Design of a market information system for small scale producers and traders in three districts of Uganda

Study report

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Contents

	Page
Executive summary	4
Introduction	7
Design options	9
Maize component	12
Beans component	16
Cassava component	20
Information processing centre	23
Evaluation	25
Project duration	28
Sustainability	29
Conclusions	30
Beyond the pilot project	32
Annex 1: Design perameters	33
References	38
Annex 2: Preliminary Study	A

Executive Summary

The proposed design for a pilot market information service targeted at small-scale farmers, traders and processors in Uganda complies with the government's recommendation for such a service and the CTA's market information service model. Details of the design are based on the findings of the Preliminary Study for this project, completed in November 1999, and meetings with a full range of stakeholders.

The International Institute of Tropical Agriculture's original concept of a pilot project, providing market information for actors in the maize market in a single district of Uganda, has been expanded. The proposed design now includes two minor components providing information on the market in beans to a number of comparatively well organised farmers in Rakai and Masaka Districts and on the market for cassava to farmers' groups in Gulu District.

The pilot project will be fully integrated with IITA's existing macro-information service which collects and processes market information for the use of government and development agencies to assist their work in providing food security, monitoring the economy and improving agricultural performance.

The maize component of the project will utilise the services of local radio stations to broadcast information in the local language to actors in an important maize-producing area of Eastern Uganda. These broadcasts will take the form of a two-minute announcement, on three days a week, of relevant prices collected from local and wholesale markets and a weekly 15 minute broadcast of useful and relevant market news and advice.

The beans component of the project will be linked to farmers' associations in Rakai and Masaka Districts in South Western Uganda which have been assisted by the

Irish Foundation for Co-operative Development (IFCD) to collectively market their surplus bean harvest. This component will consist of establishing a telephone and e-mail link with the IFCD project's local administrative office which will be

used to provide regular information on the beans market and help to identify the best customers for individual transactions.

The cassava component of the project will be very similar to the beans component but will work with farmers groups linked to a development project of the World Food Programme and associated NGOs in the Gulu District of Northern Uganda. These farmers' grow cassava partly as an 'emergency crop' and often have surplus product to sell. They are not as experienced nor as well organised as those associated with the IFCD project. It is envisaged that farmers and organisers in the cassava component will, therefore, be offered training (including training from farmers in the IFCD project) to improve their marketing skills.

The knowledge gained by the organisers of the pilot project from the beans and cassava component of the project about individual contractual conditions, including price, and the activity of traders in these transactions, will improve the quality of information in the entire pilot project.

The inclusion of all three components in the pilot project will enable IITA to gain experience of working with farmers with a differing organisational structure producing different commodities in different locations and agro-environmental zones.

A 'listeners' group' will be selected, in the maize component, consisting of farmers, traders and processors. This group will be consulted on the methodology and implementation of the component and will be used to evaluate the usefulness and relevance of the project to stakeholders and to modify the service according to their advice.

It is proposed that the pilot project be designed to continue for a minimum of one year and a maximum of two years in which time an independent evaluation will take place.

At the Kampala stakeholders' meeting, December 1st 1999, participants stated their interest in closely observing the project and in learning how they might replicate such services in other parts of the country.

IITA are already making links with other market information services in Tanzania, Kenya and Rwanda. They hope to integrate the Uganda service with others in the region to strengthen the quality of national services and to assist in the improvement of regional and international trade.

Introduction

In May 1999 the International Institute of Tropical Agriculture embarked on a programme to establish a market information service for agricultural products in Uganda.

The Government of Uganda, in its 'Plan for the Modernisation of Agriculture', has identified the need for a flexible, decentralised market information service for poor farmers.

In June 1999 the CTA agreed to participate in this programme by funding a Preliminary Study of the Ugandan agricultural market and to assist IITA to design a pilot project to establish a market information service for farmers, traders and processors of maize.

The Preliminary Study for this project, completed in November 1999, showed that agricultural markets in Uganda are characterised by long chains of transactions between farm gate and consumers, lack of competitiveness between traders and poor access to appropriate market information. The lack of market information represents a significant impediment to market access to smallholders, substantially increases transaction costs and reduces the efficiency of agricultural sector. This study (and another recent study undertaken by the Natural Resources Institute and the Ugandan Agricultural Policy Secretariat) has concluded that there is a crucial need for an agricultural market information service designed to provide appropriate information to all actors in Ugandan agriculture.

The study concluded that a pilot market information project should be established with the objective of gaining the necessary experience to expand a service throughout Uganda.

In December 1999 IITA hosted a stakeholders' [1] meeting in Kampala attended by farmers and traders and by representatives from relevant government agencies, development

[1] IITA considered that invitees would include a wider group of stakeholders than just the intended direct beneficiaries of the proposed market

agencies, NGOs and radio broadcasters. In addition, a meeting was held with representatives of farmers' groups in South Western Uganda.

Participants at the stakeholders' meetings unanimously agreed that market information was needed and were able to offer many suggestions on how this could be accomplished and how they could support and participate in the development of this project.

The design for this pilot project was devised by Peter Robbins of CMIS and Shaun Ferris of IITA. Dr Ibrahim Khadar of CTA contributed a number of suggestions which have been included in this report.

Design Options

Prior to the preliminary study, IITA decided that a pilot project ,designed to serve the market information needs of maize farmers in a single district of Uganda, would provide the experience and feed-back data required to encourage the development of the service to other commodity sectors and other geographical locations.

Maize was chosen because it is an important Ugandan agricultural product. It is consumed as a processed and unprocessed product. A significant proportion of maize production is consumed within the country but it is also providing an increasingly important contribution to export revenues. It has been chosen by the local Agribusiness Development Centre as a commodity to be developed for export. As a staple food, it is also important from a food security perspective.

The Preliminary Study, however, revealed that maize farmers differ markedly in their capacity to market their goods successfully. Most maize farmers have not developed structures which would enable them to work with each other to market their products or obtain credit or inputs. They are, nevertheless, in great need of information about the prevailing market price for their goods, the grades of product needed by the market and the sources of assistance that may be available to them.

The study showed that the markets of agricultural commodities in Uganda cannot be considered in isolation. Most farmers grow maize as one of a mix of crops partly to provide a mixed diet for themselves, partly to provide food in different growing seasons and partly as a security measure to ensure they have production if one crop fails. In addition, traders do not specialise in just one product. Traders in maize also deal in beans and sometimes other pulses, grains and other dry products. When the price of one food product increases, consumers switch, in whole or in part, to other food products information service. The group included agencies working to assist farmers, traders and processors of agricultural produce as well as relevant government agencies.

Small-scale producers' relationship with the market varies according to the degree to which they co-operate with other producers, their geographical location (isolation, agro-

environment) and the crop they produce.

As the Preliminary Study also discovered, most Ugandan farmers are poorly organised (traders in Uganda work together more closely). There are, however, some exceptions where, often with the help of local and foreign development agencies, producers are developing strategies to co-operate with each other to sort, grade and collectively obtain credit and market their goods. This kind of development is being encouraged by government, the farmers' union and many development agencies and may represent a more common model for the development of farming in the future.

In view of these findings and in the light of views expressed at the stakeholders' meeting, any pilot project design should not confine itself to the provision of information to actors in the maize market based in a single location.

In order to reflect this degree of diversity and to strengthen the design model the pilot project should consist of more than one component. The work carried out in the Preliminary Study and the information received in feed-back from the stakeholders meeting and visits to farmers' groups and development agencies working in the field has helped to identify three possible components to the pilot project.

The argument in favour of linking the project to the maize market, as outlined in the Preliminary Study, is strong and provision of information in this sector should form the basis of the pilot project. An area in eastern Uganda has been identified as a suitable location for this component of the pilot project.

The IFCD-led marketing and credit co-operatives project in Rakai and Masaka Districts, in the south-west of the country represents the effort to adopt better strategies for strengthening the position of farmers. The IFCD project has been successful in marketing beans but needs 'eyes and ears', as one farmer put it, in the wider market. Provision of information to this group could be included as a component in the pilot project. Such provision would be relatively inexpensive as these farmers have developed their own communication system between each other and with local traders which can be linked by telephone and e.mail to an information collection and processing centre.

Farmers' projects, linked to the work of the World Food Programme in Gulu District in the North of the country, are also trying to develop collective marketing schemes. They have not yet reached the capability of the IFCD-led groups and could learn from the experiences of these groups. The groups of farmers and NGO's associated with the WFP work are also developing a communication system between themselves through NGO-employed extension workers and lead farmers. The group has expressed an interest in trying to find efficient ways of marketing surplus cassava.

These three components of the pilot project could be combined with the existing IITA macro-information service to form a synergetic system. In this system market information will not only be collected by agents employed by IITA but also by the associated farmers groups and their NGO partners. The work with the IFCD and WFP groups will entail access to detailed information of actual transactions. Such information will help to double-check information received directly from market sources by IITA staff. In addition, feedback and participation of these groups will help the system to produce the type of information required by the targeted beneficiaries. As both these groups also produce maize, they will benefit from the component of the project designed to help actors in the maize market.

The establishment and operation of these three components will generate the necessary experience to encourage the expansion of the service to other geographical areas, other groups with differing degrees of co-operation and in other commodity sectors.

The Components of the Pilot Project in Detail

Maize Component

This component is designed to assist maize farmers, small-scale traders and processors of maize in a geographical location in the catchment area of three assembly markets in the important maize-producing eastern part of Uganda.. The three markets are located in the towns of Jinja, Iganga and Mbale. The catchment area of these three markets covers an area of approximately 200 kms x 100 kms. or approximately 8% of Uganda's land area. This territory contains over 100,000 production units where maize is grown in gardens, micro-scale farms, small scale production and a handful of larger farms (a few hectares). Approximately 40% of maize production is consumed by the producers themselves. Over the last year, a significant proportion of production from this area has been bought directly from these assembly markets by itinerant traders from Kenya for sale in the Kenyan market.

The marketing periods for maize in this area is between early December and late March (short season) and mid-June to end October (long season).

The three assembly markets are well served with trunk roads (to Kampala and other major national market centres) and by rail (to Kampala and Kenya). There is a large maize storage facility in Jinja.

Farmers in this target area are, like most farmers in Uganda, poorly organised among themselves. Government extension services are poor but the Uganda National Farmers' Union is attempting to boost membership in the area. The population in the area speak three languages each of which is used to make broadcasts on the local Radio Uganda services. A commercial radio station, Capital FM, also serves the area. There is a wide ownership of radios. Access to telephone services is available in the three towns through telephone booths. Mobile phone networks cover the area but private ownership of telephones is extremely rare and confined to wealthy citizens and businesses.
Design details of the proposed component of the pilot project targeted at this area are as follows:

Information about the maize market will be collected on three days a week from all three assembly markets in the marketing seasons by employees of the service. These information reporters are already employed on a part-time basis by IITA's macro-information service but their work will be expanded to collect not only price information on maize but also:

- information on the current transport situation (the state of roads, availability of vehicles, etc.).
- an estimation of the market's turnover in maize.
- description of the quality of maize being traded.
- the activity of visiting buyers, including Kenyan traders and agents for large-scale buyers (WFP, private millers / traders, etc.).
- any changes in market fees, local taxes, etc.
- local availability of assistance including extension services and access to credit.
- other information or opinion of relevance to target beneficiaries.

These reporters will be equipped with small motorbikes and will make regular visits to farms within the area to gather information about the experience of maize producers and traders and to report activity from village markets.

The reporters will also be equipped with mobile telephones and will report their findings to the The Information Processing Centre (IPC) in Kampala.

The reporters will receive a period of specialist training in gathering accurate prices and other information and their work will be regularly cross-checked by IITA staff members.

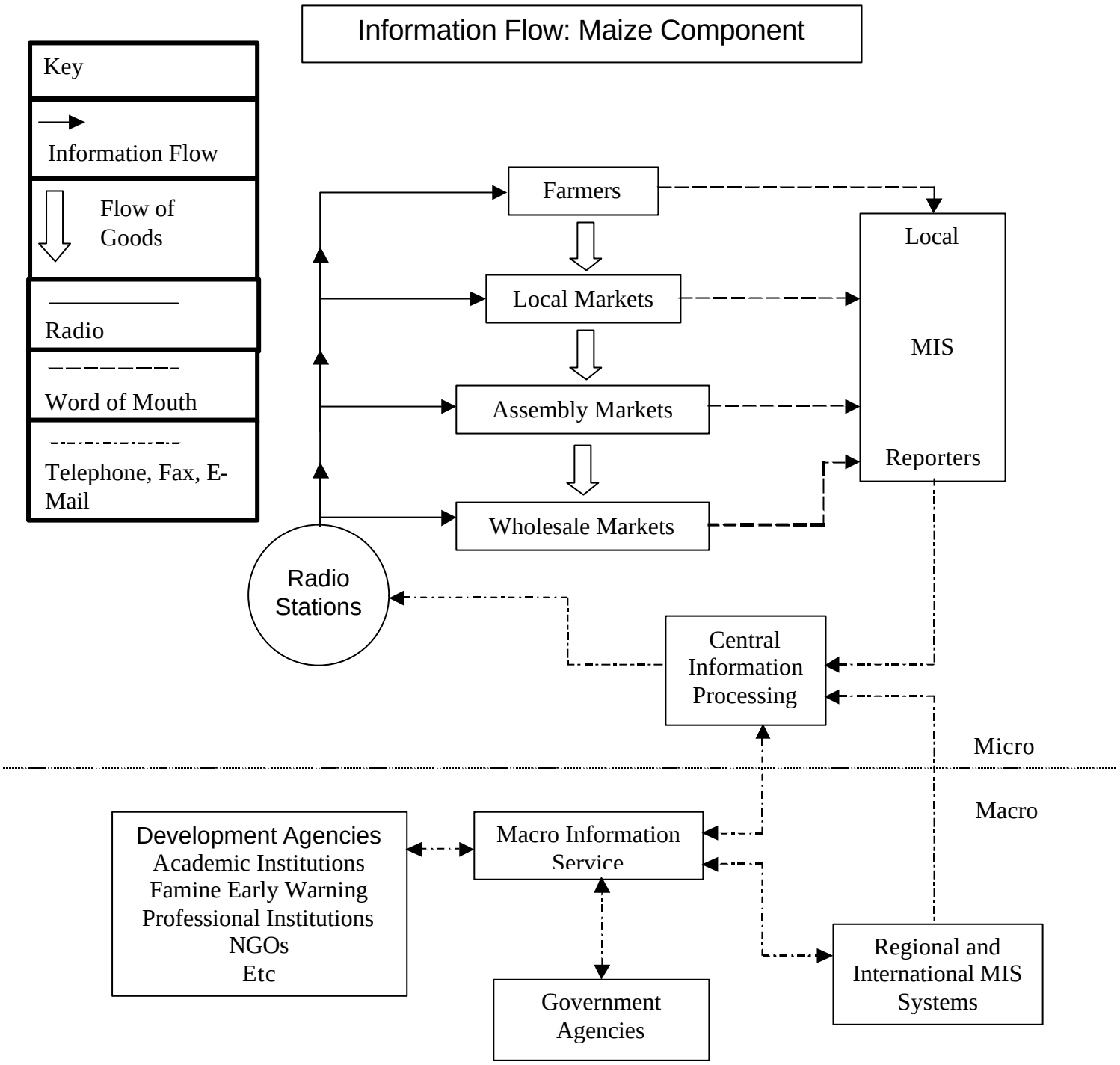
The IPC will be responsible for analysing information from reporters in the target areas. It will then combine this information with that gathered by IITA reporters from the other districts of Uganda who are already working to provide information for the macro-information service including information from wholesale markets and the markets in neighbouring countries of the region.

The IPC will arrange for the appropriate price information from the target area and from the wholesale markets serving the target area to be broadcast on three days of the week in the marketing seasons. The broadcast is likely to be no longer than two minutes and will be made at times when farmers regularly listen to the radio.

The Centre will also arrange for relevant non-price information to be produced as a 15 minute radio programme for broadcasting once a week. The programme will be produced in as entertaining a format as possible. It will impart as much of the information as possible in the form of interviews (or transcripts of interviews if there are language problems) with traders, farmers and other actors and experts. Depending on the amount and importance of the information in each broadcast, time will also be allocated to inform about the experience of farmers elsewhere in the country with different marketing strategies.

The services of a professional radio producer will be engaged for this work and reporters will be required to assist him or her with this task.

Radio Uganda will be used to broadcast the programmes in the relevant language services. The services of other commercial stations may be used depending on cost and listener profiles.


Information Flow: Maize Component
Key
Information Flow
Flow of Goods
Radio
Word of Mouth
Telephone, Fax, E-Mail
Farmers
Local Markets
Assembly Markets
Wholesale Markets
Local
MIS
Reporters
Radio Stations
Central Information Processing
Micro
Macro
Development Agencies
Academic Institutions
Famine Early Warning
Professional Institutions
NGOs
Etc
Macro Information Service
Government Agencies
Regional and International MIS Systems

Beans Component

In colonial times Uganda's farmers were organised, for administrative and commercial reasons according to geographical location into Primary Societies, District Societies and Regional Societies. Although this system maintained a degree of organisation in farming communities it was not designed to give farmers democratic control of their activities. After Independence the co-operativisation of farming was encouraged. A combination of internal conflict, mismanagement and the liberalisation of agricultural markets caused most co-operatives to collapse.

The concept of co-operativisation based on the common ownership of land has been rejected by most Ugandans. Understandable as this may be, it has left farmers poorly organised and distrustful of each other. Without a semblance of co-operation farmers are unable to maximise income, purchase inputs efficiently nor to access credit. This problem has been recognised by the Uganda National Farmers' Union and some development agencies and NGOs. These organisations have supported projects to bring groups of farmers together to develop co-operative strategies, notably to develop capacity to obtain credit and market surplus products collectively.

The Irish Foundation for Co-operative Development (IFCD) is one such NGO. Its Ugandan project supports 20 co-operatives in Rakai District and 10 in Masaka District. (Each co-operative consisting of between 50 and 100 families/farms). Co-operative strategies include extension services and the storage, sorting, grading and marketing of produce and the establishment of credit unions. Funding for this work comes from IFCD itself and from other donors, including US-AID and foreign micro-credit programmes.

The co-operatives members have decided not only to market their own surplus products but also to offer a marketing service to non-members in the area.

The co-operatives have succeeded recently in marketing beans. Prior to this initiative, these groups could only obtain about 60% of the true market value for their beans. Efforts were then made to contact major trading companies and in a series of subsequent transactions the

group achieved sales prices in line with true wholesale prices in Kampala. Many local traders who once bought this produce were at first hostile to the co-operatives but since then have assisted by acting as the co-operatives' agents with non-member farmers.

It spite of this success, the groups find it difficult to conduct transactions with such distant customers. They are not able to determine which of the several large dealers is paying the best price at any given time and they have no independent means of checking wholesale prices. Furthermore, they only have links with a few traders in Kampala. Buyers in other parts of the country and buyers from Rwanda are believed to pay better prices from time to time. In short, they need more market information.

IFCD, together with the co-operatives have set up an efficient internal communication system between the groups. None of the groups own a telephone (although they do own radio receivers) but messages are communicated initially through the daily trips by vehicles of administrators, co-operative officers and extension workers and then, within the co-operative, by motorbike, bicycle or on foot. Messages can be sent and a reply received between any two points in the network within twenty-four hours.

At present, links with potential customers are first established by telephone by the IFCD-funded administration office. Details of the traders proposed terms are then relayed to the individual co-operative interested in selling. Messages are then relayed back through the administration office to confirm, reject or amend the proposed terms.

The Beans Component of the pilot project will be linked to the work of the administration office. The Information Processing Centre (IPC) of the pilot project will regularly e-mail market information about the market in beans that it has collected from around the country and the region, to IFCD's administration office which will keep the organisation informed about general trends in the market. This will represent very little extra work for the IPC as market information on beans is already collected for the macro-information service.

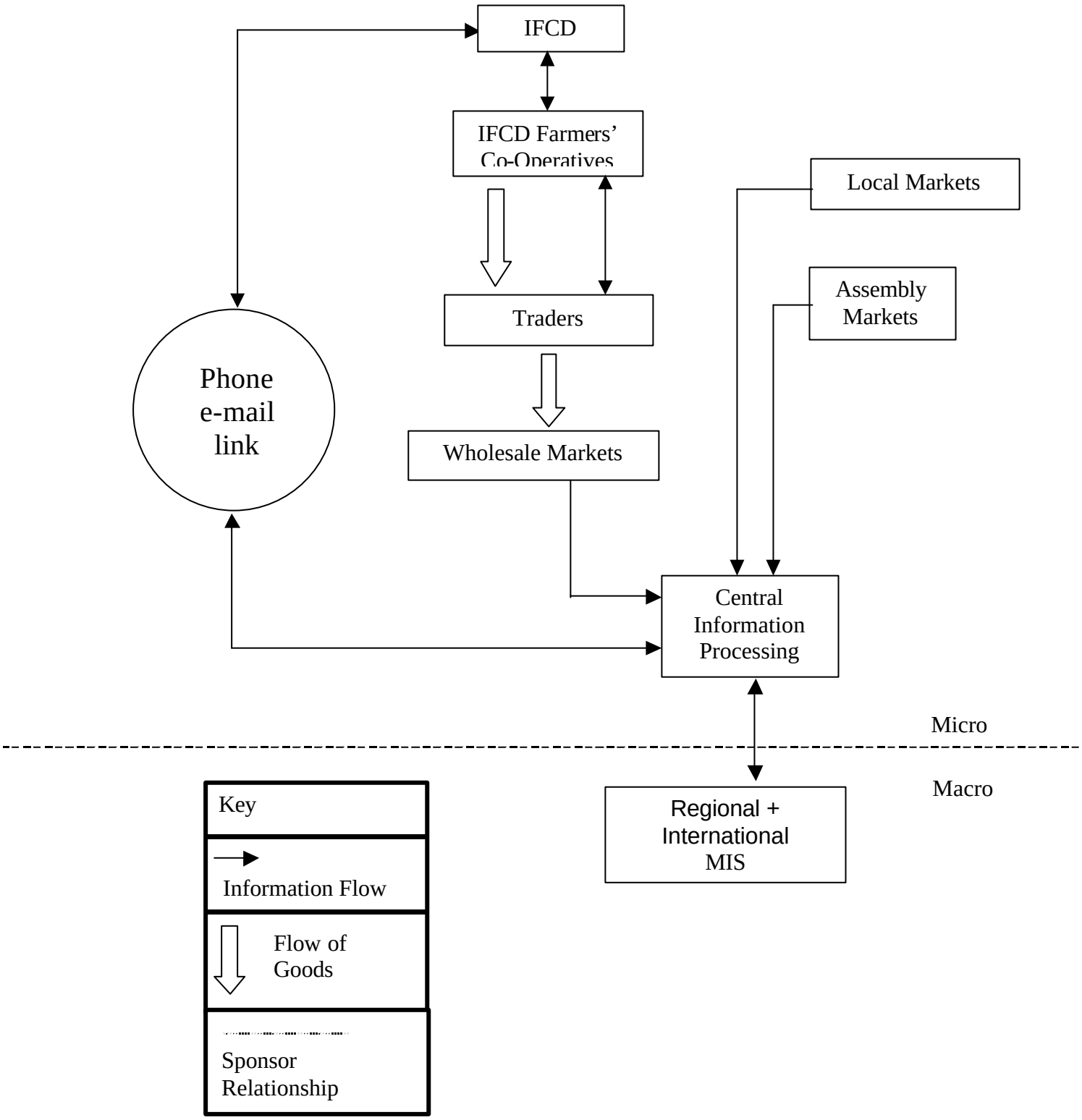
The design will allow any co-operative which has decided to make a sale of beans to

communicate details of its intentions to IFCD's administration office who will relay the details to the Information Processing Centre of the pilot project together with any specific questions it needs answering. The IPC will then make a more detailed survey of bean buyers' interests. The IPC will not be concerned with assisting the co-operative to negotiate any sales but will help to keep the co-operative informed about any market changes during the period of the negotiations.

This component of the pilot project will not only assist the co-operative to make better transactions, it will also serve as a means of improving the quality of information to the entire pilot project.

Information between the IFCD co-operatives and the IPC will flow in both directions. This means that the IPC will learn of the precise details of the final transaction including the price. This information can be used to check prices collected from the market (which will not necessarily be transaction prices but traders' estimates). In addition, the contact made between the IPC and traders (who do not confine themselves to beans) will assist reporters attached to the pilot project to build a closer relationship with the traders. The traders will, of course, have an interest in bidding for product from the co-operative and will, therefore, be encouraged to co-operate with the project.

Information Flow: Beans Component



Cassava Component

The World Food Programme (WFP) is active in Uganda on several fronts. Its most important projects have been to supply food to areas of the country suffering shortages. Fortunately, the incidence of food shortage has diminished over the last year with the reduction in fighting in the north of the country. The El Nino effect, however, has disrupted weather patterns and large areas of the country have been subject to drought.

WFP strategy involves not just the distribution of food aid. It tries to obtain food supplies, when practicable, from farmers in developing countries. Unfortunately, local purchasing is not usually the most cost-effective way of obtaining supplies. Purchasing very large parcels of food (multiples of 1000 tons) from traders in more developed economies, such as USA, Canada and South Africa offers much better economies of scale than making purchases from typical African farmers who may produce less than one ton a year. The strategy is used, however, as a means of supporting marginal farmers.

In this programme purchases of less than 50 tons are impractical. The WFP has, therefore, encouraged the formation of farmers' associations especially in the north of Uganda. In this effort, the WFP works with NGOs who are already working with farmers. The WFP is able to make funds available through initiatives such as its Food for Work programme to help the NGOs organise farming communities through provision of extension workers and training programmes.

The northern regions of Uganda have suffered most from internal conflict and many farmers have been displaced over the last three decades. The farmland in this area is also the least productive and the margin between surplus and shortage is delicately balanced. The resettlement of land abandoned through war has allowed some larger farms to be established which has increased productivity by improving economies of scale. The marginal nature of farming, however, obliges farmers to opt for mixed crop strategies in which crops with a high tolerance of drought conditions, such as cassava, play an important part.

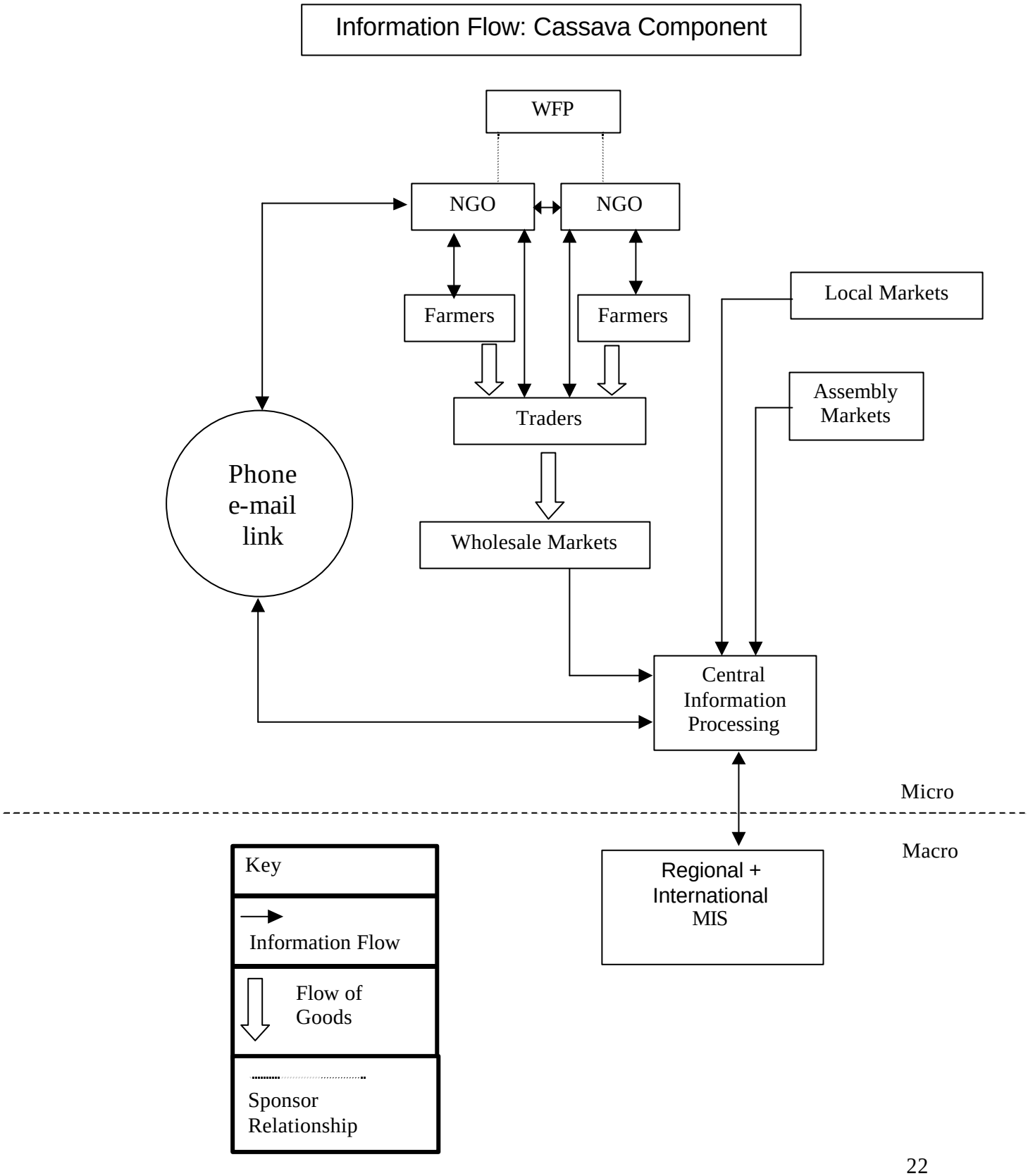
The two NGOs working most closely with the WFP on this programme are World Vision and the Catholic Relief Service (CRS). Like IFCD, these NGOs have developed a

communication system between themselves and farmers' groups through a system of extension workers and 'lead farmers'. Apart from some sales (50 ton parcels) of product to WFP itself (in times of surplus), the groups have not yet organised either sales to wholesale commercial traders nor collective credit arrangements. The NGOs used their own funds to purchase product from the farmers they work with before sorting, grading and packing the product for sale to WFP.

In this respect, they are behind the IFCD project in terms of organisation. The NGOs concerned are, however, keen to develop the programme further. They have expressed an interest in developing their capacity to market surplus quantities of cassava.

The model for this component of the pilot project is very similar to the Beans Component. It will be linked to the District of Gulu where most of this activity is centred. The farmers will be regularly provided with information about the cassava market in Uganda and the region and will receive more detailed intelligence during the period of the negotiation of sales contracts. In addition, details of sales will flow back to the Information Processing Centre which will improve the overall knowledge of the cassava market. The NGOs have also expressed a willingness to employ their own staff to act as reporters to the IPC in their local markets.

It is envisaged that a training programme will be introduced into this component where farmers will be helped to understand how agricultural markets work. IFCD and its associated co-operatives have offered to take part in this training programme.


Information Flow: Cassava Component
WFP
NGO
NGO
Farmers
Farmers
Local Markets
Assembly Markets
Traders
Phone e-mail link
Wholesale Markets
Central Information Processing
Micro
Macro
Regional + International MIS
Key
Information Flow
Flow of Goods
Sponsor Relationship

Information Processing Centre

IITA has already established an IPC based in its Kampala office to serve its macro-information project. The IPC consists of a full-time Co-ordinator and two Assistant Co-ordinators. In addition, IITA employ market reporters in 16 Ugandan Districts and in the two major wholesale markets in Kampala.

Administration, fundraising and management of the service is carried out by the IITA Kampala office under Shaun Ferris.

IITA is presently embarked on a project to co-ordinate market information systems in the region with its Ugandan macro-information service. Discussions are taking place between IITA, the government-controlled MIS in Tanzania, the Kenyan Agricultural Commodities Exchange and the EU-funded Rwanda MIS.

Market information from Uganda is currently collected on a weekly basis on 21 different commodities (this number may be reduced slightly in the near future). IITA also has access to historical data on market prices collected over a number of years by the now defunct Uganda government-controlled MIS.

The pilot project for a micro-information service will be integrated into the existing macro-information project and will share the same management and IPC. The project will require the services of full-time reporters in Jinja, Iganga and Mbale. This can be accomplished by either upgrading the work of the present part-time reporters or replacing them. In addition, the IPC Co-ordinator will require more assistance.
The services of a professional radio producer will be required for the weekly Maize Component broadcast. Several producers have been contacted and are available for this work at a modest fee. Transport will have to be made available for the use of the producer.

The additional work required of the IPC to run the micro-system will consist of :-

- Receiving and processing information on the maize market from the three full-time reporters on three days a week.
- Planning and managing these reporters' work and training programme.
- Preparing the price information radio broadcast three times a week and liaison with the radio station.
- Managing the work programme of the radio producer for the weekly radio broadcast.
- Communicating information to and from NGO partners of the Beans and Cassava Components.
- Obtaining detailed information required by partners in the Beans and Cassava Components.

The additional work required of IITA's management and administration for the pilot project will consist of:-

- Raising and maintaining funding for the project.
- Administration and accounting for the project.
- Liaison with and reporting to stakeholders.
- Organising training and workshops of stakeholders.
- Devising and managing the evaluation mechanisms.

Evaluation

All agricultural communities in developed countries rely heavily on market information and, in almost all cases, finance its provision themselves through subscriptions to information sources and membership of unions and associations which provide such information. From this evidence it seems clear that the provision and application of market information is as much a part of agricultural business as seeds or farm machinery.

In Uganda, however, most farmers are too poor to provide for themselves information from beyond their immediate vicinity. It is, therefore, important for an agency such as IITA, that wishes to assist farmers in this way, to make sure that the information provided is relevant and useful. The pilot project is designed to provide the necessary information and experience to expand the idea to other agricultural sectors and areas of Uganda. The output of the service needs, therefore, to be closely monitored and evaluated.

In their work on the theory of market information systems, Andrew Shepherd of FAO and Clemens Lutz and Aad van Tilburg of Amsterdam University, concluded that the provision of market information would bring about certain predictable changes in markets. This work was supported by observations made in Benin, where there is poor access to information, especially to small-scale actors, and in Indonesia where market information systems are more highly developed.

The changes predicted as the provision of market information increases are as follows:-

- New entrants into the market are encouraged. (Some farmers will be able to move beyond subsistence production.)
- Farmers are strengthened in their negotiations with traders.
- In the longer term, information should provide farmers with the opportunity to diversify their production in line with demand.
- Farmers' incomes should increase.
- The risk of traders losing money on transactions should be reduced.
- Transaction costs should be reduced. (Lack of information about prices encourages traders to include high profit margins to cover risk.)

- Spatial arbitrage should be improved. (The difference between prices traded for the same product in different market places should be reduced.)
- The volume of trade should increase.
- Traders' costs of collecting information for themselves' is reduced. (This should be of greatest value to relatively small traders who lack the resources to monitor markets on a regular basis.)

In addition the study of markets in Ghana carried out by Dr Gyiele Nurah of Kumasi University concluded that, due to the lack of market information many producers avoided the risk of losing the cost of bringing their goods to market resulting in significant wastage.

An independently-conducted survey of the effects of information provision needs to be built into the pilot project.

The evaluation process should attempt to measure some expected changes quantitatively. If transaction costs are lowered and producers' incomes raised as a result of increased transparency, this should lower the difference between wholesale prices and prices received by farmers. If spatial arbitrage is improved the difference between prices traded for a particular product in different markets in the target area should be reduced. These differentials could be measured by analysing the collected price data over time.

Other predicted effects, such as traded volumes and wastage, reduction in risk, and production diversification are likely to be more difficult to measure quantitatively. These parameters are affected by several other factors including the weather, land reform, the state of the roads, availability of transport, storage, credit, extension services and the performance of the wider economy. These factors need, therefore, to be evaluated qualitatively and should take the form of a survey to assess the experience of stakeholders themselves.

The evaluation of the maize component of the project should be facilitated by identifying a 'Listeners' Group' of intended beneficiaries of the component consisting of farmers, traders and local processors throughout the area.

This group should be brought together for a workshop on the function and purpose of the pilot project. Market reporters should interview members of the group on a regular basis to ascertain their views of the quality, type and usefulness of information provided and to receive their recommendations for modification of the service. This data should then be checked and assessed by independent evaluators.

Project duration

Given that so many elements of the pilot project are in place, such as the information processing centre and market reporters (already being used for the macro-information project), the pilot project could be capable of delivering important and useful data within one year. It is possible, however, that training courses, broadcasting agreements and evaluation procedures could take some time to establish. The project should be designed, therefore, to last for a minimum of one year and a maximum of two years.

Sustainability

On the assumption that the three components of the pilot project are found to succeed in their objectives, i.e. that they can be operated successfully, that they are cost-effective, that the intended beneficiaries consider that they deliver appropriate and useful information which improves their livelihood and increases the transparency and efficiency of the market, then they should be sustained into the future beyond the duration period.

Government and donor agencies have, at the stakeholders' meeting and other meetings, expressed their interest and willingness to see the project as the start of a wider programme of market information services for Uganda. It is likely that the necessary funding could be made available from these agencies to sustain the project beyond the recommended pilot project stage. Funding from a group of agencies and, possibly, from local and central government, will spread the burden of funding and help to ensure sustainability. In addition, efforts should be made to identify ways in which the stakeholders themselves could contribute directly or indirectly to the cost of maintaining the service thus increasing sustainability still further and conferring ownership rights on the beneficiaries. This could be done by raising a levy on market fees (market places will benefit from the service) and/or selling advertising to be linked with radio broadcasts.

These services, and any others that replicate them in Uganda, will also be given greater strength by being linked to IITA's macro-information service.

Conclusions

Uganda at this time is, in many ways, a suitable location for the establishment of a new, more flexible and decentralised model of a market information service to provide the information requirements of all the stakeholders in Ugandan agriculture. Since its own, centralised market information service has ceased to operate, the Government has initiated research which has identified the need for precisely this kind of new service.

Government policy to liberalise the economy and initiate action to eliminate poverty provides the essential framework to support a market information service based on the full participation of civil society.

Many development agencies and NGOs have recognised that an improvement in the population's welfare and in the economy as a whole can only come about by improving the performance and efficiency of agriculture. The sector consists, almost entirely, of small-scale producers, traders and processors who face significant difficulties in obtaining inputs, access to the markets for their products, credit and the information they need to produce and market surplus production. Programmes have been initiated by these agencies, with the support of the government, to address these problems. They have also immediately recognised the need for a market information service to augment their work.

The advent of new technology in the form of a mobile telephone network and local FM radio stations improves the ability to gather and disseminate information.

The major impediment faced by those wishing to establish an information service is the poor level of co-operation between farmers. Most public and private development agencies have recognised the need for the millions of micro-scale farmers to work together in groups to access credit, purchase inputs, improve economies of scale, sort surplus products to a marketable and heterogeneous grade and organise collective strategies for marketing these products. Unless this is done, they will not be capable of maximising their income or reducing the tremendous cost of the many transactions between producer and consumer. For this reason several initiatives have been made to encourage this type of co-operation.

The formation of groups of farmers who co-operate in this way almost certainly represents the beginning of a general trend towards better organisation in the agricultural sector.

An expansion of the original IITA concept of a pilot project to take account of this trend will increase the accuracy and value of information provided by including the intimate participation of the more organised farmers in Uganda. This addition should not increase costs unduly.

Beyond the Pilot Project

The stakeholders' meeting and other meetings carried out during and after the Preliminary Study has ensured that all the important stakeholder groups are fully aware of the IITA initiative. Close contact should be maintained with stakeholders by keeping them informed of progress in establishing the service and eliciting their opinions and suggestions for improving and expanding the service.

There is no doubt that all stakeholders contacted support the concept of the service and are likely to maintain a close interest in its progress. If it is deemed to succeed
in its aims, it is likely that many interested groups will initiate an expansion and replication into other commodities, geographical locations and agricultural sectors on their own initiative and with the assistance of IITA.

It may also be that the integration of this service into a regional dimension will enable agricultural information services to improve by learning from each others' experiences.

ANNEX 1

Design Parameters

The design for a market information service in Uganda has to fulfil three criteria.

- It must be comply with the Government of Uganda's recommendations for a market information service.
- It must comply with the recommendations for such a service made by the parties to this project.
- It must be capable of being fully integrated with the new macro-level market information system initiated by IITA.
- It must meet with the approval of stakeholders in the project.

The design of the pilot project has, therefore, taken account of these criteria as follows:-

1) It must be compatible with the Government of Uganda's recommendations for a market information service.

The Government's recommendations for a market information service are described in its draft Plan for the Modernisation of Agriculture (PMA) as follows:-

'The need for effective market information for improving market access is absolutely crucial. It is also clear that the different types of stakeholder require many different types of information on a timely basis in order to make informed decisions crucial for the success of their business operations. Based on a study by NRI/APSEC, a decentralised, flexible information system bringing on board all the major stakeholders (e.g. LG, private associations, NGOs, local radio stations etc.) will be adopted for implementation under the PMA.

Government (central and local), donors and NGOs have to acknowledge the importance of information and make the necessary resources available particularly in regard to provide

information to poor farmers where such services may be viewed as public good. The system will be demand-driven and reacting to the needs of the target population and starting with a needs assessment of the services. Local radios could be one of the principle means of disseminating such information.'

The study referred to in this extract from the PMA was conducted by the Natural Resources Institute and the Agricultural Policy Secretariat of the Ugandan government. The study, which was completed in August 1999, included a field survey in which poor roads, inadequate market information and poor means of transport were identified as key constraints to market access.

The report of the study states that:-

Given the limited impact and lack of sustainability of most centrally organised market information systems, decentralised systems should be developed, involving relevant stakeholders. A pilot project is required to identify how systems should be set up at District level.

2) It must comply with the recommendations for such a service made by the parties to this project.

The terms of reference contained in the contract between CTA and IITA covering this project state that:-

The service will comply with the CTA's general view that it should be a localised, demand-driven system serving a particular community or agricultural sector linked to and supported by local and central government and run by those groups which the system is designed to benefit.

3) It must be capable of being fully integrated with the new macro-level market information system initiated by IITA.

Further refinements to the systems are being undertaken. These include training workshops for reporters, the establishment of closer working relationships with traders associations, the definition of quality categories for more accurate commodity pricing, the evelopment of price cross-checking, a data base for processing historical data, trials for radio broadcasting and development of an Internet site for the dissemination of information.

IITA have also begun to find ways to establish a mutually compatible system for linking the Ugandan service with market information services in neighbouring countries to form a regional market information system.

The design for a pilot market information service targeted at small and medium-scale actors in the agricultural sector can be fully integrated with the macro-information service. Both services will share common data collection and central processing systems and a single technical management.

4) It must meet with the approval of stakeholders in the project.

The Design Phase of this project has been informed of stakeholder requirements through research in the Preliminary Study, a series of interviews with stakeholders including field visits to two target areas and a stakeholders' meeting.

The Stakeholders' meeting took place in Kampala 1st December 1999. Attendees at this meeting included **farmers** and **traders** and representatives from:-

Ministry of Finance
Agricultural Policy Secretariat
Ministry of Agriculture
Market Information Service – Tanzania
Market Information Service - Rwanda
Kenyan Agricultural Commodity Exchange
Agricultural Co-operative Development International

Agribusiness Development Centre
Famine Early Warning Service
Owino Market Traders and Transporters
CBS Commercial Radio
Radio Uganda
World Food Programme
Irish Foundation for Co-operative Development
European Union
Department for International Development (UK)
World Vision
Catholic Relief Service
Food and Agriculture Organisation

The programme for the meeting was to:-

- Harmonise ideas on the type of marketing information required by small-scale stakeholders in Ugandan agriculture.
- Agree on the methods of collecting and disseminating this information.
- Offer suggestions on how such market information services should be managed with full participation by stakeholders.
- Discuss ways in which this service can be sustained in the long-term.
- Discuss proposals to integrate a Ugandan market information service into a regional and international information network.

There was unanimous agreement at the meeting that market information was needed throughout the agricultural industry.

It was also agreed that the flexible, decentralised model for market information systems proposed in the Plan for the Modernisation of Agriculture and by CTA and IITA was likely to offer the best prospects for sustainable delivery of appropriate information.

Participants were able to offer many suggestions on how they could support and participate in the development of the programme.

The idea of establishing a pilot project, from which the necessary experience could be gained to expand market information services, was also supported. It was recognised that the nature of information requirements and the degree to which information could be made use of differed between groups of actors in the industry.

It was agreed, therefore, that the design of a pilot project should contain components that would target more than one geographical location, more than one commodity and more than one form of farming community.

The meeting was fully aware of the limit on the resources available to establish and sustain any service. The requirement to make the project cost effective and sustainable was discussed at length. It was agreed, for instance, that the cost of recording farm-gate prices was considerably more expensive than recording prices in market places. Furthermore, farm-gate price vary considerably, according to the accessibility of the farm and the bargaining power of the farmer. It may be necessary, therefore, to concentrate resources on recording accurate assembly and wholesale market prices.

It was also thought that, once the intended beneficiaries of the provision of information discovered its usefulness, they might be expected to contribute to its cost. A premium charged on market fees was suggested as a possible mechanism for achieving this.

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ANNEX 2

Study of the maize marketing system in Uganda

Peter Robbins, CMIS
Shaun Ferris, IITA / Foodnet Project

Contents

	Page
Executive Summary	A
Introduction	C
The framework for agricultural market development in Uganda	D
Ugandan agriculture	E
Uganda's agricultural markets	E
Farmers' access to agricultural markets	F
Maize production and marketing	H
The role of traders in Uganda's agricultural sector	J
Existing market information systems	L
Other sources of market information	P
The use of radio for dissemination of market information	Q
Other forms of communication	R
Transport	S
Finance and credit	T
Conclusions	U
Establishing a market information service in Uganda	W
The feasibility of a pilot market information service	Y
The design stage of a pilot market information service	Z
Abbreviations	(i)
Bibliography	(ii)

Since the liberalisation of agricultural commodity markets in the early 1990s, which included the function of the state-controlled marketing boards being taken over by private traders,, the government of Uganda is embarking on a plan to modernise agriculture. The plan incorporates a requirement to support the establishment of decentralised market information services.

The International Institute of Tropical Agriculture has recently established the first phase of a market information service which will replace the useful functions of the now defunct government service. This project provides information needed by planners in government and development agencies, including agencies dealing with food security.

IITA wish to expand the scope of this service, however, to collect and disseminate information that is relevant and useful to the millions of other actors in Ugandan agriculture.

This preliminary study has shown that agricultural markets in Uganda are characterised by long chains of transactions between farm gate and consumers, lack of competitiveness between traders and poor access to appropriate market information.

Prices received by farmers for the sale of their goods are significantly less than the price they could have achieved if they had the means of transporting it themselves to assembly markets even after taking the cost of transport into account.

This study has concluded that, if farmers were more fully informed about the markets for their crops, their bargaining position with intermediate traders would be strengthened, their income would increase and less produce would go to waste. In addition, more transparent markets would help to lower transaction costs, increase the volume of trade, offer greater food security, increase import substitution and lower consumer prices leading to greater benefits for Ugandan traders and processors and the economy as a whole.

At present there is no service providing timely and relevant information needed by the many millions of actors in the Ugandan agricultural sector. There exists, however, the

necessary institutional resources, communication systems, economic environment and legal framework to allow such a service to bring positive benefits.

Before this study was carried out IITA decided that, in order to gain the necessary experience to initiate a country-wide market information service, it would first establish a pilot project targeted at actors in the maize market in one location in Uganda. The findings of this study show, however, that no agricultural commodity can be considered in isolation in the context of Ugandan production and marketing systems. It is also clear that different groups of farmers differ markedly in their ability to make use of market information.

It is likely, therefore, that a pilot project will be established targeting groups of producers, traders and processors in more than one location and covering one or more commodities as well as maize.

The design phase of this project is scheduled to begin with a stakeholders meeting in Uganda 1st December 1999.

Introduction

In May 1999 the International Institute of Tropical Agriculture embarked on a programme to establish a market information service for agricultural products in Uganda. The first phase of this programme is designed to provide information about the prices of a large range of commodities required by agencies working to monitor the economy, develop medium and long-term strategies to improve agricultural performance and to ensure food security.

This preliminary study is principally concerned with the second phase of the programme which will be designed to provide market information to farmers, traders and processors which could be used by them to enhance their incomes and to reduce transaction costs.

In June 1999 the CTA agreed to participate in this programme by funding a preliminary study of the Ugandan agricultural market and to assist IITA to design a pilot project to establish a market information service for farmers, traders and processors of maize. The objective of the pilot project is to gain the necessary experience to expand the service to other commodities for the use of actors in the agricultural sector throughout Uganda.

This report covers the findings of the preliminary study. The design phase of the project will begin at the end of November 1999.

This study, which was carried out by Peter Robbins of CMIS and Shaun Ferris of IITA, began with a literature search together with the development of a work programme of interviews in Uganda. A series of non-structured interviews were carried out in Kampala with Ugandan government officials, agricultural development agency workers, academics, media and communication workers, bankers, NGO officers, farmers' Union officials, large-scale traders and market managers. A short visit to Jinja and Iganga was also arranged to meet small-scale traders, farmers and processors. Local market managers and local government officials were also interviewed.

The framework for agricultural market development in Uganda

The government of Uganda has provided the economic environment to permit a competitive market in agricultural commodities to flourish. After an exhaustive programme of research and dialogue, the Government is on the point of publishing its 'Plan for Modernisation of Agriculture' (PMA) which will provide the framework for agricultural development well into the next century.

The objectives of the PMA are based on the eradication of mass poverty and, hence, PMA preparation is deeply rooted in the Poverty Eradication Action Plan (PEAP).

The Government is also in the early stages of implementing a programme of decentralisation.

The British Department of International Development (DFID) and the Danish development organisation, Danida, have been instrumental in assisting the Ugandan Government with the development of the PMA. As part of this work DIFD commissioned a study, 'Community Access to Marketing Opportunities' (NRI) the findings of which form the basis for agricultural market reform under the PMA.

During this study the NRI organised a series of workshops in five Ugandan districts which were attended by about 20 local stakeholders – farmers, traders, local government officials and NGO representatives. Each was asked to identify the three most important constraints to agricultural marketing. Poor roads, inadequate market information and poor means of transportation were identified as the key constrains on market access. The report of the study goes on to state:-

'Given the limited impact and lack of sustainability of most centrally organised market information systems, decentralised systems should be developed, involving relevant local stakeholders. - Farmers and traders require other information in

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addition to prices, for example information on supply and demand, trade contacts, technical matters and new institutional arrangements brought about by decentralisation'.

This description conforms exactly with the CTA's preferred model for such a service. The recognition of a need for this model and the high priority given to it in the PMA should esure support for the implementation of the envisaged IITA/CTA project to establish, in the near future, a pilot market information service targeted at small-scale farmers, traders and processors.

Ugandan agriculture

Agriculture accounts for about half of Uganda's GDP, about 90% of employment and 90% of export earnings. Small-scale farms, averaging 0.3 hectares, produce almost 100% of the country's food crops. Only tea and sugar are grown on large estates. The major food crop is matooke (boiling banana). Others are cassava, sweet potatoes, millet, maize, beans and Irish potatoes. Rice, groundnuts, sesame seed, soyabean and various peas are grown in smaller quantities. Meat, dairy products and fish are also important components of Ugandan food production.

Traditional export crops are coffee, cotton, tea and tobacco. Uganda has succeeded in boosting its exports of some non-traditional crops – maize, cut flowers and vegetables - in recent years.

Uganda's agricultural markets

The system of agricultural markets in Uganda follows the same pattern as in many other African countries.

Village markets function as outlets for local farmers, a retail market for local consumers and a bulking-up market for intermediary traders who tend to buy higher quality produce destined for district, urban or even export markets. There are about 3000 village markets in Uganda.
Assembly markets are usually based in towns or villages located on trunk roads. They function as retail markets but they are also important as assembly points for lorry loads (10 to 15 tons) of produce to be transported to the main urban centres and, if it is of a heterogeneous and high enough quality, may be sold directly for export. Many assembly markets are open every day.

Wholesale markets are based in the largest urban centres where produce from smaller markets is properly weighed and graded and sold to large-scale consumers, processors and for export.

In addition, **roadside retail markets** perform an important function. These markets are a common feature of the major roads and act as an additional outlet for farmers.

Direct trading also takes place where the largest traders and processors employ agents to purchase products directly from farmers or village markets for delivery to the buyers' warehouses and silos. In addition, farmers in some areas have the option to sell and deliver their products to traders who run local stores. These traders bulk up products just as traders do in formal markets.

Farmers' access to agricultural markets

During the colonial period Ugandan farmers were organised on a geographical basis into primary societies (based on individual parishes), district societies and regional societies. This was done partly for administrative purposes and partly as a means of distributing extension services and other inputs as well as purchasing agricultural production. These structures remained in place until the early 1990s and were supported by a government ministry for co-operatives. Since that time, however, the government has instituted a

programme of market liberalisation and many farmers' societies have vanished or become dormant, often through mismanagement and dishonesty.

Some support for some remaining farmers' co-operatives has come from projects funded by NGOs in various parts of the country. Some of these projects have specialised in collective marketing programmes as well as pooling credit and input purchases. One group of 32 co-operatives supported by the Irish Foundation for Co-operative Development has successfully marketed beans, grown by members of the co-operatives and by farmers in the surrounding area, at considerably higher prices than could have been obtained from local traders. They intend to market their surplus maize as well as beans in the next season.

The Irish NGO offers assistance to the members of the co-operatives in many forms. Their main contribution is administrative but they also provide training and help with sorting, grading and packing the products as well as with negotiations with large-scale traders in Kampala. The cost of this work is not factored into the extra income farmers enjoy.

It is obvious, nevertheless, that collective marketing would be a successful strategy for farmers to follow if they wish to maximise their income. Indeed, the report on the recent NRI study, mentioned above, recommends that:- '*Farmers should be encouraged to organise so as to reduce their constraints to market access, while taking care to avoid past mistakes in co-operative building*'.

There are several other successful examples of farmers organising themselves to obtain the necessary economy of scale to sell output, purchase inputs and obtain credit at market rates. Some areas in the North of the country, where resettlement has taken place after disruption by war, are working well and benefit from larger units of production. It is true to say, however, that these examples form only a small percentage of total agricultural production.

In general, Ugandan farmers work independently of each other. Individually they produce only small quantities and have no access to credit. Several times, during this study, we were told that there is very little trust between Ugandans in the agricultural sector. J.R. Bibagambah, in his book *Marketing of Smallholder Crops in Uganda* (CTA 1996), identifies

'*the lack of opaque trading practices and general mistrust among market participants*' as a significant restraint in the agricultural sector. The problem seems to have been caused by the many years of civil war in the country and, more recently, the failure of many banks, including banks engaged in the agricultural sector.

Maize production and marketing

Although maize is regarded as a non-traditional crop in Uganda it has been grown there since before 1930. Almost all maize is grown in small-scale units, together with other crops. There are a few larger-scale maize farms in Uganda but the largest (known to those interviewed) was 150 acres. Maize is grown all over the country but the main producing areas are in the West and in the far North and East of Uganda.

Maize is eaten in many areas of the country green or roasted on the cob or as a paste made from the flour called posho but cassava is preferred as a staple in many Northern areas. Matooke is preferred in the South but it is usually more expensive than maize in spite of being less nutritious, .

Production increased significantly during World War II and again in the last decade. There is some dispute over the total quantity of maize produced. Official and FAO figures put production in the last few years at almost a million tons. Local experts, however, including the Ugandan Agribusiness Development Centre, put the figure at nearer 300,000 tons of which half is exported. Annual export sales figures, of between US$ 19 and 25 million seem to confirm these figures (at 250 Ush. per kilo).

The main market for Uganda's maize exports is Kenya. Kenyan traders travel freely in Uganda searching for supplies. The current Kenyan shortage of maize, of approximately 800,000 tons, has stimulated Kenyan purchases and driven up the local price in Uganda. Other important purchases are made by the World Food Programme, the Red Cross and the UN High Commission for Refugees for food aid programmes in nearby African countries. These purchases are sometimes made directly from the larger Ugandan grain

merchants but more often through multinational grain conglomerates such as André in Switzerland and Cagill. Large, domestic purchases are made by government-controlled Tender Boards who supply the army, police, schools and hospitals and by local millers and processors.

Although about 43% of maize produced in Uganda is consumed by households on the farm, its importance to most farmers is as a cash crop. It has the advantage of being relatively non-perishable (if properly dried) and relatively easy to store and transport in bags.

The maize market is structured in the same way as most other agricultural markets in the country. Most farmers produce only small quantities (one or two 100 kilo bags at a time). Farmers have several marketing options. They can deliver (usually by bicycle) to a local 'store' (small sedentary trader), if they are near one. Alternatively, they can sell to traders at the local village or district market. This can be done in two ways. They can deliver it themselves or take a sample to the market, agree a price with the trader and then allow the trader to arrange transport. Payment is rarely made until the trader has taken delivery of the goods.

Very few farmers have the equipment to weigh or test the quality of their grain. Traders have scales (although it is widely believed by farmers that traders' scales are doctored). Traders lack sophisticated equipment for testing the moisture content of the grain but use popcorn machines to get a rough idea of moisture content. Traders will sometimes dry the product themselves to increase the value.

The largest wholesale maize market is in Kampala but large-scale traders and millers have their own silos in, for instance, Kampala and Jinja and often purchase directly from village and district markets. There is a shortage of suitable storage space for maize in Uganda which tends to exacerbate any market fluctuations.

Almost all grain dealers, large and small, deal in other dry products – especially beans. And beans are also grown by maize farmers in the main maize-growing areas.

The role of traders in the Ugandan agricultural sector

Since the liberalisation of agricultural commodity markets in the early 1990s the function of the state-controlled marketing boards has been taken over by private traders. There are many traders operating in the country, from the many thousands of individual retail stall-holders to a few large-scale merchant-houses.

The prices of commodities are, in general, set by the forces of supply and demand. Certain aid programmes have the effect of distorting markets, however, by supplying cheap or free agricultural inputs and food.

It is fully accepted that retail traders in any particular market at any given time collude with each other and post identical retail prices. These prices are based on the price of the last batch of the product to arrive at the market. Generally speaking, products are purchased and transported to the market by traders after prior negotiations with farmers. Alternatively, products may be delivered to the market by itinerant traders who then haggle with sedentary traders, based at the market site, to arrive at an agreed price. The sedentary traders then parcel out the product to a large number of retailers at a fixed price.

Bargaining between traders for medium and larger scale parcels of goods is relatively competitive. Some traders in the privatised market places have a conflict of interest, however. Over the last decade the management of market places has passed from local government to private companies. These companies are required to compete with each other by public tender to win the management contract. Once appointed they are required to pay the local council a fixed fee. The management company recovers the fee by collecting market dues from stall-holders and from traders delivering produce to the market. The company is also responsible for keeping the market tidy and providing security.

Typically, these private companies have been formed by a consortium of the largest traders in the market.

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This consortium is often also engaged in trading as a group and in transportation. The combination of a market management role and a trading role gives the company considerable power if not a monopolistic position in the market. They are likely to be able to set prices not only for retailers but also for incoming produce. Some commentators have also complained that these consortia have no incentive to invest in improving the market site.

More importantly, traders offer poor prices to farmers especially at the height of the harvest season. It is clear that, from the farmers' point of view, the agricultural markets in Uganda are not competitive enough to offer them a fair price. Reports have been received of farmers obtaining only between 50% and 80% of the prevailing wholesale price for their maize after transport and handing charges have been taken into account. Bean farmers in Rakai District were offered by traders only between 54% and 60% of the true value of their product. A 1997 case study showed that traders were purchasing sesame seed in Lira, Apec and Sirote Districts at only half the price they could have obtained if farmers had the means of exporting it themselves.

[Perversely, the fact that very little credit is available to farmers means that traders are not able to use the farmer's debt to them as a means of reducing the prices they offer as is the case in many other African countries.]

The market system in Uganda suffers from degree of collusion amongst traders facilitated sometimes by the lack of competition, especially in isolated areas. The trading business is also highly fragmented with up to five separate transactions taking place between different intermediaries to bring a farmer's product to the wholesale market.

Although small and medium-sized traders have organised themselves within local markets into traders associations, they are poorly organised at a national level. The largest traders are organised into associations representing traders in several commodity sectors (e.g. coffee, tea, oilseeds), however.

Ugandan commodity traders fulfil a vital role in the economy of Uganda. The free market system is a comparatively new concept in the agricultural sector, however, and it has not yet evolved the degree of transparency or competitiveness that would ensure fair prices for both suppliers and consumers.

Existing market information systems

The Government MIS

The Ugandan economy was liberalised in the early 1990s and state-controlled marketing boards lost their monopolies.

A government-run market information service was established at that time with funding from FAO. Funding was taken over by US-AID in 1993 when the collection of data on weather and road conditions was added to data collected on the retail prices of agricultural products. Throughout its existence the service suffered from the same general problems. Information arrived late at the central collating office and payments to reporters were late and sometimes went astray causing disruptions in the flow of information. The information provided was of some use to planning institutions but of little use to farmers. Traders were, apparently, reluctant to give prices to the government-employed reporters as they suspected them of passing information to the tax authorities.

The service was discontinued in May 1999.

UNFA market information service

The Uganda National Farmers' Association (UNFA) has a market information service funded by Danida.

Information is collected once every two weeks by the UNFA district co-ordinator in six districts (out of 22 in Uganda). Farm gate and wholesale prices are collected for maize, millet, sorghum, rice, peanuts, one colour beans, cassava chips, soya and beef. These prices are broadcast by Uganda Radio in four languages on 'The Rural Farm Programme'. Uganda Radio charge the union 4,320,000 sh. (US$ 2880) per quarter for air time and the union also has to pay a radio producer to package the programme.

The Association recognises that farmers can receive a very poor price for their products. Farmers, they say, part with maize for as little as 90 Ush. per kilo in Masindi District at harvest time when the wholesale price has been 250 Ush.

The Association also publishes 2000 copies of a 'production and marketing bulletin' in English twice a year. The latest edition (August 1999), however, reports commodity prices from June 1997. The bulletin also carries a list of 37 merchants based in consuming countries who trade in some of the products produced in Uganda. It also carries prices of farm chemicals, machinery and bags but no mention is made of how up to date these are. There are also some snippets of advice in the bulletin designed to help farmers market their products more efficiently. The text in this section is as follows:-

Middle men offer unattractive and very often very low prices to farmers who have little or no negotiation skills/power. The farmers are easily exploited due to lack of unity.

Farmers are advised to adopt the UNFA marketing strategy whereby the farmers get together, and participate in the drying, bagging and storage of the crops collectively. All the records must be kept. Once this is done, the unit costs of marketing is reduced. You can negotiate with the buyer on a good price. The basic idea behind collective marketing is to reduce the costs involved to the minimum and maximise profit. Both parties benefit from this arrangement. The buyer can be maintained (sic)*. The farmers can themselves form a marketing company to oversee the selling of the crops and ensure that the profits are evenly distributed.*

The UNFA are also training 50 extension-link farmers (again, funded by Danida) in each of ten districts to obtain prices and report them to the Associations' district co-ordinators.

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Price information offered to farmers only once every two weeks cannot be very useful as market prices can change significantly in a single day and are likely to become more volatile as the local and regional market becomes more liberalised. The Association's production and marketing bulletin would also appear to have very limited use as the price information contained is only of historic interest.

The IITA Market Information Service

In May 1999 IITA successfully applied for funding from Agricultural Co-operative Development International (ACDI) to establish an agricultural market information service in Uganda. ACDI is a Washington-based, non-profit-making organisation that administrates funding from the US Agency for International Development (US-AID). The funding for this project came from US-AID's PL-480 project.

The objectives of IITA's market information project are:

1. to provide information about the markets for agricultural commodities produced in Uganda for planning and food security purposes.

2. to assist Uganda's farmers and other actors in the agricultural sector by providing them with the information they need to sell, trade and obtain Ugandan agricultural products more successfully.

The need for such a service has become more acute since the government's own market information service was discontinued in May 1999.

Objective A is well on the way to full implementation. In this objective IITA is working closely with two Uganda-based organisations, the Agribusiness Development Centre (ADC) and the Famine Early Warning Service (FEWS) based in Uganda. ADC and FEWS are also closely associated with US-AID. One of ADC's main objectives is to increase Uganda's export performance in agricultural products. Under its Investment in Developing Export Agriculture (IDEA) project, ADC has concentrated on assisting producers to export maize, beans, cut flowers and vegetables. The organisation has acted as a clearing house for information about Ugandan agricultural markets and regularly brings together traders,

farmers' union representatives and government agencies to exchange information. They also broadcast agricultural extension information to farmers all over Uganda.

FEWS also needs detailed information about current supply, predicted yields, weather reports and the price of available stocks of food products.

IITA has for some time been linking its work in Uganda to market conditions, concentrating research on products for which a market has been established
and assessing the relative cost of competing food products.

All three organisations, therefore, share an interest in gathering information about market conditions for use in their work. It is also likely that many other organisations could make use of market information gathered by the IITA project including government agencies, academic institutions, planners, donors, NGOs, large scale traders and processors and regional bodies.

IITA has started to employ agents in 15 of the 22 Ugandan districts to gather price information and market news on 17 crop products and 5 livestock products from village, district and wholesale markets. Market information on 28 commodities is collected from Kamala's two main wholesale market in a daily basis. Some of the agents employed by IITA were once employed by the government MIS.

Ugandans most in need of market information, however, are small-scale, isolated farmers, traders and processors. IITA's second objective is to provide a service for these groups.

This preliminary study is focused on this objective but involves an investigation of how market information is gathered already and what changes or additions to this information will be needed for use in this objective.

Other sources of market information

National responsibility for extension services is supervised by two agencies. A semi-independent body, the National Agricultural Research Board (NARO) and the extension services of the Ministry of Agriculture, Fisheries and Forestry. These organisations have no capacity to deliver information on the markets of agricultural products, however.

The Ministry of Agriculture employed Marketing Officers in each district of Uganda. People holding this post were responsible for supplying market information to a central office as part of the structure of the now defunct government MIS. This job was usually part-time and those functions of the work that remain are grossly understaffed and underfunded.

The exchange of information about the markets for agricultural commodities takes place relatively efficiently between the largest traders and exporters. This is especially true in the case of information relating to the markets for tea and sugar, the only two products grown in Uganda on a large scale, and for coffee, Uganda's main export item. These larger traders are able to employ local agents throughout the country and to communicate with them by using the growing network of cellular telephone systems. At the village level too farmers, retail traders and small-scale processors are able to bargain freely to establish a market price for their immediate location.

The exchange of information between market participants at the local level and the wholesale level, however, is poor. Farmers do not have the means or resources to travel widely to seek better markets for their goods. The main conduits of information are the highways of the country. Lorry drivers involved in the transportation of agricultural goods travel around the country from market to market exchanging information as they go. The lorry drivers are, however, almost invariably, employed by traders or are traders themselves. They have no vested interest in informing producers or customers of the true state of the market.

The use of radio for the dissemination of market information

English is the official language in Uganda but over twenty other languages are spoken. Most of these fall into three language groups which can be understood by many people speaking other languages in that group. Private and publicly owned radio stations broadcast in eight languages plus English.
Uganda Radio is the state-controlled service for radio and television. It has three AM stations and two FM stations. The FM stations are funded by selling advertising and carry mostly light entertainment. The three AM stations carry 80% public broadcasting topics such as health, women, environment, career guidance, etc. and farmers' programmes. There are at least three farmers' programmes on each of the three channels every day. Some of this public broadcasting is paid for by development agencies promoting the particular project which a given radio programme covers.

The three channels are:-

The Red Channel – broadcast in English and languages spoken in Northern Uganda.
The Blue Channel – broadcast in Central and Western Ugandan languages.
The Butebo Channel – broadcast in Eastern Ugandan languages.

Each channel is on air for 18 hours a day.

A market information service is likely to have to pay for airtime on any of the state services, although this may be kept to cost price with government support. The estimated cost of airtime for a fifteen-minute broadcast on one of the AM channels would be Ush. 100,000 (US$ 66) and a further Ush. 40,000 (US$ 26) for production costs.

In addition to the Uganda Radio service there are about ten commercial FM radio stations as well as some limited range community stations run by NGOs. The commercial stations

cover most of the country although some have a larger broadcast area (footprint) than others. Each commercial station specialises in broadcasting in a particular location in the language used in that location. They earn their income from advertising and for broadcasting messages (funerals, weddings, etc.). They also charge for airtime for public broadcasting programmes – the charge for a fifteen minute programme is about Ush. 450,000 (US$ 300).

A high proportion of Ugandans own radio sets. There is likely to be at least one in every village.

Other forms of communication

Several newspapers are published in the country, mainly in English but also in one or two other languages. The adult illiteracy rate is about 50%, however, with lower rates of literacy in rural areas. Distribution of newspapers outside major towns is poor. This means that newspapers are unlikely to be of use to disseminate up to date market information to the population in rural areas.

There are, at present, only 2.27 telephone lines per thousand of the population of Uganda. Mobile telephone transmitters are being installed, mainly in the more densely populated (and wealthiest areas). The cost of these phones (even without call charges) at US$ 200, however, is almost one year's income for the average Ugandan. It is still cheaper to deliver a message using public transport in Kampala than using the public telephone system.

Uganda has 0.5 computers per 1000 people. These are owned almost exclusively by development agencies and state and public enterprises. There are 0.03 per 10,000 Internet users in the country.

Uganda's postal service is too slow and variable to be of use for a market information service.

Transport

Roads

Of the 8832 kms. of primary, secondary and tertiary roads in Uganda only 2105 kms. are paved. In addition, Uganda has approximately 20,000 kms. of feeder roads and 30,000 kms. of community roads. Almost all of these roads are unpaved. About 30% of all unpaved roads are unusable in wet weather. The level of maintenance on all roads is poor. The only means of transporting goods from many farms is by human porterage, bicycle or by tractor-drawn trailers. The use of pack animals is increasing but they are not yet a common sight in many parts of the country.

Transport vehicles

Two railway lines cross the country to meet in Tororo in the east of the country from where the main railway export route to Mombasa begins. One line passes through the country diagonally from Arua in the extreme north-west. The other passes from the far south-east and through Kampala.

Almost all deliveries of domestically produced goods are made to assembly and wholesale markets by lorry.

Most commercial vehicles, except buses, are owned by private operators. Most lorries are imported second-hand from outside Africa. Many of the country's vehicles are old and in a poor condition and must be repaired regularly especially as the road system is so poor.

Many of the large and medium-sized traders and processors of agricultural produce own their own fleet of lorries – usually of a ten ton capacity. There are also many small transport companies in the country – some hire out a single vehicle.

The cost of loading and transporting 10 ton loads of beans from Rakai to Kampala – a journey of approximately 200 kms. – is, at present, 30 Ush. (2 US cents) per kilo.

Finance and credit

The mainstream banking system is reluctant to extend credit to anyone other than the largest agricultural producers, traders and processors.

Sources of credit have been made available to the agricultural sector by at least a score of foreign governments, aid agencies and foreign NGOs. Most of these finance projects could be classified as micro-credit schemes. The funds are usually administered by foreign-controlled agencies and channelled through Ugandan banks to Ugandan-controlled micro-finance institutions (MFIs). Most MFIs are private companies operating on a not-for-profit basis.

Many foreign agencies administrating micro-credit schemes offer training to MFIs.

The Ugandan bank most favoured by credit donors was, until its recent collapse, the Co-operative Bank. The demise of this and several other banks in recent months has reduced the already low level of trust in the domestic banking system. Some other Ugandan banks have now been selected for channelling funds to borrowers and these banks are subject to much stricter levels of control and supervision.

Access to micro-credit is patchy across the country. In some towns several MFIs are in operation while in others there are none. A typical loan amounts to only 120,000 Ush. (US$ 80) for repayment over several months. Interest rates are high at between 25% and 40% p.a. given that the currency is relatively stable. High interest charges are attributable to the cost of administrating many very small sums.

Many of these schemes lend only to women who are seen as most in need of credit and as more credit-worthy.

Producers, generally have only limited access to even these sources of credit as some collateral is required to borrow funds. The group that appears to be able to make most use of these sources of credit are small-scale retailers who are predominantly women. They are not only in a position to turnover loans quickly but also to offer some collateral – their market stalls.

For medium-sized traders the sums of credit available are too small to finance anything other than the small quantities of produce.

Almost all trades in agricultural goods in Uganda are transacted in cash.

Conclusions

General overview

The evolution of marketing structures for agricultural produce in most African countries has not yet achieved the necessary degree of competitiveness and transparency to ensure fair market prices for small-scale farmers, processors and consumers.

There is a growing recognition among development agencies and governments that, if farmers were more fully informed about the markets for their crops, their bargaining position with intermediate traders would be strengthened, their income would increase and less produce would go to waste. In addition, more transparent markets would help to lower transaction costs, increase the volume of trade, offer greater food security, increase import substitution and lower consumer prices leading to greater benefits for the economy as a whole.

The Ugandan Government has provided a framework to support the transition towards a liberalised economy. It has also decided to embark on a plan to modernise the agricultural sector in an effort to address the problems of rural poverty. Within this plan, the Government has recognised the importance of improving access to market opportunities for its rural community and to encourage the development of market information systems.

The justification for establishing a market information service for all stakeholders in the Ugandan agricultural sector is clear. In their recent study of the access to marketing opportunities, the NRI recorded the findings of stakeholder workshops in five Ugandan districts. These included:-

* Farmers in Rukungiri lack knowledge of prices in Kampala and in neighbouring countries like Congo and Rwanda. They also lacked knowledge on quality requirements of the various commodities.

* In Lira participants said they needed information on the price of produce and the quantity and quality of products available.

* In Kapchorwa farmers in remote areas are generally ignorant of prices prevailing in Kapchorwa Town, Mbale, Soroti, and Kumi, let alone Kampala. Traders tend to dictate the price due to farmers' ignorance.

* Participants in Katakwi workshop complained about the lack of telephone and fax connections and noted that the only source of information was by people travelling from place to place.

This preliminary study has shown that agricultural markets in Uganda are characterised by long chains of transactions between farm gate and consumers, lack of competitiveness between traders and poor access to appropriate market information.

Prices received by farmers for the sale of their goods are significantly less than the price they could have achieved if they had the means of transporting it themselves to assembly markets even after taking the cost of transport into account.

Small-scale traders have also recognised that they could improve their income if they had better means of communication with market centres. Even the largest traders and processors complain of a lack of information about regional markets.

Some efforts have been made to offer access to relevant and timely market information to the bulk of stakeholders in Ugandan agriculture. It is clear, however, that these systems are inadequate and do not help in the day to day problem of making commercial transactions in agricultural goods. It is likely, however, that any new system would be more successful if it worked closely with other market information providers.

Establishing a market information service in Uganda

The overall objective of this project is to establish a market information service for actors in the Ugandan maize market.

The preliminary study has established a need for such a service for all actors in the agricultural sector and especially for small-scale farmers, traders and processors in remote areas.

The recently established IITA market information service is replacing the useful functions of the, now terminated, government-run MIS. It is likely to be able to provide information needed by planners in government and development agencies, including agencies dealing with food security. The information is also likely to be of use to large private sector traders and the state-controlled Tender Boards who procure supplies for government institutions.

IITA wish to expand the scope of this service to collect and disseminate information that is relevant and useful to the millions of other actors in Ugandan agriculture.

Fortunately, much of the apparatus for achieving this second component of a market information service is in place or could be put in place with very little additional cost. The main expenditure for this expanded service would be in collecting additional information and providing a means of dissemination.

IITA have decided that a pilot scheme of the new service should first be established before committing the necessary resources to a full-scale project. In this respect they have come to the same conclusions as NRI researchers who have concluded in their recent report that *'a pilot project is required to identify how a system should be set up at a District level.'*

Prior to this preliminary study, IITA had decided that a pilot project designed to serve the market information needs of maize farmers in a single district of Uganda would provide the experience and feed-back data required to develop the service to other commodity sectors and other geographical locations. This limited pilot project could be funded without difficulty and managed without a strain on existing resources.

Maize was chosen because it is an important Ugandan agricultural product. It is consumed both in its raw form and as a processed product. A significant proportion of maize production is consumed within the country but it is also providing an increasingly important contribution to export revenues. It has been chosen by the local Agribusiness Development Centre as a commodity to be developed for export. As a staple food, it is also important from a food security perspective.

This study has, however, revealed that maize farmers differ markedly in their capacity to market their goods successfully. Most farmers have not developed structures which would enable them to work with each other to market their products or obtain credit or inputs. They are, nevertheless, in great need of information about the prevailing market price for their goods, the grades of product needed by the market and the sources of assistance that may be available to them. A minority of farmers have formed themselves into collective marketing associations, however. These farmers too need appropriate market information but are better organised to take advantage of the information they are given.

This study has also shown that the markets of agricultural commodities in Uganda cannot be considered in isolation. All farmers grow maize as one of a mix of crops partly to provide a mixed diet for themselves, partly to provide food in different growing seasons and partly as a security measure to ensure they have production if one crop fails. In addition, traders do not specialise in just one product. Traders in maize also deal in beans and sometimes other pulses, grains and other dry products.
When the price of one food product increases, consumers switch, in whole or in part, to other food products.

It may well be, therefore, that the pilot project envisaged by IITA may expand slightly to include a product other than maize but one closely linked to the maize market. It may also need to serve more than one discrete community of stakeholders with differing marketing opportunities. In this way the experiences gained from establishing the pilot scheme, the development of the relationship between IITA and stakeholders and the feed-back of the targeted beneficiaries may be of more use than the original limited proposal.

An expansion of the original idea to this limited extent should not increase costs unduly. Price information for more than one product can be obtained from the same group of traders and farmers and dissemination of information on more than one product can be carried out at the same time. Dissemination of information to more than one group of stakeholders is likely to increase costs, however.

The feasibility of pilot market information service

This study has established that there is a clear and perceived need in Uganda for information about commodity markets. It is also clear that the legal and economic environment are suitable for the development of more transparency in agricultural markets. Market information provision forms part of the Government's plan to modernise agriculture.

Much of the mechanism for collecting price and other market data relevant to small-scale operators in agriculture is already in place. The means of communication of collected data, land-line and mobile telephones, and the dissemination of information, radio, is available.

The institution that would be responsible for the establishment of the pilot scheme, IITA, is committed to the project and works closely with other institutions which will give support to the work.

For these reasons, this study has concluded that the establishment of a pilot market information service targeted at actors in Uganda's maize market is both feasible and desirable. It has also concluded that some modification might be made to the original concept of a pilot service targeted at only maize farmers, traders and processors in one Ugandan district. This concept could be expanded to a very limited number of other products and to more than one geographical group with different abilities to make use of market information. A change of this kind in the concept model could be made without a significant strain on resources. This modification may offer better output data for use in expanding the service further.

A pilot project model that has been proposed by IITA would consist of three components which would provide market information to actors in three separate agro-ecological locations on three different crops. These are maize grown in the east of the country, beans grown by a well organised group of farmers in the south-west and cassava grown by farmers in the north on large blocks of land.

The design stage of a pilot market information service

The design stage of this project will begin 1st December 1999 with a stakeholders meeting in Kampala. Participants in the meeting will include farmers, traders, processors and their representatives, senior government officials, development agencies, NGOs, media and communications organisations and regional MISs.

Among the subjects discussed at this meeting will be:-

- The type of information most needed by stakeholders that can be provided within the likely resources available.
- The expected impact of such a service.

- The most appropriate method of dissemination.
- The target group of beneficiaries for the service.
- The mechanism of decision-making to be employed in establishing and managing the project.
- Potential partners in the project.
- Sources of funding for the project and its expansion.
- Methods of measuring the success or otherwise of the project.

Before a final design can be completed discussions and negotiations will need to take place with government agencies, communication companies and potential partners and donors.

Abbreviations

ADC	Agribusiness Development Centre (Uganda)
AM	Amplitude modulated
CTA	Technical Centre for Agricultural and Rural Co-operation
DFID	Department of International Development (UK)
FAO	Food and Agriculture Organisation
FEWS	Famine Early Warning Service
FM	Frequency modulated
GDP	Gross national product
IDEA	Investment in Developing Exports Agency
IITA	International Institute of Tropical Agriculture
Kms.	Kilometres
MFI	Micro-finance institutions
MIS	Market information service
NARO	National Agricultural Research Board
NGO	Non-Governmental Organisation
NRI	Natural Resources Institute
PEAP	Poverty Eradication Action Plan
PMA	Plan to Modernise Agriculture
UNFA	Uganda National Farmers' Association
US-AID	United States Agency for International Development
Ush.	Uganda Shilling

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