

# Mission report SACCAR

10-16 October 1999

# **B.** Girardot

Centre de coopération internationale en recherche agronomique pour le développement (CIRAD-DIST)

# Mission report SACCAR

10-16 October 1999

# **B.** Girardot

Centre de coopération internationale en recherche agronomique pour le développement (CIRAD-DIST)

# **Executive summary**

As a regional organization, SACCAR<sup>1</sup> has a major role to play in setting up an information system capable of satisfying the needs of scientists and users of agricultural research results in southern Africa.

SACCAR's current structure and resources prevent it from fulfilling this role. Prior to taking any action, two aspects need to be considered:

- SACCAR's commitment to this operation has to be approved (Board approval of the strategic plan)
- SACCAR's capacities in this respect need to be strengthened.

The strategic plan to be submitted to the SACCAR Board at the end of November will cover this operation. The plan will be submitted for approval by the SADC<sup>2</sup> Council of Ministers at the beginning of next year. Moreover, the Botswanan government has undertaken to release a ICT post for SACCAR (April 2000), the exact details of which are under discussion.

Once these two preconditions have been met, SACCAR will have to fine-tune its information and communication strategy. The idea of a workshop has been put forward (SACCAR-CABI<sup>3</sup> contacts), and would enable the collective definition of such a system. This point is important, as it could help to attract strong support from representatives of institutions in SADC countries by involving them in defining the system.

Based on an analysis of the needs expressed, the SACCAR information system will have to focus on the following functions:

- · communication and scientific exchanges,
- · a gateway to international and regional sites,
- information sharing to provide a regional overview of available resources [expertise, institutions, projects]
- electronic scientific publications.

Two main types of operation are required: those linked to the setting up of the central system (creation and development of website, etc) and those aimed at strengthening the capacities of SADC member countries to structure contents and information.

As regards the setting up of the central system, a plan of action needs to be drawn up and submitted to all the participants. The plan could be defined at a regional workshop on the information system. Support from stakeholders will be crucial to the success of the operation.

As regards the strengthening of the SADC countries' capacities, a preliminary phase is need to define the resources required for both training and equipment. This phase could take the form of a joint circular mission by the SACCAR ICT specialist and an overseas expert. A program will have to be drawn up and funding sought for the mission. Given the large number of countries in the SADC, the analysis phase should cover a limited number of countries (five or six). A list of the countries concerned should be drawn up by SACCAR in conjunction with representatives of SADC member countries. This activity has to take account of the NARSs Secretariat initiative

It is thus important to think about implementing the project in two stages. The first preliminary phase covering the central structure and certain volunteer countries would lead to a proposed model, and the second would involve transferring the validated model to all the countries concerned.

The document drawn up in the preliminary phase should make it possible to define a SACCAR information system project including the strengthening of the capacities of national institutions and the development of the central system. The project, which needs to assess the possibilities of international partnerships, will then have to be submitted to international funding agencies.

<sup>&</sup>lt;sup>1</sup> Southern African Centre for Cooperation in Agricultural Research and Training

<sup>&</sup>lt;sup>2</sup> Southern African Development Community

<sup>&</sup>lt;sup>3</sup>Center for Agricultural and Biosciences - International

## 1. Context

## Short history of SACCAR

1984: SACCAR was established as an intra-governmental body.

1992: SACCAR's mandate was expanded to include natural resources and impact assessment.

1997: the SADC Council of Ministers directed the Government of Botswana to proceed with arrangements to convert SACCAR from a SADC Commission to a Sector Coordination Unit (SCU). This conversion took effect as of December 1998. It was also agreed that SACCAR should concentrate on coordinating research and training in the crops and livestock sectors, and that coordination of research in the natural resources sectors should be left to the respective sectors.

The Strategic Planning process conducted in 1999 identified 4 main priorities for SACCAR, namely:

- Research and Training Coordination and Integration,
- · Information and communication,
- · Promotion of Scientific and Technical Partnerships,
- · Review SACCAR's institutional framework.

During 1999, several operations focussed on information and communication issues:

- Dakar workshop (Development of a sub-Saharan African agricultural information strategy, 26-27 July 1999);
- Contact with NARSs (National Agricultural Research System) Secretariat;
- Contact with CABI
- · Contact with CIRAD.

#### **CIRAD's mission**

#### **Objective**

SACCAR has already drafted a preliminary version of its strategy, including a five-year plan. The objective of the mission was to discuss with SACCAR the stategy of information and Communication, by formulating in particular the main goals, specific objectives, expected outputs and activities.

#### **Expected outputs**

A logical framework for SACCAR strategy, with particular attention to regional and international partnerships.

- A review of the job description for the SACCAR ICT specialist.
- A review of SACCAR achievements regarding the setting up of a website and the publication of the Newsletter.
- A proposal for the improvement of SACCAR databases by taking into account the results of the questionnaire.

This mission was fully supported by CIRAD.

## 2. Situation

#### a. SACCAR's available information and tools

A review of available information at SACCAR has been carried out with Mr Kayumba.

#### **Databases**

Two databases are available. The first concerns project description (managed with CDS-ISIS software). It includes 872 records. Most of these projects are now completed and the last update was in 1994. The second covers scientists (managed with Dbase II), and includes 159 records. The last input was in 1997.

These two databases will not be of much use in developing the SACCAR information system, as they are not up to date.

#### **Others**

SACCAR manages a small library. A selection of books and CD-ROMs (eg TEEAL, The Essential Electronic Agricultural Library) is available. TEEAL proposes electronic reprints of scientific journals, which could be very useful to scientists in the SADC region.

#### The SACCAR Newsletter

At present, the SACCAR Newsletter is the support used for SACCAR's communication. One issue has been published since the beginning of the year. Information provided by this Newsletter concerns SACCAR's and SADC institutions' activities and scientific reports. SACCAR staff produces the Newsletter. The content and form of the Newsletter could be optimized, and its periodicity (one issue since January) is not sufficient.

#### The SACCAR website

Mr Kayumba has designed new SACCAR web pages. The information available is mainly about SACCAR (mission, organization, etc), projects and gateway services. Interactivity is poor, and the design is not very attractive.

## b. End-users' and NARS' expectations: the SACCAR questionnaire

In August, SACCAR sent a questionnaire to 400 institutions in the SADC region (NARSs, NGOs, private companies, etc). The questionnaire (entitled "Needs of the institutions of the SADC region for support from SACCAR") focussed on various aspects: partnerships, institutional requirements, products and services that SACCAR should provide, products and services that institutions could offer to SACCAR, etc.

To date, SACCAR has received about 50 replies. Interpretation is in progress through a database developed by Jason Scott, the independent consultant in charge of the operation. At the time of the mission, relatively little information was available, based on 35 replies.

For the question: "To address the demands of your institution, rank the services SACCAR should provide (from 1 to 6)", the results are shown in the following table:

Topics	Ranked 1st (%)	Ranked 2nd (%)	Ranked 3rd (%)
Information and communication	24	9	21
Financial support for research and training activities	29	9	0
Financial support to strengthen partnerships	15	21	9
Expertise	3	9	6
Training and promotion of capacity-building	21	15	15
Promotion of policy-making	6	6	3

The most important expectations are related to funding, information and communication, and training and promotion of capacity-building.

As to the information topic, a quick analysis of the first item in Section 2.3: Which products and services should SACCAR provide in the future to serve you better? - Specify the type of information

SACCAR should provide and the relevant media" shows that there is substantial demand from institutions. The areas identified can be grouped as follows (qualitative analysis):

- Directories of agricultural research and training institutions, scientists and research and training activities.
- Data and censuses (regional statistics on livestock and crop databases, access to national databases, information on agricultural statistics databases).
- Research results through publications and other media (technology development, awareness of new technologies).
- Information and technology support.
- Sources of funding and tenders, events and training opportunities.
- General awareness (information exchange on policy analysis).

The results of a rapid quantitative analysis made during the mission show that the three first items listed above rank first.

The need for research publications is strong: the lack of regional scientific journals allowing scientists to publish their results is most probably the reason for this expectation. This request concerns not only scientists but also end-users.

## c. SACCAR's expectations

In its restructuring, SACCAR must strengthen its role in the region, as a facilitator of agricultural research for development, and its worldwide role in the Global Forum for Agricultural Research. The information system will be a tool relating to this task.

#### d. Conclusion

End-users, NARSs and SACCAR have numerous expectations, but the SACCAR information system cannot fulfil all of them. It has to focus on information that is relevant to SACCAR's role. The expectations related to national data, such as statistical data, national policy, etc cannot be covered by the SACCAR information system. However, SACCAR has a role to play in helping national institutions to develop their own databases and websites.

An analysis of expectations prompts the recommendation of two types of operations:

- SACCAR has to build and manage an information system to provide all possible information relevant to its role
- SACCAR has a role to play in helping national institutions to develop their own information systems.

# 3. Definition of the SACCAR information system

## a. Information system's characterization

As regards end-users', NARSs' and SACCAR's expectations, the information system has to focus on the following topics:

- Communication and exchange tools: The Newsletter is available in electronic form. A "News" section could be cretad on the web server. It could be used to provide information about SACCAR and institutional activities. A paper newsletter is still published. It has been redefined in terms of content and graphic design.
  - Information exchange amongst scientists, and between scientists and end-users, also has to be one of the services provided by the SACCAR website (Forum).
- Gateway service: Two kinds of services are concerned. The first is a gateway service to access
  information from donors, international agencies, co-operating partners, etc. The second is related
  to data that are relevant to national institutions. SACCAR cannot be expected to assume the
  national institutions' role: national data must be made available on national web servers.
  SACCAR's role in this respect is to act as a gateway and to facilitate NARSs' access to web
  technology.
- **Information sharing**: Databases (eg agricultural research and training institutions, scientists and research and training activities, etc) could be provided by SACCAR. It is very important to understand that this kind of information is not available, at the moment, at SACCAR level. SACCAR's role would be to gather data from SADC countries' NARSs.
- Publication: The SACCAR information system could be a support for scientific publication. Initially, the publications provided by the SACCAR website could follow the same lines as the Newsletter: NARSs would be responsible for selection of results which can be published. Later, the web publication space could take the form of an electronic journal managed like all scientific journals, where a committee is responsible for the selection of papers. Capitalization of the results published on the website will allow a shift from an information system concept to a knowledge system concept.

### b. Data sources

The characterization suggested above would be based on the origin of the various data:

- Communication and exchange tools: The arrangement used today to supply information for the Newsletter could be used. It needs to be strengthened so as to obtain regular information from stakeholders. Information exchange will be managed by the information system. Forums and other mailing lists could be used to this end.
- Gateway service: For the first kind of service—gateway to donors' and international agencies'
  websites—SACCAR could compile a list of useful websites. For the second kind of service—gateway
  to SADC countries' websites—SACCAR includes in its website data provided by stakeholders.
- Information sharing: Fulfilling expectations of regional databases about expertise, institutions, projects, etc is subject to several factors: first of all, information must be available. Before implementing regional databases, national databases need to be developed. The existence of national databases will not be the only precondition. Information sharing needs a real political commitment. All the countries and institutions involved in the project have to commit themselves to providing information to share.

Two solutions can be proposed: the first involves setting up a database supplied with data from national stakeholders. The second involves developing a multi-database search engine (MDSE); data are not managed by SACCAR, but the SACCAR MDSE allows users to request national databases from the SACCAR website.

Publication: scientists' results concern those from SADC countries.

## 4. SACCAR's role and needs

#### a. SACCAR's role

SACCAR has a key role to play in implementing the regional information system. With respect to the services and data defined above, SACCAR has to take on the following roles:

Description	Roles for SACCAR	
Communication tool: SACCAR should be a facilitator. SACCAR will co-ordinate the network and provide information on its website. Arrangement used today to supply the Newsletter need to be strengthened.	Facilitator Network organisation and construction Implementation of web pages	
<b>Gateway service:</b> SACCAR identifies international websites of interest to end-users. It also gathers information on websites and databases from SADC countries. As for the Newsletter, SACCAR coordinates a network to collect relevant information.	Facilitator Network stimulating Implementation of web pages	
Information sharing: Information sharing needs a real political commitment. SACCAR has to solve the political aspects: stakeholders should agree to the project and supply SACCAR with their own data. SACCAR's role would also be to implement a system allowing end-users to access shared information.	Political Implementation of web pages	
SACCAR's role will also entail strengthening of the stakeholders' capacities. The capacities of SADC countries are highly variable: some countries are up to date with IT, others need strong support. To accomplish this task, SACCAR needs to build projects with national stakeholders in order to strengthen their capacities.	Facilitator Project manager	
<b>Publication:</b> The first stage described above could be based on the arrangement already used to supply the Newsletter: SACCAR coordinates an information-gathering network. Publication of scientists' results will be the responsibility of the producing institution.	Facilitator Network stimulation Implementation of web pages	
In the second stage, a real scientific electronic journal is managed like a paper journal. SACCAR should draw up the project and perhaps head the scientific committee.	Facilitator  Implementation of web pages	

As shown in the above table, SACCAR would have two kinds of roles; political and technical.

#### b. SACCAR's needs

To assume the above roles, SACCAR needs to see information and communication as a priority. It already does: its five-year strategic plan includes information and communication. The two main thrusts of the policy proposed in this plan are information system implementation and facilitation of the establishment of regional capacity.

The current SACCAR staff does not include an ICT specialist. This means that it will be impossible to set up the information system in the near future. An ICT specialist is due to be assigned to SACCAR in April 2000, and the job description is currently being discussed (see next section). This strengthening of SACCAR capacity could enable the effective launch of various information and communication operations. However, it is important to remember that there are many tasks to be done and that the available human resources will be limited to this one post.

## c. The SACCAR ICT specialist

SACCAR's future roles will involve two types of expertise:

- **1.** Technical expertise for the development of databases, the web server and the tools that will be on offer (forum, etc), website management, etc.
- 2. Non-technical expertise. The specialist recruited will be responsible for drawing up and monitoring projects, particularly in support of NARSs. The priority skills are project management, communication skills and team and network leading ability.

It goes without saying that it would be best to have two people assigned to these various tasks: a project leader and a technical specialist (this solution has been proposed for other projects such as that to create an information system covering Indian Ocean Commission countries). As things stand at SACCAR, it is unlikely that this will be possible, and choices will thus have to be made when drawing up the job description: priority will have to be given to one type of expertise, whilst not ruling out the other.

It seems preferable to opt for a project leader specializing in IT rather than a technical specialist. SACCAR's animation capacity would be strengthened by such a person, who will be able to define and implement a policy designed to serve the needs of SADC member countries.

The job of creating the website and developing databases and interfaces providing access to them could be outsourced.

In view of this, the job description for the SACCAR ICT specialist could be as follows:

- Head of the SACCAR "information and communication" project
- Skills:
  - IT specialist
  - Ability to communicate, exchange information with partners, animate a network.
- Level of qualification: Masters.

#### d. Need for expertise

In drawing up the information system project (see above), SACCAR will have to call upon international experts. Several partners have expressed an interest: CABI, CIRAD, CTA, and NARSs Secretariat. SACCAR should make the most of this opportunity.

On a more one-off basis, SACCAR could rapidly be helped to redefine its Newsletter. The fact that it could be available in electronic form in future does not mean abandoning the usual printed version. The content of the Newsletter is currently poorly defined, and should be improved, as should the layout. The Newsletter is SACCAR's only communication tool, and it is important that it put across a positive image.

# 5. Deployment of the SACCAR information system

Annex I gives a logical framework for deployment of the information system, based on two main operations: developing the SACCAR website and strengthening NARSs' capacities.

These two operations will make up the SACCAR "information system" project. They should be covered by an overall project in order to obtain funding.

## a. The SACCAR information system

Based on the information compiled by SACCAR, an initial idea of the functionality of the SACCAR Information system is given above. It will have to be fine-tuned. The idea of a workshop involving SACCAR and representatives of national institutions has been put forward and discussed with the CABI. Such a workshop would enable the collective definition of the information system, which would guarantee the national institutions' support. This is an important point: involving the potential users of a tool in its design is crucial to its acceptance.

## b. Strengthening NARSs' capacities

Before implementing the project, the NARSs' requirements need to be analysed. SADC has so many member countries that it is impossible to cover all of them, and choices will have to be made (a total of five or six countries seems realistic). It is worth noting that two SADC members (Mauritius and the Seychelles) are already members of an information system: the IORIS (Indian Ocean Region Information System) project set up by the Indian Ocean Commission (IOC). The countries will have to be chosen by SACCAR in conjunction with representatives from SADC member countries.

The requirements will be analysed by the SACCAR ICT specialist and an international expert. This phase will be used to identify the available resources (in human and material terms) and requirements (training, equipment), and to make institutional leaders aware of the importance of information in managing their organizations. The results obtained will be used to define the "Strengthening NARSs' capacities" component of the overall project.

#### c. A two-stage project

The above operations should lead on to the first stage of the project, which will involve developing a model of the central system, with input from the chosen five or six countries. Once the model has been validated, the second stage will consist in extending the system to all SADC member countries.

## 6. Conclusion

The SACCAR information system is crucial for the centre's image in the eyes of the various stakeholders in the region: deployment of the system will enable SACCAR to fully assume its role as a regional facilitator of development-oriented agricultural research. Over and above the regional aspect, the system will enable SACCAR to be involved in the development of the FARA and GFAR: it will ensure the international visibility of the research work conducted in southern Africa.

The success of this initiative will be an important factor in the recognition of SACCAR's role in the subregion and on an international level.

The system's weak spot will be the lack of human resources: SACCAR will have just one ICT specialist, which would seem to be insufficient given the extent of the tasks in hand. The specialist will have to be both highly versatile and available, as the two main tasks—deployment of the information system and strengthening of the NARSs' capacities—have to be conducted simultaneously.

International technical assistance will undoubtedly be required for the following:

- defining the functions of the information system,
- evaluating NARSs' requirements,
- strengthening NARSs' capacities,
- redefining the Newsletter,

There are many possible partnerships (CABI, CIRAD, CTA, NARSs Secretariat, etc), and SACCAR needs to make the most of every opportunity.

Lastly, the political aspect should not be overlooked. One of the expected functions of the information system is information sharing (regional overview of experts, institutions, projects). Strong support is required from institutions that hold information: it will be impossible to collect the necessary information without their approval.

# Logical framework

# **General objective**

To contribute towards SADC countries' expansion through the development of agricultural production (crops and livestock).

## Main objectives

- 1. To allow information exchange between agricultural sector stakeholders on a regional level.
- 2. To increase the visibility of SADC countries' agricultural research in the worldwide scientific community.

## Specific objectives

- To implement a regional information (and knowledge) system to serve stakeholders.
- 2. To strengthen the capacities of stakeholders in SADC countries to manage and organize their information.

#### **Activities**

<u>Specific objective 1:</u> Implementing a regional information (and knowledge) system to serve protagonists

Developing the SACCAR home page, ie the regional website, to act as a gateway to NARSs' websites (and others). The SACCAR website also provides two kinds of information:

- dynamic information, such as News, Events, Q/A, Forum, etc.
- information based on country data, such as a regional overview of expertise, projects, ...

As it is impossible to provide all this information at once, a step by step approach is proposed. Information and data processing capacity requirements are constantly on the increase.

Step 1: the SACCAR website provides information on SACCAR, SACCAR's activities, the activities of SADC countries' agricultural institutions, gateway function, scientific information (abstracts, reports, etc). Information requirements are low. The arrangement used today to supply information for the Newsletter can be used, but needs to be strengthened.

- 1.1. Design of the new website
  - 1.1.1. Definition of content
  - 1.1.2. Definition of graphic design (this task can be outsourced)
  - 1.1.3. Organization of information (map of the website)
- 1.2. Developing the website
  - 1.2.1. Developing the web pages
  - 1.2.2. Validation (editorial aspects, operational aspects, etc)
- 1.3. Opening the website to worldwide users
- 1.4. Promoting the website
  - 1.4.1. The SACCAR website address has to feature in all the documents produced by SACCAR (letters, e-mails sent by staff, publications, press advertisements, etc)
  - 1.4.2. E-mail is sent to all SACCAR correspondents
  - 1.4.3. Website is indexed in search engines
  - 1.4.4. Webmasters of related websites are requested to link the SACCAR website to their own site
- 1.5. Site viewing
  - 1.5.1. Monitoring who views the site

Step 2: development of the database on agricultural research institutions in SADC countries.

- 2.1. Creation of the database structure
  - 2.1.1. Description of institution (name, address, etc)
  - 2.1.2. Database structure is defined
- 2.2. Institutions are requested to supply SACCAR database
- 2.3. Web access form is developed

<u>Step 3:</u> development of scientist and project databases. These databases are based on the information supplied by the SADC countries' institutions. Without this information, the data cannot be implemented. Strengthening of the NARSs' capacities is a precondition (see below).

- 3.1. Definition of database structure
  - 3.1.1. Description of project and scientist (fields used)
  - 3.1.2. Database structure is defined
- 3.2. Protocol for information exchanges with NARSs is defined and agreed
- 3.3. Protocol for data reformatting is defined and agreed
- 3.4. Institutions are requested to supply SACCAR databases
- 3.5. Web access forms are developed

<u>Specific objective 2:</u> Strengthening the capacities of stakeholders in SADC countries to manage and organize their information

Assisting NARSs to build their own information systems. This activity has to take account of the NARSs Secretariat initiative. NARSs' information systems could be based on management of information about scientists, projects, publications, facilities and equipments (laboratories, experimental sites and so on). Elaborate information provided by the SACCAR website would be based on these databases. Information will be extracted regularly to supply the central database (only some fields will be considered).

Above all, database development has to be of direct use to stakeholders. These databases should offer tools to improve research management for the institutions responsible for developing them. The fact that information from these databases will be used for the SACCAR home page is not a valid reason in itself for creating them.

<u>Step 1:</u> Above all, and to complete the information collected with the questionnaire, existing facilities and resources may be assessed. The expected result of this step is an inventory of NARSs' capacities.

1.1. Identification of the method used

This could be:

- questionnaire
- SACCAR mission to SADC countries
- workshop

In terms of effectiveness, the best solution is almost certainly to visit the countries. This method gives the expert in charge of this task a view of the true situation in each country. However, it is the most time consuming and the most expensive.

- 1.2. Assessment of facilities and software
  - 1.2.1. Equipment available (computer [type, CD-ROM drive, number], connectivity [provider, modem], others [scanner, CD-ROM recorder, network facilities])
  - 1.2.2. Software available (name, version number)
- 1.3. Assessment of ICT human resources
  - 1.3.1. Number of ICT specialists
  - 1.3.2. Database management expertise
  - 1.3.3. Website management expertise
- 1.4. Availability of electronic information
  - 1.4.1. Databases

Description, software used, number of records, update frequency, possibility of public access (regarding confidentiality), users of the database

1.4.2. Website

URL, description, number of pages and databases

1.4.3. Others

Description

<u>Step 2:</u> Because of the number of countries in the SADC region, it would be preferable to have a "pilot phase" with some institutions selected for their motivation to join the project and their ability to implement information rapidly.

- 2.3. Project definition
- 2.4. Project implementation
  - 2.4.1. Equipment of NARSs (hardware, software, communication facilities)
  - 2.4.2. Training in
    - 2.4.2.1. Database management
    - 2.4.2.2. Home page setup (development, provider, etc)

<u>Step 3:</u> Collection of information in countries. Focal points, or national nodes, could assume this key function. National nodes require equipment, training, and full recognition of their mission by the other institutions in the country.

At the same time as deploying the information system, it is important to implement some form of monitoring-evaluation device in order to check that the proposed solution meets user expectations. There has to be full interaction between the system and its users: information system development is a dynamic process and has to take account of user expectations.

The second phase in deploying the SACCAR information system will consist in extending the process to all the SADC countries.

The SACCAR website is currently hosted by a provider: Info Botswana Services (www.ibis.bw/~saccar/sacca.htm). For the future, two possibilities should be considered:

- SACCAR website stays with Info Botswana Services
- SACCAR becomes its own provider.

The first choice would not change the current situation: SACCAR already uses Info Botswana Services facilities.

The second choice could be facilitated by the geographical proximity of SACCAR and Botswana College of Agriculture (BCA) buildings. A meeting with Mr Chimbamba Mwale, BCA Computer Manager, revealed that it is technically possible to share BCA's Internet line which allows international exchanges at a rate of 64 KB. To do this, an optic fibre cable would have to link BCA and SACCAR buildings. This would provide SACCAR staff with permanent access to the Internet and e-mail without modem and communication costs.

The choice between these two possibilities would be based on the following criteria:

- equipment (hardware): the same type of equipment as the provider has would be required for the SACCAR ICT specialist as it is necessary for database development (a database developed on a PC computer is not easily supported on a Unix station). Info Botswana Services hardware is apparently equipped with Unix. If this is confirmed, SACCAR will have to buy a Unix station, which is much more expensive than a PC, and will also need a Unix specialist.
- BCA has a Linux server, a freeware operating system run with a PC computer. As Linux softwares are also free of charge, this point is very important as this option would drastically reduce software costs.
- **cost**: the two possibilities have to be costed, taking into account that sharing a dedicated line with BCA would reduce SACCAR's communication costs (connection to e-mail provider).
- **others**: the second solution would probably be more costly, but it is important also to take account of its convenience. The numerous server updates would mean working frequently with Info Botswana Services.

In both cases, SACCAR should have its own web address: www.saccar.org (which is possible, even if the website is hosted by Info Botswana Services).

Agenda Annex III

10 October : Montpellier-Paris, Paris-Johannesburg (11 October)

**11 October** : Johannesburg-Gaborone, met by P. Caron

12 October : Briefing meeting with Dr Molapong, Sector Co-ordinator of SACCAR,

Mr Kayumba, Dr Sundstol, P. Caron: welcome, SACCAR presentation,

purpose of the mission.

Working session with Mr Kayumba

- review of web pages developed by SACCAR,

- quick analysis of replies to the SACCAR questionnaire

Working session with Jason Scott, independent consultant in charge of

interpreting the replies to SACCAR's questionnaire.

13 October : Working session with Mr Kayumba

**14 October** Meeting with Dr Molapong, Mrs F. Kayumba and P. Caron

Visit to Botswana College of Agriculture, Mr Chimbamba Mwale,

Computer Manager

Lunch with Mr P. Berthelier, SADC

Working session with Mr F. Kayumba

15 October : Working session with Mr F. Kayumba

Working session with Mr J. Scott

Lunch at the French Embassy

Wrapping-up meeting

**16 October** : Gaborone-Johannesburg

Johannesburg-Paris

17 October : Paris-Montpellier