New Partnership for
Africa's Development (NEPAD)

Comprehensive Africa Agriculture
Development Programme (CAADP)

Food and Agriculture Organization
of the United Nations

Investment Centre Division

GOVERNMENT OF THE REPUBLIC OF MAURITIUS

SUPPORT TO NEPAD–CAADP IMPLEMENTATION

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Volume III of VII

BANKABLE INVESTMENT PROJECT PROFILE

Mauritius Agricultural Information System (MAIS)

February 2005

MAURITIUS: Support to NEPAD–CAADP Implementation

Volume I: **National Medium–Term Investment Programme (NMTIP)**

Bankable Investment Project Profiles (BIPPs)

Volume II: **Agricultural Diversification (Integrated Processing and Marketing)**

Volume III: **Mauritius Agricultural Information System (MAIS)**

Volume IV: **Sustainable Land and Water Management**

Volume V: **Community Development and Poverty Alleviation Project**

Volume VI: **Mauritius Agricultural Biotechnology Institute (MABI)**

Volume VII: **Strengthening the Agro–Processing Capacity of Rodrigues**

NEPAD–CAADP BANKABLE INVESTMENT PROJECT PROFILE

Country: Mauritius

Sector of Activities: All agricultural subsectors

Proposed Project Name: **Participatory Development and Implementation of the *Mauritius Agricultural Information System* (MAIS)**

Project Location: Mauritius & Rodrigues

Duration of Project: 4 years

Estimated Cost: **Rs70,000,000**

Suggested Financing:

<table>
<tr><th>Source</th><th>US$ million[1]</th><th>Rs million</th><th>% of total</th></tr>
<tr><td>Government</td><td></td><td>FARC
(up to Rs3.4m)
in kind[2]</td><td>4.8</td></tr>
<tr><td>Financing institution(s)</td><td></td><td></td><td rowspan="3">95.2</td></tr>
<tr><td>Beneficiaries</td><td></td><td>in kind[2]</td></tr>
<tr><td>Private sector</td><td></td><td>in kind[2]</td></tr>
<tr><td>Total</td><td>2.37
(of which 0.51 in kind)</td><td>70
(of which 15 in kind)</td><td>100.0</td></tr>
</table>

1 Exchange rate:
Currency: Mauritius Rupee (Rs)
US$1 =Rs29.5
Rs1 = US$0.0339

2 In kind contribution estimated at Rs15m represents almost 21 percent of total project cost, monetary requirements are estimated at Rs55m. Financing sources have not been identified at this stage, other than FARC proposing to contribute Rs3.4m to the project.

MAURITIUS:

NEPAD–CAADP Bankable Investment Project Profile

“Participatory Development and Implementation of the Mauritius Agricultural Information System (MAIS)”

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Abbreviations

ACP	African, Caribbean and Pacific [Countries]
AGRIS	International Information System for the Agricultural Sciences and Technology
AMB	Agricultural Marketing Board
AREU	Agricultural Research and Extension Unit
BIPP	Bankable Investment Project Profile
CAADP	Comprehensive Africa Agriculture Development Programme
CARIS	Current Agricultural Research Information System
CGIAR	Consultative Group on International Agricultural Research
CTA	Technical Centre for Agricultural & Rural Development ACP–EU
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO Corporate Database for Substantive Statistical Data
FARC	Food and Agricultural Research Council
GIS	Geographical Information System
ICT	Information & Communication Technology
ISNAR	International Service for National Agricultural Research
MAFTNR	Ministry of Agriculture, Food Technology and Natural Resources
MAIS	Mauritius Agricultural Information System
NEPAD	New Partnership for Africa's Development
NMTIP	National Medium–Term Investment Programme
NSSSP	Non–Sugar Sector Strategic Plan (2003–2007)
PRA	Participatory Rural Appraisal
QAS	Question & Answer Service
SADC	Southern African Development Community
VERCON	Virtual Extension–Research and Communication Network
WAICENT	World Agricultural Information Centre

I. PROJECT BACKGROUND

A. Programme Origin

I.1. The Republic of Mauritius finds itself, in the 2004–2005 period, at a historic crossroad in its agricultural and economic development, mainly as a result of external influences arising out of the process of globalisation. Since the independence of Mauritius, in 1968, the sugar sector has played an important role in supporting the post–independence development and diversification of the economy into other sectors such as the Manufacturing and Textile industries, Tourism, Financial services and more recently the *Information & Communication Technology* (ICT) sector. However, with proposed reductions of the order of 37 percent in the preferential price of sugar purchased by the European Union over the period 2005–2007 under the *Sugar Protocol*, the Mauritian agricultural sector suddenly finds itself having to explore options to move out of sugar into other agricultural activities. Thus, older agricultural workers in the sugar sector find themselves having to look for alternative sources of income, and many are turning to non–sugar agriculture (mainly vegetable production) as their main activity. Similarly, many of the older textile workers who find themselves out of a job, especially in the rural areas also find it easier to shift to these traditional small–scale agricultural enterprises for their livelihood.

I.2. 'Small–scale agriculture' as traditionally practiced by vegetable producers in Mauritius is subject to natural risks and those associated with large and irregular price fluctuations on the market. Moreover, 'small–scale agriculture' is also being influenced by the global economic trends and cannot remain traditional: instead, to remain competitive, it will have to adapt itself and find innovative and cost effective pathways to production. Therefore, new producers who are now joining the non–sugar agricultural sector need to be accompanied in their endeavour if they are to achieve sustainable livelihood through agriculture. The Government of Mauritius has recently set up a *Crop Insurance Programme* on a pilot basis as one of the measures against the risk of natural calamities. However, as far as reducing the risk associated with market price fluctuations, the best tool to tackle it is through the provision of information to the producers such that they can, in turn, devise appropriate strategies of production to make best use of market opportunities.

I.3. The scenario described above clearly illustrates how urgently Mauritius needs to be working on the provision of a range of information required by agricultural producers in the light of more dynamic market forces influencing agriculture as trade is further liberalised. The *Non–Sugar Sector Strategic Plan 2003–2007* (NSSSP) prepared by the *Ministry of Agriculture, Food Technology and Natural Resources* (MAFTNR) in 2003, recognises the need to have a network of information systems to act as an efficient collector, storage and retrieval system for information catering for the range of users in the agricultural sector, at the government, sectoral, institutional and production levels. However, the successful development of such a system requires an integrated approach to addressing the issue of provision of information to the agricultural community, while making use of new technologies that may speed up the flow of information.

I.4. The *Food and Agricultural Research Council* (FARC), operating under the aegis of the MAFTNR is already active in the coordination of agricultural research in Mauritius and dissemination of information on the results of research, particularly in the non–sugar agricultural sector. The FARC proposes to lead this collaborative project with other agricultural institutions in Mauritius, to address the issue of the coordination, harmonisation and integration the provision of timely, quality information to the farming community by various agricultural and non–agricultural institutions. An inclusive and participatory approach has been prescribed involving all the stakeholders in agriculture, especially those small–scale producers who rely on agriculture for their livelihood while adapting and making use of ICT as far as possible to support the process.

B. General Information

I.5. Agricultural production is becoming increasingly knowledge–based and science intensive. New strategic research areas have emerged and developed, with significant effects on the potential to produce food in a sustainable way. Information has become a valuable commodity that can positively influence productivity at all levels of the agricultural spectrum: from the farmer and the student to the policy maker and researcher. The onset of globalization is forcing Mauritius to become more competitive in its agriculture, which calls for increased and accessible information on markets; information for training and the use of information technology in the way we train, produce, market and communicate.

I.6. Furthermore, as a member of the *Southern African Development Community* (SADC) the Republic of Mauritius is committed to the goals set by the SADC on Agriculture and Food Security (*Dar es Salaam Declaration on Agriculture and Food Security*, 15 May 2004) including, among others: (i) ensuring availability and access of key agricultural inputs to farmers critical to increased agricultural production, (ii) increasing the production of crop, livestock and fisheries resources, (iii) promoting programmes to facilitate the development of information and communication technology in rural areas, (iv) engaging in non–traditional agriculture for food security, (v) undertaking research, technology development and disseminating the information and findings widely, (vi) involving the private sector in agriculture and rural development and enhancing market access for agricultural products. While efforts to achieve these goals are gradually being implemented, their effectiveness will be greatly enhanced only if accompanied by adequate and timely provision of information to the targeted beneficiaries: the agricultural producers. Thus, the role that information plays in agricultural development is becoming more crucial than ever before.

I.7. The Government of Mauritius has placed great importance on the adoption of ICT with its plans to set up the Ebène cyber city and other projects to improve the provision of government services though these technologies. The NSSSP states the Ministry's wish to have a network of information systems to act as an efficient collector, storage and retrieval system for information catering for the range of users in the agricultural sector, at the government, sectoral, institutional and production levels. For proper and efficient access and use of information in the agricultural sector, the latter must be available in a structured form or in a rapidly searchable format. Computer–based information systems are the most appropriate tools for providing such information.

I.8. The development of such a system requires an integrated approach to addressing the issue of providing information to the agricultural community. However, the strategic plan does not elaborate on the proposed approach to its implementation while it only describes specific components that provide information on domestic and external markets.

C. Ongoing Projects

I.9. Several projects are already under way that may contribute to the setting up of the agricultural information system. While these projects are still being developed independently and with different objectives, some of their components could eventually be integrated into a national system. These systems include:

I.10. The ***Livestock Management Information System*** and the ***Crop Management Information System*** at the *Agricultural Services section* of the MAFTNR. The *Livestock Management Information System* which has been under development over the past decade is in its final stages of implementation while the *Crop Management Information System* is still at the start of the process, namely system design. However, both of these systems remain mostly for internal use of the Ministry and some parastatals closely involved in with the sector concerned, and have not been designed to make information directly accessible to the farming community. In fact, it is intended that information systems that provide information directly to the community via the computer interface such as the web, only be developed after implementation of these systems. The *Agricultural Information Division* of the Ministry maintains a statistical database on agricultural production funded through a FAO project and has been included in the conceptualisation of the systems mentioned above. The budget speech of June 2004 mentions a focus on the computerisation of the financial, stores and personnel section of the Ministry rather than further development of these systems. Therefore, while these information systems are being developed, the linkage with the end user, namely the producer is being left to the human interface (officer of the Ministry) rather than being facilitated through ICT.

I.11. The ***Agricultural Research Information System*** at the FARC. The FARC, which is mandated to coordinate and harmonise agricultural research among agricultural institutions in Mauritius, and to disseminate the results of such research and other information in the agricultural sector has been gathering information on research activities, equipment and human resources in the agricultural sector. Information compiled on research projects has been implementation into an in–house electronic database constituting the start of the *Agricultural Research Information System*. The information system will be expanded to include information on equipment and human resources in the sector. The FARC already makes available on its website, full–text versions of the proceedings of the six *Meetings of Agricultural Scientists* held so far. Furthermore, the FARC has been working on an exercise of priority setting and classification of research to be used as a planning tool and to be made available to researchers and policy makers. The FARC recruited a Research Programme Manager with experience in the development of agricultural information systems to support the development of these systems.

I.12. The ***Market Information System*** being implemented at the *Agricultural Research and Extension Unit* (AREU) of the FARC as part of a EU–funded project to support agricultural diversification within the *Northern Plains Irrigation Project*. The system aims to provide information on prices of fruits and vegetables on the local market on a weekly basis and was initiated in April 2003. Information provided under this system consists of the weekly price of fruits and vegetables at main wholesale markets in Mauritius and a monthly summary of area under cultivation and production. An evaluation of the system among agricultural producers is currently being carried out.

I.13. The ***Market Intelligence Unit*** being implemented at the *Agricultural Marketing Board* (AMB) to provide information about external markets as mentioned in the non–sugar sector plan– this project is still at its initial phase and the team has been constituted for its design and implementation.

I.14. Therefore, in addition to the above systems being developed, and the development of corporate websites for various agricultural organisations, each organisation has been left to work on the issue of information systems within its own mandate. However, what is lacking is a coordinated approach with a clear focus on satisfying the information needs of the stakeholders, especially the farming community who are the ultimate users of such information and for which speedy access to information has value.

I.15. Given the role of the FARC as the apex organisation coordinating research activities in the agricultural sector and playing a leading role in information dissemination, while at the same time holding a responsibility to advise policy makers in the agricultural sector, it appreciates the role that information has in the development of the agricultural sector in Mauritius. With the recruitment of staff and the development of its in–house information systems the FARC sees itself in a favourable position to initiate and lead an information systems development project at a national level and develop local capacity for its implementation.

I.16. In order to achieve the objective set in the NSSSP of setting–up an agricultural information system at a national level, the FARC is proposing to play a leading role in this process by partly funding the research component of the design and development of the framework for the integrated information system, seek funds for the expansion of the project to the national level and manage the funds for local capacity building and to support the essential data–gathering phases of system implementation among agricultural institutions in Mauritius.

D. Mauritius Agricultural Information System (MAIS)

I.17. The information system, dubbed the 'MAIS' aims to host a maximum relevant data and information on agro–related themes and to deliver online timely up–to–date information in a user–friendly environment to the different categories of users; namely policymakers, managers, researchers, farmers' community or other. The MAIS distinguishes itself from Management Information Systems, by its ability to serve the whole spectrum of users instead of restricting itself at management or inter organisational level. In fact, the MAIS will be focused more on the farmers' information needs and locally developed multimedia applications of ICT will be used to facilitate access to the information by low–literacy users. Through more accurate and quickly accessible information, the MAIS will assist in the improvement of productivity at all levels of decision making and planning in the agricultural sector.

I.18. ***Participatory and capacity building approach.*** The approach to be used in the project is a participatory and integrative one involving:

- Wide consultations with representative groups of stakeholders, especially small–scale producers, on their information requirements
- A study of the current institutional efforts in the implementation of information systems to identify complementary areas and harmonise the systems.
- Identification of gaps in data, information or knowledge which need to be filled to achieve the overall integration of the MAIS such that users' information needs are satisfied.
- Initiation of research and development of parts of the information system at the most appropriate institutions, backed up by technical assistance facilitated by the FARC.
- Training of human resources to develop and maintain the information system while simultaneously training users of the system and supporting them.
- Dissemination of information about the information system to increase awareness among potential users and increasing the user base of the system.

II. PROJECT AREA

II.1. ***Mauritius.*** The project area involves firstly the island of Mauritius which comprises various agro–ecological zones, traditionally allocated to sugarcane cultivation (Appendix 1) but which may have to be converted to other systems of agricultural production in the light of world trade pressures on the sugarcane industry. A second geographical area of interest to this project is the island of Rodrigues, where the development of an agricultural information system has yet to be addressed. One advantage that Rodrigues offers as a target area for the project is the small size of the island (Appendix 2), which should ensure faster data gathering and implementation of the project.

II.2. ***Rodrigues.*** The small size of Rodrigues will also enable the concept of the integration of remote sensing and a *Geographical Information System* (GIS) into the MAIS to be tested on a pilot basis. These relatively new management tools are already being used elsewhere to support 'precision agriculture' which aims to optimise agricultural inputs e.g. fertilizers, pesticides, water etc., in tune with micro–level/field requirements. Optimisation is focused on increased yields, reduced cost of cultivation and to minimise environmental impacts through location–specific management. Thus, Rodrigues or at least one of the dense agricultural areas of the island will be privileged in this study by becoming the site for a pilot study of GIS implementation to support management of the land by the community, both from an environmental policy perspective (Rodrigues has many areas prone to soil erosion) and from a community resource management perspective.

II.3. ***Main Beneficiaries.*** The population targeted in the project includes firstly the current farming community who may have to rapidly adapt their production habits in light of impending competitive scenarios, secondly those who may find themselves coming back to agriculture after having worked in the manufacturing sector as skilled workers but who have to adopt non–traditional forms of agriculture and finally, the new generation of agricultural entrepreneurs who will eventually emerge as the future farmers in Mauritius. Most of the current constraints that the farmers face have been documented in the NSSSP and other publications on the results of *Participatory Rural Appraisal* (PRA) exercises with the farmer community.

II.4. Therefore, the target groups in this project vary from the beginner–farmers requiring information to start up their agricultural enterprises to the increasingly professional farmers trying to keep ahead in the global competition. These populations are currently supported by a range of service–providing institutions which will be called upon to play a more pro–active, demand–driven, business–like supportive role in the future. Other stakeholders in the agricultural sector such as policy makers, commercial institutions and researchers may also find the MAIS a useful source of information for their purposes.

III. PROJECT RATIONALE

III.1. Mauritius has been dominantly covered by sugarcane cultivation and most of the rural population are involved in that industry. However, in the light of world trade liberalisation and changes to preferential trade agreements, the country will face a rapid decline in income as the price of sugar gets adjusted to world market prices over the next few years. The farming community will demand that agricultural institutions come up with proposals and carefully worked alternative agricultural enterprises. Furthermore, the textile industry, which has been the major employer of skilled workers in the rural areas of Mauritius for the past 20 years, may soon also face international competition, leading to right–sizing. These workers may consider a return to agriculture as one of the solutions to achieving sustainable livelihood.

III.2. Relevant information on alternative agricultural enterprises available rapidly will be essential to guide current agricultural producers who want to diversify their activities and new producers who will be joining the sector, especially those involved in small–scale agriculture. Given the critical role that information will play in assisting the rural population and resource poor to cope with the transitional phase of agricultural adjustment, from one dominant form of agriculture to a diversified one, there is a clear need to have an integrated information system capable of responding rapidly to the information needs of the rural population in Mauritius and Rodrigues.

III.3. Satisfying the requirement of the population of agricultural producers for information essential to their livelihood will require an investment in infrastructure. Major efforts will have to be put into procuring them with this much needed resource by the agricultural institutions, as the producers also represent the eventual client for information and thus represent the ultimate beneficiaries of the setting up of the information system. However, such efforts need to be carried out in a structured, well coordinated and integrated manner, hence the proposal for a participatory approach to the development of an integrated Agricultural Information System — the MAIS.

III.4. While the major argument for the setting up of the MAIS remains the drastic changes that will occur in the short–term, such investment in an agricultural information system and the advocacy of a knowledge–intensive agriculture also prepares the farming community to better integrate the perspective for production for a regional market, given the creation of common regional market blocks in the medium–term (4–8 year) perspective. Thus the development of the MAIS is a timely project in the present stage of agricultural development of Mauritius.

IV. PROJECT OBJECTIVES

IV.1. The project aims at improving the efficiency, effectiveness and adaptability of agricultural production through the provision of useful and timely information to support the management, production and commercial decisions of the agricultural stakeholders, facilitated through an integrated agricultural information system. It will, amongst others, give support to the deprived groups who want to go into agriculture as a sustainable income generating activity or to the low–income farmers who would be using the information provided for in MAIS for better decision–making.

IV.2. The objectives of the project are therefore:

- To carry out a comprehensive information needs analysis of the small–scale agricultural producers through wide ranging consultations.
- To adopt a participatory approach to the development process of the MAIS, aimed at satisfying their needs.
- To implement the MAIS with its own objectives as follows:
  - to store large amounts of agricultural data and information in electronic format and in a structured form;
  - to enable quick and inexpensive access, and retrieval of accurate information via an internet interface;
  - to present comprehensive information in an easy–to–use format for each category of users, sometimes acting as an educational tool;
  - to improve the decision making process of users through timely, up–to–date and accurate information to policy makers, researchers, farmers, extension officers and other users;
  - to automate business or organisational information provision processes wherever possible;

- to create an information system that would be flexible enough, to cater for future changes as and when technology changes and that would be able to shift from a national to a regional perspective or express both faculties in the near future.

- To provide resources and training for the use of the MAIS by project beneficiaries, principally agricultural producers and other stakeholders.
- To offer an efficient information gathering and delivery service to stakeholders in the agricultural sector through the implementation of a Question & Answer service.
- To carry out a pilot study on the integration of remote sensing and GIS within the MAIS as a means of achieving the benefits of precision agriculture in Rodrigues.

V. PROJECT DESCRIPTION

V.1. The MAIS project was originally designed as a research project on the development of a prototype of the framework for an integrated agricultural information system to be funded by the FARC. The research component will still be carried out as part of this project but given the potential benefit of such a system to the small–scale producers, the opportunity of funding the implementation of the MAIS at the onset is timely. The implementation of the MAIS at national level will enable the information needs of the producers to be addressed through research, the results of which can be immediately communicated and implemented in collaboration with stakeholders in the agricultural sector and have a positive impact on agricultural development in Mauritius especially during this difficult transitional phase.

V.1. The project, which will span over four years, will be implemented in five phases, with some overlap among the phases. The approach proposed is described below:

Phase 1: Pre–Design/National Consultations and Information Needs Assessment

V.2. ***Getting Started***. The initial stages of the study will consist of desk research and consultations among agricultural institutions on their strategies to satisfy the information needs of their clients and to take stock of the information the institutions hold. Projects already being implemented in the area of information systems will be studied for areas where they can complement each other, while gaps in knowledge will also be identified.

V.3. ***Participatory Process.*** Information needs analysis in parallel, a participatory approach will be used to conduct consultations on the information needs of producer groups across Mauritius and Rodrigues. Particular attention will be given to the needs of small–scale producers and entrepreneurs in the agricultural sector. Consultations will also be carried out with other stakeholders to determine the form in which information should be provided to them to facilitate decision–making. The outcome of the first phase of the project will be the determination of the information needs at all levels and identification of the potential sources of such information together with the types of user interfaces that need to be developed to provide the information to each category of users.

Phase 2: Early Design/Prototyping & Development

V.4. ***Preliminary Design***. In collaboration with the other agricultural institutions, the FARC will start to develop a framework for a distributed system such that each institution can then contribute to the MAIS, while still operating within its own mandate. Assistance from IT consultants may be required in developing an information plan for the MAIS while still maintaining the focus on internal capacity building for the development of the MAIS. Thus, in this project IT consultants will be expected to play an accompanying and guiding role rather than the traditional turn–key approach to implementation.

V.5. ***Prototyping with Sample Data.*** At the early development stage, the MAIS may only hold small amounts of data and information representative of the eventual contents of the information system. However, the use of sample data from the institutions already allows them to collaborate on the harmonisation of their individual databases and enable an iterative testing process (prototyping) aiming at an overall improvement of the MAIS information structure. Again, the guidance of IT consultants may be envisaged at this particular stage.

V.6. ***Institutional Assessment of Participation.*** The collaborating institutions will also have to identify areas of information needs expressed by the users which have not yet been addressed by the sector and define mechanisms and institutions or organisations (including farmer associations where applicable) responsible for data gathering and processing. These additional responsibilities will be formulated as collaborative projects which have to be implemented within the overarching MAIS project in order to complete the information system. At this point, the various collaborating organisations will also be in a position to estimate their human, computer and other infrastructure requirements to participate in the implementation of the MAIS. The above process will be carried out both in Mauritius and Rodrigues.

V.7. ***Conceptualising the MAIS.*** The participatory approach to the development of the MAIS will be extended to its implementation: the MAIS does not aim to aim to intrude into the internal information system of participating organisations, nor does it force participation. However, the principle for the participation and collaboration of an organisation will be the need to work alongside other stakeholders to satisfy the information need of the ultimate user, the agricultural producer whose needs would have already been defined in the previous phase. The MAIS project intends to accompany the institutions in the process of sharing and integrating their shared information with those of other institutions to provide the required information to the user.

V.8. Figure 1 illustrates the overall structure of the MAIS as it makes the shared information from the institutions, residing either on computers at the institution itself or on the MAIS server, available to the user through a web interface or indirectly via publications which have drive information from the MAIS. The user still has the option of searching for the information directly over the web, but the MAIS intends to offer an easier interface to access relevant information.

V.9. ***Sources and Users of Information.*** The preliminary list of institutions that are expected to participate in the MAIS, illustrated in Figure 1, have been matched with the kinds of information that a producer may require, and shown in Table 1.

V.10. The information needs of other potential users of the MAIS, listed in Table 2, may differ in terms of the level of details required. However, a lot of the information categories will be useful to wide range of stakeholders.

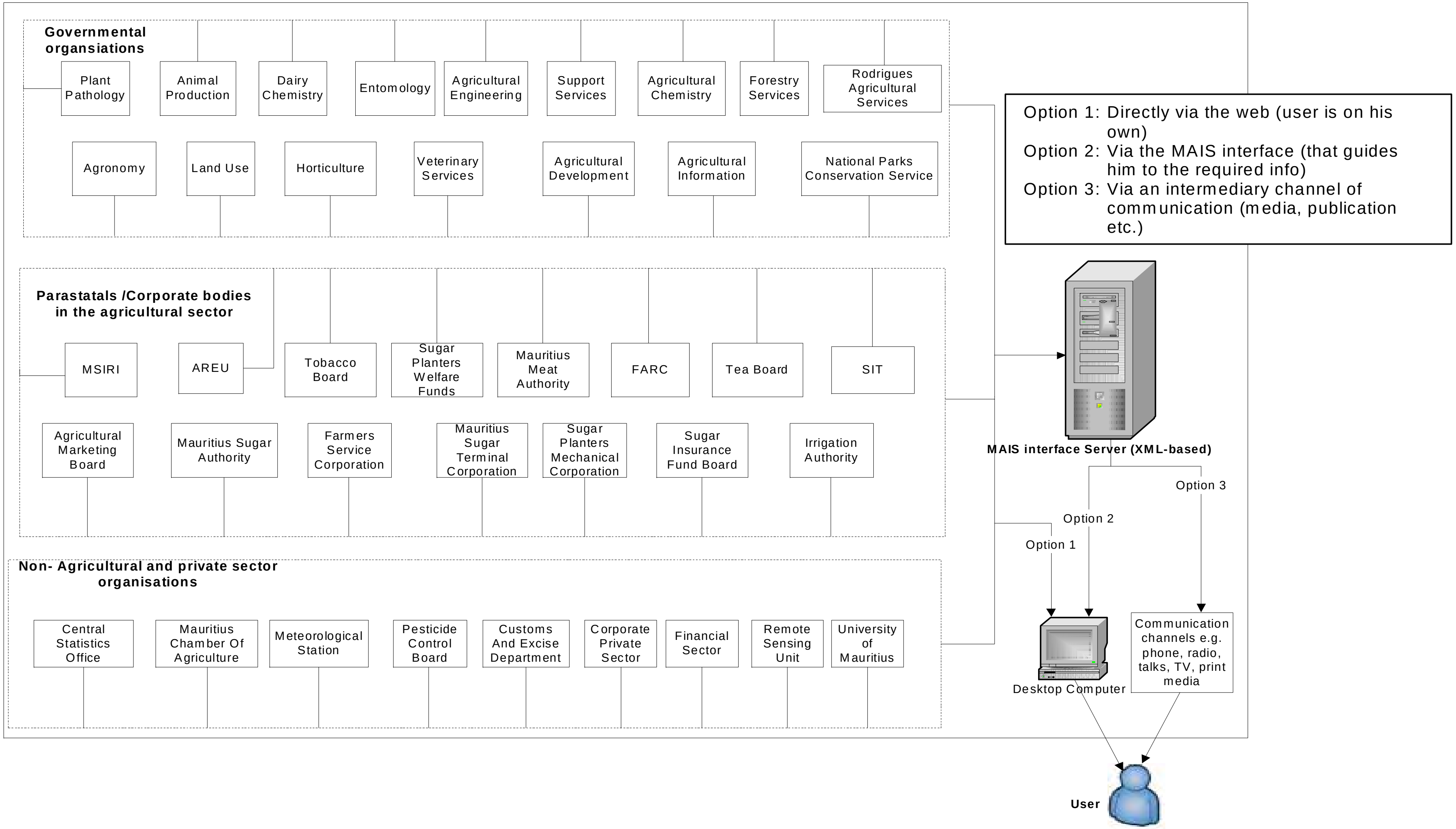

Figure 1: Sources of Information and the Structure of the MAIS *(each box represents information that an institution shares with the MAIS)*

Table 1: Sources of Information and Types of Information Provided within the MAIS											
Types of information sought by user of the MAIS (based on an agricultural producer):	Planning Phase				Production phase				Post–production phase		
Sources of information	Background Research	Financial	Site/Location	Environment of Enterprise	Infrastructure for Production	Agricultural Inputs	Production Management	Harvest	Quality Control	Post–Harvest Treatment	Marketing
Governmental Organisations											
Plant Pathology Division	X		X	X		X	X	X	X	X	
Animal Production	X	X	X	X	X	X	X	X	X	X	X
Dairy Chemistry	X			X		X	X		X	X	X
Entomology	X		X	X		X	X	X	X	X	
Agricultural Engineering	X	X	X	X	X	X	X	X		X	
Agricultural Chemistry	X	X	X	X	X	X	X	X	X	X	X
Forestry Services	X		X	X	X						
Agronomy	X	X	X	X	X	X	X	X	X	X	X
Land Use	X		X	X	X						
Horticulture	X	X	X	X	X	X	X	X	X	X	X
Veterinary Services	X	X	X		X	X	X	X	X	X	X
Agricultural Development	X	X	X	X	X						X
Agricultural Information	X	X	X	X					X		X
National Parks and Conservation Service	X		X	X	X						
Rodrigues Agricultural Services	X	X	X	X	X	X	X	X	X	X	X
Parastatal & Corporate Bodies											
MSIRI	X	X	X	X	X	X	X	X	X	X	X
AREU	X	X	X	X	X	X	X	X	X	X	X
FARC	X	X	X	X	X	X	X	X	X	X	X
SIT	X		X	X	X						
FSC	X	X	X	X	X	X	X	X	X		
Tobacco Board	X	X	X	X	X	X	X	X	X	X	X
Tea Board	X	X	X	X	X				X	X	X
MMA	X	X		X				X	X	X	X
SPWF	X	X	X	X				X			X
AMB	X	X	X	X	X	X		X	X	X	X
MSA	X	X	X	X	X	X		X			X
MSTC	X								X	X	X
SPMPC	X	X	X	X	X	X					

Table 1: Sources of Information and Types of Information Provided within the MAIS

Types of information sought by user of the MAIS (based on an agricultural producer): / Sources of information	Planning Phase				Production phase				Post–production phase		
	Background Research	Financial	Site/Location	Environment of Enterprise	Infrastructure for Production	Agricultural Inputs	Production Management	Harvest	Quality Control	Post–Harvest Treatment	Marketing
SIFB	X	X	X	X	X			X			
Irrigation Authority	X	X	X	X	X	X	X				
Non–Agricultural and Private Sector Organisations											
Central Statistics Office	X	X	X	X						X	X
Mauritius Chamber of Agriculture	X	X	X	X				X			X
Meteorological Station	X		X	X	X	X	X	X			
Pesticide Control Board	X	X	X	X		X	X		X	X	
Customs and Excise Department	X	X				X				X	X
Corporate Private Sector	X	X				X		X	X	X	X
Producer organisations	X	X	X	X	X	X	X	X	X	X	X
Remote sensing	X		X	X	X						
Financial sector	X	X		X							
University of Mauritius	X			X		X	X		X	X	X

Background research:	Information required at the time of evaluating the feasibility of the agricultural enterprise (Market size, consumption patterns, importation/exportation, seasonality, inputs required, cost of production, expected yields, price fluctuation on the market etc.)
Financial:	Information on aspects of financing the enterprise (Capital outlay, cost of production, insurance, loan availability etc)
Site/Location:	Suitability of the site for the agricultural enterprise (Climate, occurrence of pests and diseases, land suitability, availability of land, infrastructure, closeness to market)
Environment of enterprise:	Operational environment of the enterprise (Legal, social, cultural, ecological and political constraints)
Infrastructure for production:	Information on pre–production infrastructural prerequisites e.g. land preparation, irrigation and drainage needs, sheltered cultivation, hydroponics, animal housing etc.)
Agricultural inputs:	Information on inputs such as seed, labour, machinery, fertiliser, water, agrochemicals, feed antibiotics etc.
Production management:	Information on cultural practices and timing, tactical and operational decision–making, potential problems, pest and disease management, animal health etc.
Harvest:	Information related to harvest activity e.g. maturity definition, market and consumer requirements, grading, pesticide residue regulations, seasonality and price fluctuations, market behaviour and location
Quality control:	Information on post harvest grading for different markets, good agricultural practices, international regulations for export markets
Post–harvest treatment:	Information on post harvest treatment, grading, processing, labelling, infrastructural requirements etc
Marketing:	Information on market requirements, labelling, marketing campaigns, potential market size, traceability requirements, distribution networks, commercial directories etc.

Table 2: Categories of Users of Information within the MAIS and Types of Information Sought

Types of information sought by user of the MAIS / Category of users of information in the agricultural sector	Planning Phase				Production phase				Post–production phase		
	Background Research	Financial	Site/ Location	Environment of Enterprise	Infrastructure for production	Agricultural Inputs	Production Management	Harvest	Quality control	Post–Harvest Treatment	Marketing
Entrepreneur/Producer (e.g. Small–scale producer; Beginner–farmer; Young farmer associations; Producer organisations; Agricultural Cooperative societies; Medium–scale producers)	●	●	●	●	●	●	●	●	●	●	●
Extension staff (e.g. extension officers and support staff; technical staff in advisory roles within the private sector)	●	●	●	●	●	●	●	●	●	●	●
Technicians (e.g. technical staff at agricultural institutions; production managers in the private sector; Large–scale producers; University students)	●	●	●	●	●	●	●	●	●	●	●
Researchers (e.g. researchers at agricultural institutions; university researchers and post–graduate students)	●	❍	●	❍	●	●	●	●	●	●	❍
Policy Makers (e.g. Minister; Senior staff of Ministry; Policy advisors; Directors of institutions; Senior management of Parastatals; Senior management of Private corporate firms)	●	●	●	●	❍	❍	❍	❍	●	❍	●
Commercial organisations (e.g. local exporters; private sector service providers in agriculture; traders; salespersons; foreign importers)	●	❍	❍	❍	●	●	●	●	●	●	●
General Public (e.g. consumers; consumer organisations; media; community workers; school students)	●	❍	❍	●	❍	❍	❍	●	●	●	●

● Of high relevance to the information user ❍ Of lower relevance to the information user