 million over a period of three years (1988-90).

2. REVIEW OF THE REGIONAL SITUATION

Environmental Degradation: An Obstacle to Development

- 2.1 The SADCC region comprises a variety of natural environments, which are susceptible to different processes of change resulting from:
- a) population growth, which increases the pressure of cultivation and grazing on increasingly marginal lands;
 - b) improper land husbandry, which causes erosion and decreased soil fertility;
 - c) deforestation, which results in shortages of fuelwood, building materials and further soil erosion;
 - d) overstocking and improper range management, which lead to overgrazing and land degradation;
 - e) neglect of soil conservation, which gives rise to high sediment loads in rivers and a rapid siltation in water reservoirs; and
 - f) insufficient institutional, organizational and manpower resources, and inadequate marketing incentives for agriculture-based activities in the rural areas, which limit the possibilities of undertaking widespread conservation measures.
- 2.2 The above are a few of the causes and effects which feature interactively in the complexity of bio-physical, socio-economic and cultural factors affecting land use in the SADCC region. When these various factors reinforce each other, the result is a vicious cycle of land degradation, regressing economies, constrained capacity to undertake remedial measures and accelerated land degradation.
- 2.3 Since the welfare of the people of the SADCC region depends to a large extent, on the sustainable development and good management of its land resources, this vicious cycle must be arrested and reversed. The task of the SWCLU Sector is to coordinate efforts towards the attainment of this goal, throughout the region.
- 2.4 The Sector undertakes its work in the context of SADCC's "Natural Resources and the Environment: Policy and Development Strategy", which forms the basic instrument of SADCC policy in this sector. The Sector is also guided in its work by the report of the World Commission on Environment and Development "Our Common Future", the Lagos Plan of Action, and several other accords.

3. **REVIEW OF THE PROGRAMME**

The Sector had nineteen approved projects. Four of these have been dropped because they do not satisfy the criteria for regional projects or national projects with regional impact; three have been merged with other on-going projects with similar scope. One project has been transferred to the Sector from the Livestock Production and Animal Disease Control Sector.

4. **CURRENT STATUS OF PROJECTS**

Project 7.0.1: Assistance to the Sector Coordinating Unit-Phase II

The objective of the project is to provide assistance to the Coordinating Unit to enable it discharge its regional coordination of the soil and water conservation and land utilisation programme of the sector.

The project is supported by SIDA to the tune of US\$5 million for three years. The support covers material, financial and technical assistance. There are, at the moment, four external experts attached to the Unit in Maseru. It is expected that reliance on external assistance will be gradually reduced as more regional experts are recruited by the Unit. The following activities are being carried out under the project:

Project 7.0.1/01: Project Development and Design

A Regional Training Course on Conservation Project Design was held in Masvingo, Zimbabwe, 1st - 26th August, 1988; and attended by 40 participants from SADCC member States. The report of the proceedings of this training course are in production. An outline training package for replication of the course at national level has also been prepared and distributed to member States.

Project 7.0.1/02: Learning and Action Learning Programmes

This project is concerned with the organisation of seminars and workshops. The following activities were carried out:

- Seminar on Objectives, Strategies and Techniques in Applied Research on Soil and Water Management, 26th - 30th September, 1988, Gaborone, organised in collaboration with the Land and Water Management Research Programme, SACCAR.

- Workshop on Applied Remote Sensing for Land and Water Development, 14th - 24th April, 1989, Manzini.
- Workshop on the Application of Decision Support Systems to International River Basin Management, 19th - 24th June, 1989, Kariba; organised in collaboration with IIASA, Austria.

In preparation for a Seminar on Policy-Formulation for Soil and Water Conservation and Land Utilisation, scheduled for October 1989, information was gathered in SADCC member States, and country papers prepared. Senior officials of this Sector will be invited to the seminar.

Project 7.0.1/03: Development of Manpower and Training Facilities

Under this programme, the Coordinating Unit intends to carry out activities relating to the development of manpower and training facilities in member States.

Project 7.0.1/04: Development of Monitoring Systems

A draft proposal has been distributed to all SADCC member States, and preliminary discussions with national representatives were conducted; consultations with relevant SADCC sectors have started, aimed at harmonising several proposed systems and activities.

Project 7.0.1/05: Economics of Conservation

A second workshop on Economics of Conservation was held in Manzini on 28th November - 2nd December, 1988.

Project 7.0.1/06: Strategies for Popular Participation

The project aims to develop, through the Action Learning Programme, Integrated Approaches to People's Participation - a strategy for involving local people in the formulation, implementation and monitoring of soil conservation programmes.

A series of workshops resulting in the formulation of strategies for popular participation. Creation of a small fund to support local initiatives.

Guidelines for the operation of this fund have been submitted to the Committee of Ministers of Agriculture and Natural Resources for consideration and approval before submission to the Council of Ministers.

Project 7.0.1/08: Impact of Soil Erosion on Crop Yields

An impact assessment of soil erosion on crop yields has been initiated in Botswana, Lesotho and Mozambique, and is expected to start in Tanzania soon. It is also intended to carry out similar assessments in the other member States in the near future.

Project 7.0.1/09: Legal Context of Conservation

A study on environmental legislation has been completed in one member State, and a study in another member State is underway.

Publications

Three issues of the sectoral newsletter "SPLASH" were published in 1988/89. The Portuguese and English circulation list of the publication is now approaching 2 000. The Report series published by the Coordinating Unit now numbers 19, with several more to be published in the near future. Distribution of the Report series has also expanded considerably. The Coordinating Unit's Documentation Service has ordered over 140 different titles on behalf of member States this year. The Documentation Centre is expanding steadily, and now contains well over 1,000 volumes.

Project 7.0.2: Regional Hydrological Assessment Project

The main objective of this project, which is funded by UNDP, and executed by the World Bank, is to evaluate the status of existing hydrological data networks and collection systems, and to make recommendations for the filling of important gaps, up-grading of the quality of data collection and the general enhancement of the ability to measure, retrieve, process and publish hydrological data and information in the SADCC region.

Implementation of the project started in November, 1988. The Interim Report has been submitted to member States. The project is expected to be completed by November 1989.

Project 7.0.3: Zambezi River System Action Plan (ZACPLAN)

The objective of ZACPLAN is to rationalise and maximise the utilisation of the Zambezi River Basin resources in a manner that ensures mutual benefits to the participating member States. This will entail harmonisation of policies of the riparian countries, in order to ensure that the physical environment is protected from degradation.

SADCC and the Nordic countries have undertaken a feasibility study of ZACPLAN's Category I projects, ZACPROs 1-8. The Coordinating Unit has completed the project identification and formulation. An institutional mechanism for coordinating the implementation of ZACPLAN projects has been submitted to the Ministers of Agriculture and Natural Resources for consideration before the end of 1989.

Several cooperating partners have expressed interest in funding specific Category I ZACPROs. The Coordinating Unit is, however, concerned that some agencies have been soliciting funds apparently on behalf of SADCC, without the knowledge of the Organisation.

Project 7.0.4: SADCC Annual Research Seminar on Soil and Water Conservation and Land Utilization

The project aims at establishing a forum for research workers at different levels, in both basic and applied research, and at facilitating and strengthening channels for intra-SADCC exchange of knowledge about on-going research and research results within the field of soil and water conservation and land utilisation. The project will also help to establish adequate links with regional and overseas universities and research institutions. The project will be implemented in collaboration with SACCAR.

Project 7.0.5: Range Inventory, Monitoring and Rehabilitation Trials

The objective of the project is to develop an effective and efficient system of monitoring changes in the region's rangelands and to establish trials both on and off research stations. The results of the trials will enable the establishment of procedures that would facilitate full participation of smallholders in the planning and implementation of pasture management systems for communal grazing lands, in order to rehabilitate degraded rangelands, and preserve environmental conditions in the SADCC region. In addition the project aims at increasing all year-round forage supply by increasing botanical composition, and soil and water conservation through range inventory and rehabilitation.

This is a new project transferred from Livestock Production and Animal Disease Control Sector. Funding is being sought from cooperating partners.

Project 7.2.1: Professional Training Centre for Drillers in Water Supply and Minerals - Botswana

The main objective of this project is to train SADCC technicians employed in the water supply sectors in order to enable the region to achieve self-reliance in technical drilling skills for member States.

Project 7.3.1: Afforestation of the Area Surrounding Letsa-la-Letsie - Lesotho

The project has been dropped from the regional programme.

Project 7.3.2: Rainfall Simulator Tests and Purchase of Rainfall Simulator - Lesotho

The objective of this project is to encourage correct cropping practices and soil management so that soil loss is reduced and food production increased on arable land. The project seeks to obtain estimates of soil erodibility (K-factor) for various soils; and a data bank of K-factor of various benchmark soils in different locations, is being compiled.

The project is funded by USAID, and implementation began in late 1988.

Project 7.3.3: Range Conservation Pilot Project - Lesotho

The main objective of this pilot project is to reduce overstocking on deteriorated ranges, which is the main contributor to land degradation, particularly in Botswana, Lesotho, Swaziland and Tanzania.

The ranges in Lesotho are overstocked, thereby contributing to serious land degradation and potential desertification. This is more prevalent in the southern Districts of Mafeteng, Mohale's Hoek and Quthing.

This project is designed to encourage the development and introduction of policy measures to address the problem of range conservation, intensive fodder production and facilitate recruitment of well-trained staff at national level. The information obtained through this pilot project will be shared throughout the SADCC member States, and will include assessment of the possibilities for replication of the project elsewhere in the region.

US\$5 million for the project has been secured from USAID, and implementation will commence in 1990.

Project 7.3.4: Stabilization of River Banks, Gully Banks, Degraded Lands and Steep Slopes through Forestry Conservation - Lesotho

The project has been dropped as a regional project.

Project 7.4.1: Conservation Techniques on Steeply Sloping Land, Malawi (Pilot Project)

This project is being reviewed to establish its regional impact.

Project 7.4.2: Training and Extension in Soil and Water Conservation, Land Husbandry Training Centre - Malawi

The project is being reviewed to determine its regional relevance.

Project 7.4.3: Soil and Water Conservation in Smallholder Coffee Growing Area - Malawi

This project is being reviewed to establish its regional relevance.

Project 7.4.4: A Land Use Classification System Using Satellite Imagery - Malawi

This project is being reviewed to establish its regional relevance and possible harmonization with projects in other sectors.

Project 7.4.5: Soil Erosion Research for Runoff and Soil Nutrient Loss Estimation - Malawi

The project will be incorporated into Impact of Soil Erosion on Crop Yields (project 7.0.1/08).

Project 7.6.1: Reconstruction of River Gauging Systems Damaged by Cyclone Domoina - Swaziland

This project has been dropped from the programme.

Project 7.6.2: The National Soil Loss Estimation - Swaziland

This project will be merged with the Impact of Soil Erosion on Crop Yields (project 7.0.1/08).

Project 7.6.3: Land Use Planning and Development by Watershed Management Unit - Swaziland

The project has been dropped from the programme.

Project 7.9.2: Extension Education Programme - Pilot Project, Zimbabwe

The objective of this project is to help smallholder farmers to relocate their gardens so as to avoid ploughing in river banks. Village Committees have been established and their members are being trained so that they can run the project.

The project is being funded through the SWCLU Sector Coordinating Unit's core funds, and implementation of the first phase is underway at a cost of US\$50 000 of which US\$15 000 has already been released.

Project 7.9.3: Contour Ridgers for Mechanical Conservation Works - Zimbabwe

The project is being dropped from the programme.

5. **OTHER ACTIVITIES**

5.1 **Cooperation with Other Sectors**

The Coordinating Unit has consulted and cooperated with other SADC Sectors in a number of activities of common interest. The highlights are:

- a) a Seminar on Objectives, Strategies and Techniques in Applied Research in collaboration with the Land and Water Management Research Programme, SACCAR;
- b) a Workshop on Environmental Impact Assessment, a joint activity with the Fisheries, Forestry and Wildlife Sector;
- c) consultations with the Food Security Sector regarding development of regional monitoring systems;
- d) implementation by the Land and Water Management Research Programme, of the Botswana component of Project 7.0.1/08: Impact of Soil Erosion on Crop Yields;
- e) sharing of information and data from project 7.0.2: Regional Hydrological Assessment with Energy Sector (part of project 3.0.4 Regional Hydroelectric Hydrological Assistance Programme) and Mining Sector (project 5.0.1 Hydrogeological Investigation within the SADC Region);
- f) consultations regarding views and experiences to be considered in the design and implementation of project 7.0.3 ZACPLAN, with Energy; Food Security; Fisheries,

Forestry and Wildlife and Manpower Sectors, SATCC and Beira Corridor Authority;

- g) consultations with SACCAR regarding formulation of project 7.0.4: SADCC Annual Research Seminar on Soil and Water Conservation and Land Utilization, and its implementation;
- h) cooperation with Manpower and Mining Sectors in exploring avenues for funding and implementation of project 7.2.1: Professional Training Centre for Drillers in Water Supply and Minerals;
- i) consultations with Livestock Production and Animal Disease Control Sector regarding range management activities; as a result of which project No. 2.9.5: Range Inventory, Monitoring and Rehabilitation Trials has been transferred to our Sector as a complement to project 7.3.3: Range Conservation Pilot Project;
- j) consultations with Energy; Food Security; Fisheries, Forestry and Wildlife, and Mining Sectors regarding satellite imagery application. A multisectoral study will be undertaken soon.

5.2 Cooperation with Other Organisations

The Coordinating Unit has represented SADCC in a number of international meetings, including:

- a) Consultative Group for Desertification Control, Geneva: 21 - 22 November, 1988;
- b) Training Course for African Communicators in Environmental Problems, Harare: January 1989;
- c) African Women's Assembly in Support of the Cairo Plan of Action, Harare: 6 - 7 February, 1989;
- d) Workshop on Agroforestry and Sustainable Development: Economic Implications, Organised by Commonwealth Science Council, Mbabane: 17 - 21 April, 1989. Coordinating Unit also sponsored 4 participants from SADCC member States;
- e) Governing Council of UNEP, Nairobi, Kenya: 15 - 26 May, 1989;
- f) Project Preparation and Appraisal Workshop for Commonwealth Countries in Central and Southern Africa, Organised by Commonwealth Secretariat, General

Technical Assistance Division, Mangochi, Malawi: 17-28 April, 1989;

- g) Steering Committee of Sub-Saharan Hydrological Assessment Project, Paris: April 1989;
- h) Consultation on Promoting Conservation for Sustainable Agricultural Development in the Sudano-Sahelian Region, Banjul, The Gambia: 26 May - 2 June, 1989. A paper on "Conservation for Sustainable Agricultural Development and SADCC's Strategy" was presented;
- i) Training Course for African Communicators in Environmental Problems, Tampere, Finland: June, 1989;
- j) Conference on Environment and Sustainable Development, June 1989, Kampala, Uganda: 12 - 17 June, 1989.

7.0.1 ASSISTANCE TO COORDINATION UNIT (PHASE II)

Estimated Cost

Financing Gap: US\$8.0m

Total: US\$15.0m

Foreign: US\$13.0m

Local: US\$ 2.0m

Executing Agency:

Coordination Unit

Funding Secured (Phase II)

Start: January 1988

Total : US\$7.0m

Foreign: US\$5.0m (SWE)

Local: US\$2.0m (LES)

Duration: 5 years

OBJECTIVES

Based on experiences gained during Phase I of this programme, it has been decided that a second phase would be implemented. The main objective of Phase II is to provide assistance to the Coordinating Unit to enable it discharge its regional coordination of the Sectoral programme; and in particular to carry out the following:

- i. Linking conservation measures to farming systems which favour sustained and increased production, preferably developed from existing farming practices.
- ii. Implementing conservation activities with obvious, immediate and sustained benefits to the land users.
- iii. Considering the need to complement the programme with administrative/legal aspects on conservation, monitoring activities and applied research.
- iv. Assisting SADCC member countries in project preparation and development.

DESCRIPTION

The activities in this sector started in January 1985 under a three year programme. An evaluation of this programme has been undertaken, which found the progress satisfactory and recommended that the programme be continued incorporating the recommendations from Phase I, while at the same time retaining the original aims and objectives. This second phase of the programme of work has also incorporated the aims and objectives as

formulated in Natural Resources and the Environment: Policies and Development Strategy. The programme will involve coordination of the activities in sub-programmes, 7.0.1/01 through 7.0.1/12, as described in the following pages. Support to the Coordinating Unit covers materials, financial and technical assistance. The Unit has at present four Technical Experts. It is expected that reliance on external assistance will be reduced gradually as more regional experts are recruited to the Unit.

STATUS SIDA has agreed to fund the activities set out in the Phase II Programme of Work for a period of 3 years (January 1988-December 1990. Additional funding sought.

7.0.1/01 PROJECT DEVELOPMENT AND DESIGN

Estimated Cost

Total: US\$5.73m
Foreign: US\$3.73m
Local: US\$2.0m

Financing Gap: US\$ 1.53m

Executing Agency:
Coordination Unit

Funding Secured

Total: US\$4.20m
Foreign: US\$2.21m (SWE)
Local: US\$1.99m (LES)

Start: January 1988

Duration: 5 years

OBJECTIVES Running the day-to-day activities of the Coordination Unit office in order to fulfill the Programme of Work.

ACTIVITIES These are mainly service-oriented activities carried out within the Coordination Unit:

- (a) Administration of the Unit,
- (b) SADCC meetings,
- (c) International cooperation: participation in meetings and other activities initiated by international organisations and other relevant institutions,

- (d) Project design and development: workshops, training courses and on-the-job training in project design and assistance to member States in project preparation and presentation before SADCC bodies and potential funders,
- (e) Publishing of the newsletter SPLASH and report series,
- (f) Administration of the Documentation Centre as the Unit's library, as well as the Documentation Service to assist member States in purchasing specialised literature,
- (g) Participation in regionally relevant national activities in member States.

A Regional Training Course on Conservation Project Design was held in Masvingo, Zimbabwe: 1 - 26 August, 1988 and attended by 40 participants from SADCC member States. The proceedings from this training course are in production. A training package's outline for replication of the course at national level has also been prepared and distributed to member States.

STATUS Under implementation, additional funding sought.

7.0.1/02 LEARNING AND ACTION LEARNING PROGRAMMES

Estimated Cost

Total : US\$2.16m
 Foreign: US\$2.16m
 Local: -

Financing Gap: US\$1.00m

Executing Agency:
 Coordination Unit

Funding Secured

Total: US\$1.16m
 Foreign: US\$1.16m (SWE)
 Local: -

Start: January 1988

Duration: 5 years

OBJECTIVE To carry out activities remaining from Phase I of the programme of work.

ACTIVITIES

1. Learning Programme:

- (a) Seminar on Management of Projects and Programmes,
- (b) Seminar on River Basin Management,
- (c) Workshop on Applied Research and Laboratory Facilities,
- (d) Seminar on Policy-making relating to Soil and Water Conservation and Land Utilization.

2. Action Learning Programme:

- (a) Integrated Approaches to People's Participation,
- (b) Integrated Land Use,
- (c) Sharing Applied Research and Laboratory Facilities.

Learning and Action Learning Programmes is concerned with the organisation of seminars and workshops. The following activities were carried out during the reporting period:

- Seminar on Objectives, Strategies and Techniques in Applied Research on Soil and Water Management, 26 - 30 September, 1988, Gaborone. Organised in collaboration with Land and Water Management Research Programme, SACCAR
- Workshop on Applied Remote Sensing for Land and Water Development, 14 - 24 April, 1989, Manzini
- Workshop on the Application of Decision Support Systems to International River Basin Management, 19 - 24 June, 1989, Kariba. Organised in collaboration with IIASA, Austria.

In preparation for a Seminar on Policy-Formulation for Soil and Water Conservation and Land Utilisation, information was gathered in SADCC member States and country papers prepared. Senior officials of this Sector will be invited to a seminar scheduled for October 1989.

STATUS Under implementation, but additional funding sought.

7.0.1/03 **DEVELOPMENT OF MANPOWER AND TRAINING FACILITIES IN THE REGION**

Estimated Cost

Financing Gap: US\$0.81m

Total: US\$1.68m

Foreign: US\$1.68m

Local: -

Executing Agency: -
Coordination Unit

Funding Secured

Start: January 1989

Total : US\$0.87m

Foreign: US\$0.87m (SWE)

Local: -

Duration: 4 years

OBJECTIVES To create and/or develop capabilities within member States at several levels to design and implement conservation and land-use planning projects, programmes and other relevant activities.

ACTIVITIES Following the recommendations from a seminar in 1986, the main activities considered are:

- (a) A comprehensive inventory and evaluation of training facilities in the region,
- (b) A more comprehensive manpower survey related to this sector,
- (c) Curriculum development for various professional training programmes in this sector,
- (d) Development of coordinated training programmes as well as plans for specific manpower resources development,
- (e) Regular meetings with country representatives to evaluate the present situation and discuss further steps.

This sub-programme will be developed in close cooperation with the SADCC Manpower Development Sector.

STATUS Additional funding sought.

7.0.1/04 **DEVELOPMENT OF MONITORING SYSTEMS**

Estimated Cost

Total : US\$1.56m
Foreign: US\$1.56m
Local : -

Financing Gap: US\$0.8m

Executing Agency:
Coordination Unit

Funding Secured

Total : US\$0.76m
Foreign: US\$0.76m (SWE)
Local : -

Start: May 1989

Duration: 4 years

OBJECTIVES To develop an environmental monitoring system in the region aimed at:

- i. providing a synoptic view of the environment,
- ii. assessing present land degradation,
- iii. developing means of predicting future changes and their impact on productive inputs,
- iv. monitoring long term changes and trends,
- v. providing a quantified basis for evaluation.

ACTIVITIES Coordination of present activities in this field at national and regional levels; standardization of methods; collection and review of existing data, at national level, including for instance demographic and livestock parameters, institutional policies and performance, etc; and initiation and/or development of new techniques, e.g. remote sensing, on a trial basis.

This sub-programme will be developed in close cooperation with other projects and programmes within the sector, such as the Regional Hydrological Assessment Project, and in other sectors, particularly the Food Security Sector.

STATUS Under implementation, additional funding sought.

Estimated Cost

Total : US\$0.81m
 Foreign: US\$0.81m
 Local : -

Financing Gap: US\$0.42mExecuting Agency:
Coordination UnitFunding Secured

Total : US\$0.39m
 Foreign: US\$0.39m (SWE)
 Local : -

Start: January 1988Duration: 5 years**OBJECTIVE**

To develop in member States, the appropriate skills needed to conduct economic analysis of conservation and land use planning projects and programmes.

ACTIVITIES

A three-year Action Learning Programme is to be carried out based on case studies in each member State, including an introductory workshop, independent country work and periodical/annual workshops to present and discuss reports about findings and conclusions.

Considering the results from the action learning programme and the experiences gained, it is foreseen that the follow-up would build on the established in-country expertise and organise in-country training for economic analysis.

Another key activity will be the elaboration and development of methodologies and guidelines for economic analysis.

A second workshop on Economics of Conservation was held in Manzini on 28 November - 2 December, 1988.

STATUS

Under implementation, additional funding sought.

7.0.1/06

STRATEGIES FOR POPULAR PARTICIPATION

Estimated Cost

Total : US\$ 1.15m
Foreign: US\$ 1.15m
Local: -

Financing Gap: US\$0.61m

Executing Agency:
Coordination Unit

Funding Secured

Total: US\$ 0.54m
Foreign: US\$ 0.54m (SWE)
Local: -

Start: 1989

Duration: 4 years

OBJECTIVE To develop, through the Action Learning Programme "Integrated Approaches to People's Participation" - a strategy for involving local people in the formulation, implementation and monitoring of soil conservation programmes.

ACTIVITIES A series of workshops resulting in the formulation of strategies for popular participation. Creation of a small fund to support local initiatives.

STATUS Under implementation, additional funding sought.

7.0.1/07

APPLIED RESEARCH AND KNOWLEDGE DEVELOPMENT

Estimated Cost

Total : US\$ 0.32m
Foreign: US\$ 0.32m
Local : -

Financing Gap: US\$0.2m

Executing Agency:
Coordination Unit

Funding Secured

Total : US\$ 0.12m
Foreign: US\$ 0.12m (SWE)
Local : -

Start: 1989/90

Duration: 4 years

OBJECTIVE To follow through on the recommendations formulated at the workshop on "Applied Research and Laboratory Facilities".

2.7.1 REGIONAL TRAINING CENTRE IN RANGE AND RANCH
MANAGEMENT - TANZANIA

Estimated Costs

Total : US\$2.80m
Foreign: US\$2.40m
Local : US\$0.40m

Financing Gap: US\$2.40m

Executing Agency:

Funding Secured

Foreign: NIL
Local : US\$0.4m (TAN)

Start:

Duration: 5 years.

OBJECTIVES

The long-term objectives are:

- i) to alleviate the shortage of technicians currently experienced in the region;
- ii) to attain the required levels of skills for range resource management and utilization; and
- iii) to disseminate the knowledge acquired to rural population.

The short-term objectives are:

- i) to extend the existing Institute at Morogoro in terms of buildings, manpower and other logistics in order to accommodate its expanded mandate; and
- ii) to train more middle-level technicians from SADCC countries.

DESCRIPTION

Following the persistent drought in a number of SADCC countries, the grazing potential/capacity of the rangelands has been drastically reduced both in commercial ranches and communal areas. This has been exacerbated by the fact that the lot of the peasants have low knowledge on rangeland management. There is considerable evidence to suggest that the productivity of the range is declining, and will continue to do so for a considerable length of time. It will take years of careful use of the range to bring back the grazing to its normal capacity. This calls for an increase in knowledgeable staff in range and ranch

ciliaris and seratro will be grown and fed during the dry season. Training will be an essential part of the project; extension workers as well as the farmers will be exposed to dairy management practices.

In Mozambique, two farms will be selected to be the breeding units. Each will have about 200 indigenous cows with 10 Friesian bulls to produce crosses. Artificial insemination may also be used. Males will be reared in the farm up to about 2.5 years and then sold as draught animals. Females will be crossed with Friesian bulls and after positive pregnancy at three months, they will be sold to smallholder farmers. Also, all the farmers involved in this project will follow a 15-day training course on nutrition, milking, and milk conservation and processing.

In Zimbabwe, the first project site will be at Domboshwa Training Centre Farm. The present breeding herd consists of approximately 150 females, about 2/3 are of the Mashona breed and the rest are of the Nkone breed. The heifers will be put to Friesian bulls to generate F1 crosses, some of which will be sold prospective smallholder farmers. It is also planned to improve the grazing on about 200 hectares by using Katambora Rhodes grass and the pasture-legumes Siratro and Stylo. The pasture development programme will be phased out over a four year period, establishing pasture and reinforcing veld at the rate of 50 hectares per year. Demonstration and training will be part of this project. This will include the conservation of forage for dry season feeding as well as milking techniques.

STATUS

This is a new project seeking financial support.

- i. inventory of existing conservation legislation and its relation to conservation strategies and policies,
 - ii. degree of implementation and enforcement, legal institutions and public awareness, etc.
 - iii. analysis of i. and ii. in the context of legal and natural resources economics, and
 - iv. suggestions for a SADCC seminar.
- (b) SADCC seminar aimed at:
- i. discussing major findings and questions from the study,
 - ii. recommending an approach (or approaches) to be tested in practical projects.

STATUS

A study on environmental legislation has been completed in one country; a second study started in early July, 1989. Additional funding sought.

7.0.1/10

WATER RESOURCES RELATING TO SOIL CONSERVATION-VILLAGE LEVEL

Estimated Cost

Total: US\$0.23m
 Foreign: US\$0.23m
 Local: -

Financing Gap: US\$0.13m

Executing Agency:
 Coordination Unit

Funding Secured

Total : US\$0.1m
 Foreign: US\$0.1m (SWE)
 Local: -

Start: 1989/90

Duration: 4 years

OBJECTIVE

To design and implement conservation activities directly related to the development of water resources in agricultural production.

ACTIVITIES

The project will focus on small-scale water resources like small dams, boreholes, small irrigation projects, etc. in relation to

conservation. Activities under this programme will include for instance:

- i. assessment of hydrological and hydro-meteorological data, ground water reserves, etc. and establishment of local and/or national data banks,
- ii. water balance studies,
- iii. assessment of various harvesting techniques,
- iv. small-scale water resources planning and management for agricultural production and erosion control.

This project will be developed in harmony with other projects within this sector e.g. project 7.0.2 Regional Hydrological Assessment Project, and the Monitoring System, as well as other SADC sectors, particularly the Land and Water Management Research Project within SACCAR.

STATUS Under implementation, additional funding sought.

7.0.1/11 **CONSERVATION MANAGEMENT SYSTEMS**

Estimated Cost

Total : US\$0.27m
Foreign: US\$0.27m
Local : -

Financing Gap: US\$0.13m

Executing Agency:
Coordination Unit

Funding Secured

Total : US\$0.14m
Foreign: US\$0.14m (SWE)
Local : -

Start: 1989/90

Duration: 4 years

OBJECTIVE To develop management systems for application of production-oriented conservation.

ACTIVITIES To inventory and evaluate the various conservation farming management systems in the region.

- To hold a workshop/seminar to discuss and evaluate the findings of the inventory.

- To initiate field trials, research, compilation of manuals, and training programmes for extension staff etc.

- This programme will involve close cooperation with the Food Security Sector and SACCAR.

STATUS Under implementation, additional funding sought.

7.0.3 ZAMBEZI RIVER SYSTEM ACTION PLAN (ZACPLAN)

Estimated Costs

Total : US\$6.51m

Foreign: US\$6.51m

Local : -

Financing Gap: US\$6.51m

Executing Agency:

Coordination Unit
and appropriate agencies

Funding Secured

Total: -

Foreign: -

Local: -

Start: 1989

Duration: 2 years
(Category I Projects)

OBJECTIVES

The main objectives of this multi-component programme are:

- i. to encourage integrated river basin planning and management;
- ii. to define specific environmental problems and their impacts and to help the countries of the Zambezi river basin and other states that don't fall within the basin to provide ongoing programmes for the incorporation of environmental concerns into the management of water resources, including drinking water supply and sanitation;
- iii. to strengthen the awareness of the various governmental institutions involved in socio-economic development activities as to the potential impact of these activities on the water environment within the river basin; and the importance of their active participation in the adoption and implementation of the Zambezi River Action Plan;

DESCRIPTION

The Zambezi River Basin is located between latitude 8S and 20S and longitude 16,30'E and 36,4'E. The Zambezi River, together with its tributaries forms the fourth largest river basin of Africa and drains almost the entire south central region of the continent. It flows eastwards for about 3000 km draining an area of about 1,300,000 sq.km. The river's lower course provided an historically significant trade artery to the African interior for Arabs in the tenth century and for the Portuguese from the sixteenth century. The Action Plan has the following components:

- * Environmental Assessment: which provides for the continuing and systematic assessment of the main factors influencing water management and water-related environmental quality.
- * Environmental Management: a wide range of activities are envisaged in order to ensure sustainable, environmentally sound development of the resource base.
- * Environmental Legislation: efforts will be made to review, and, where necessary, expand, update or strengthen national legislation to support the objectives of the plan; and to ensure compatibility among the participating states.

The collection and, as necessary, the development of comparable data and information on the basin region is of importance. This will include information related to:

- a. Water resources assessment.
- b. Socio-economic development that may adversely affect the environment.
- c. Institutions, experts and facilities available in the region for the implementation of the Action Plan.
- d. The identification of human activities and eco-systems that could be affected by environmental degradation.

STATUS

The sector has formulated concrete projects Category I Projects of the Plan (ZACPROS 1-8), and

institutional set up for implementation pending approval.

7.0.4 **SADCC ANNUAL RESEARCH SEMINAR ON SOIL AND WATER CONSERVATION AND LAND UTILIZATION**

Estimated Cost

Total : US\$0.77m
Foreign: US\$0.77m
Local : -

Financing Gap: US\$0.77m

Executing Agency:
Coordination Unit
and SACCAR

Funding Secured

Total: -
Foreign: -
Local: -

Start: 1989/90

Duration: 5 years

OBJECTIVES

- i. To facilitate and strengthen the routines for intra-SADCC exchange of knowledge about research results, research projects etc. within the field of Soil and Water Conservation and Land Utilization.
- ii. To establish a direct link between SADCC SWCLU Sector and one or several regional and international universities.
- iii. To establish an annual forum for research workers at different levels, both in applied and basic research.
- iv. To make it economically and practically possible for research workers at different levels within the SADCC region to meet on a regular basis.
- v. Annually publish a volume of short papers of research results to avoid the terribly long publication lag that exists in international professional journals.
- vi. Establish a regular contact with at least 3 major international universities with extensive activities within the field of Soil and Water Conservation and Land Utilization (SWCLU) research and education, preferably within the African region.

DESCRIPTION

Degradation of natural resources in the SADCC region - like almost everywhere in Africa - is one of the greatest threats to future food production capabilities and sustained development. The natural causes are by no means the only reasons. It can be stated that ignorance, poverty, traditional land tenure and poor management at different levels are factors causing the accelerated degradation.

The level of awareness is very high - especially in our universities - and the attention and resources devoted to these problems are reasonably substantial within the SADCC region. The SWCLU Coordination Unit and its programme is one of many institutions dealing with these matters. The aim of the SADCC SWCLU Coordination Unit is to help member states to share their responsibilities in the SADCC community and to facilitate and optimize the use of available resources and the sharing of information on research done regionally within this field.

ACTIVITIES

- i. Optimal and rapid exchange of the most recent research results.
- ii. An annual publication of SWCLU research within the SADCC region.
- iii. A better coordinated research programme within the SADCC region.
- iv. An optimal use of the available research resources.
- v. Better contacts with international research.
- vi. Regional and international research cooperation.
- vii. Regional and international training of research workers.

STATUS

Funding sought.

7.0.5 RANGE INVENTORY, MONITORING AND REHABILITATION TRIAL-
MOZAMBIQUE, TANZANIA AND ZIMBABWE

Estimated Costs

Total : US\$2.04m
Foreign: US\$1.24m
Local : US\$0.80m

Financial Gap: US\$1.3m.

Executing Agency:

G o v e r n m e n t s o f
Mozambique, Tanzania and
Zimbabwe

Funding Secured

Total : US\$0.8m
Foreign: US\$ -
Local: US\$0.8m (SADCC)

Start: 1989

Duration: 5 years

OBJECTIVES

To develop an effective system for monitoring changes in rangeland condition, and establish trials for the evaluation of improved practices in rehabilitation of degraded range and appropriate utilization of feed resources.

DESCRIPTION

The activities of the project will be:

- to study the livestock production systems, and identify major constraints to production;
- to determine the current status of forage availability, quality and quantity, and environmental factors affecting supply;
- to determine the most promising grasses and legumes suitable for rangeland rehabilitation;
- to determine the most cost-effective methods of range rehabilitation; and,
- to establish trials, both on and off research stations to attempt rehabilitation of degraded rangelands.

In Zimbabwe, trials will be conducted at a research station, and in two communal areas in agro-ecological zones III, IV, and V. The trials will entail detailed inventory of the rangeland

resources of the communal areas project sites, including detailed measurements of soils, soil erosion, vegetation, animals; and land use factors. Once the initial inventory is complete the area will continue to be monitored regularly, in order to detect changes in the resource base.

Several monitoring techniques current and new, will be used, both at the research stations and communal area sites. Methods that are simple to apply, low in cost, and suited to the socio-cultural practices of the project communities will be preferred. Those methods which are found to be the most effective will be applied to other countries in the region.

STATUS New project; transferred from Livestock Production and Animal Disease Control. Funding thought.

7.2.1 PROFESSIONAL TRAINING CENTRE FOR DRILLERS IN WATER SUPPLY AND MINERALS - BOTSWANA

Estimated Cost

Total : US\$4.80m
Foreign: US\$4.80m
Local : -

Financing Gap: US\$4.80m

Executing Agency:

Coordination Unit and
Government of Botswana

Funding Secured

Total : -
Foreign: -
Local : -

Start: 1989/90

Duration: 5 years

OBJECTIVES The objectives of this project are:

- i. to train SADCC technicians employed or to be employed by the water supply sectors of member States;
- ii. to train drilling personnel employed or to be employed in exploration for water, primarily, but also for minerals;
- iii. to learn different drilling skills and technologies applicable to different

geological conditions present in the area; and,

- iv. to try and attain self sufficiency for every SADCC member State in professional drillers so that drilling projects can be implemented independently.

DESCRIPTION

A large percentage of the water supply to the rural and urban population (approx 90%) of the of the water used for domestic, agricultural and industrial purposes in the SADCC region comes from ground water. The availability of this vital resource in most arid parts of the region is the only way to ensure development and better living standards for the people. The construction activities in the region are also developing very fast and the use of drilling techniques to build dams, bridges, piles and better civil engineering works is increasing in demand and calling for professional drillers. The Professional Centre for drillers project will be playing a major role in satisfying the above mentioned needs.

ACTIVITIES

In the context of this project the following activities will be undertaken:

- i. erection of buildings to accommodate forty to sixty students from all SADCC member States and to satisfy their requirements;
- ii. teaching of theory to participants in different disciplines connected to drilling; and,
- iii. practical on-the-job training on water and mineral exploration, investigation projects, stability and drillability of the rocks, etc.

This programme will cooperate very closely with the rural water supply operations of the host country.

Status: Funding sought.

Project	Project Title	Estimated Cost US\$ Million		Funding Secured & Source US\$ Million		Funding under Negotiation US\$ Million	Financing Gap US\$ Million	Comments/Status
		Total	Foreign	Local				
SOIL AND WATER CONSERVATION AND LAND UTILIZATION								
7.0.1	Assistance to Coordination Unit	15.00	13.00	2.00	5.00 (SWE) 2.00 (LES)		8.00	Phase II funded through 1990.
7.0.2	Regional Hydrological Assessment	1.00	1.00	-	1.00 (UNDP)	-	-	World Bank is executing this project. To be completed by November 1989.
7.0.3	Zambezi River System Action Plan (ZACPLAN)	6.51	6.51			-	6.51	The Nordics funded feasibility study; report is still expected. Funding sought.
7.0.4	SADCC Annual Research Seminar in Soil and Water Conservation and Land Utilization.	0.77	0.77			-	0.77	Funding sought.
7.0.5	Range Inventory, Monitory and Rehabilitation Trials	2.04	1.24	0.80	0.80 (SADCC)	-	1.24	New project. Funding sought.
7.2.1	Professional Training Centre for Drillers in Water Supply and Minerals.	4.80	4.80			-	4.80	Feasibility study completed. Funding sought.
7.3.1	Afforestation in the Area surrounding Letsa-la-Letsie	-	-			-	-	Dropped from SADCC programme.
7.3.2	Rainfall Simulator Tests and Purchase of Rainfall Simulator	0.49	0.37	0.12	0.37 (USA) 0.12 (Lesotho)	-	-	Under implementation.
7.3.3	Range Conservation Pilot Project	5.10	5.00	0.10	5.00 (USA) 0.10 (LES)	-	-	Implementation to start in 1990.
7.3.4	Stabilization of River Banks, Gully Banks and Degraded Lands					-	-	Project dropped from SADCC programme.
7.4.1	Conservation Techniques on Steeply Sloping Land	-	-			-	-	Under review to establish regional impact.
7.4.2	Training and Extension in Soil and Water Conservation	-	-			-	-	Under review to establish regional character.
7.4.3	Soil and Water Conservation in Small- holder Coffee Growing Area	-	-			-	-	Under review to establish regional impact.
7.4.4	A Land-Use Classification System using Satellite Imagery	-	-			-	-	Under review to establish regional impact.
7.4.5	Soil Erosion Research for Run-off and Soil Nutrient Loss Estimation	-	-			-	-	Merged into 7.0.1/08.

Project	Project Title	Estimated Cost US\$ Million		Local	Funding Secured & Source	Funding under Negotiation	Financing Gap	Comments/Status
		Total	Foreign		US\$ Million	US\$ Million	US\$ Million	
7.6.1	Reconstruction of River Gauging Stations damaged by Ciclone Domoina	-	-	-	-	-	-	Merged into 7.0.2.
7.6.2	The National Soil Loss Estimation	-	-	-	-	-	-	Merged into 7.0.1/08.
7.6.3	Land Use Planning and Development by Watershed Management Unit	-	-	-	-	-	-	Dropped from SADCC programme.
7.9.2	Extension Education Programme Pilot Project	0.07	0.07	-	0.02 (SWE)	-	0.05	Phase I under implementation.
7.9.3	Contour Ridges for Mechanical Conservation Works	-	-	-	-	-	-	Dropped from SADCC programme.
TOTAL		35.78	32.76	3.02	14.41	0.00	21.37	