

New approaches to market information to enhancing agricultural competitiveness in Uganda

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Abstract

Prior to liberalisation, market information services in Africa were designed to support marketing policies and set intervention prices. This role was meant to change radically as part of structural adjustment, where it was planned to strengthen these services to support the emerging private sector as the commodity marketing boards were dissolved and intervention prices removed. Unfortunately, most market information services failed to make the transition to a demand driven support service and problems associated with poor management and weak dissemination methods led to withdrawal of donor support and service failure. Despite these problems, recent surveys in Uganda have shown there is strong demand for market information from the farming community and traders. According to the PMA, lack of market information causes lower income for farmers, higher costs to consumers, greater risk for traders, high transaction costs, high wastage and lower competitiveness for the nation. To address these problems, FOODNET, an ASARECA regional agricultural development network has implemented three new types of marketing information service at the local, national and regional levels. These services are efficient, low cost and use modern means of communications to provide the rural population with basic market information in an effort to link farmers more effectively with market opportunities. Impact surveys show that farmers appreciate the information and that it helps them to negotiate more effectively with traders. Interviews, show that farmer groups can take greatest advantage of marketing information and that access to price data enabled farmer groups to raise farm gate prices by between 5 -15 % against general prices. Market integration analysis by IFPRI has shown that over the past 4 years the number of markets with a high degree of association, has increased from 4 to 8. These positive trends indicate that market information is assisting farmers and increasing marketing efficiency.

Key words: Collusion, FM radios, marketing intergration, spatial arbitrage.

Introduction

For a very long time, farmers in Africa have had to make decisions on what crops to plant, when to plant, where they will sell their produce and at what price. During the 1960-70s production was supported by Governments, who operated commodity marketing boards to purchase major export and staple food crops. When commodity boards were in operation the focus for market information services in African countries was to; advise government on marketing policy, set intervention prices, organize marketing training , authorities and cooperative, document market prices as part of the, and government policy analysis process.

This highly interventionist system was good for farmers, as risk was shared by the Government and farmers were able to plan production based on a known buyer price. Similar agricultural support programmes are still practiced in the major OECD nations, who currently provide approximately one billion dollars a day to support the agricultural sector. These subsidies are considered an effective use of resources, as it allows the greater part of the workforce to be employed in more remunerative industrial and service activities.

Unfortunately for farmers in Africa, the commodity boards were unable to adapt to changing times and industrialisation failed to occur. The commodity boards became weighed down by poor management and farmers were unable to compete with the international markets.

The marketing board policies effectively led to massive internal debts coupled with poor food distribution systems, which led to food shortages in some parts of the country and excess supply in others. When the internal debts could no longer be paid, the International Monetary Fund (IMF) and World Bank were required to re-negotiate loans with most African Governments through a process known as the Structural Adjustment Programmes (SAPs).

One of the major changes required by SAPs was the reduction of the state's role in commodity marketing. This required Governments to reduce intervention support prices and at the same time to strengthen market support services such as co-operatives, credit and market information and extension services to support to the emerging private sector. Unfortunately, nearly all of these services failed to adapt in the new liberalised environment and as they become less useful, donors withdrew support and for market information several services have effectively collapsed (Robbins, 1998).

The result of implementing a partial liberalisation process, combined with a lack of market support services and the dissolution of farmer co-operatives has led to a marginalised agricultural sector made up of millions of atomised farmers working on low input, low output farming methods. After 20 years of gradual market reforms, a very large proportion of farmers in Eastern Africa do not fully appreciate market forces and even today, are unable to answer some of the basic marketing questions, such as:- Who is buying maize, beans, millet, etc.? What quality does s/he need? Where is s/he located? What quantity does s/he need? What price is s/he offering? What premiums are on offer?

Lack of market efficiency has meant that Africa is losing market share in many of the traditional export crop markets and African countries are also facing increasing competition in their domestic markets. This weak competitiveness is related to a lack of market orientation which is manifest by high transaction costs, poor product quality, low product volumes and lack of association amongst producers. The result is that Africa is producing less, importing more and becoming increasingly dependent upon food aid that must be purchased from commercial markets. African trade is currently less than 1 percent of global trade and this level is declining and for many large trading houses, Africa is known as an inefficient producer of poor quality products. This perception coupled with a deteriorating transportation network has crippled the agricultural sector.

In addition to the old problems, Africa is facing new challenges, such as globalisation, World Trade Organisation led free trade agreements, urbanisation, vertical integration and a general shift in power from producers to retailers.

Globalisation provides huge trading opportunities and has fuelled a period of unprecedented growth in the OECD countries. However, for weak economies that rely heavily on the sales of non industrial goods, globalisation can expose countries to major economic shocks.

The current commodity crisis, which is typified by the coffee situation, is a clear example in which market liberalisation has led to oversupplied markets causing a collapse in prices. According to these requirements a national MIS was developed in collaboration with the Ministry of Trade and Tourism (MTTI) and the Famine Early Warning System, (FEWS), (Ferris, 2001). The service collects both primary and secondary data on: Off lorry, wholesale and retail prices of 28 agricultural commodities from 16 districts (Table 1). Prices are collected on a weekly basis from 16 districts, see Map below, and on a daily basis from 3 main markets in Kampala. In addition, trade volumes in major commodity markets, demand and supply conditions, quality of the produce in the markets, weather conditions in selected districts and production and price projections of major staples are also collected, in partnership with other organisations in Uganda. Market news from Uganda, the East African region and around the world is also collected and included in the weekly radio news bulletin.

At the district levels, the information is collected by trade officers working for MTTI, NGO staff, or farmer organisation staff. These market agents are paid approximately \$25 / month, which includes the price of sending the data to the analysis unit in Kampala. The information is processed by two analysts, based in Kampala, who are BSc and MSc economists. Secondary information is gained from a host of other institutions including:-

- Agribusiness Development Centre /Investment in Development of Export Agriculture (IDEA)
- Kenya Agricultural Commodity Exchange (KACE)
- Uganda Bureau of Statistics (UBOS-Entebbe)
- Famine Early Warning System (FEWSNET)
- PASAR Food security Project—Rwanda
- Public ledger - Internet World Wide Web
- Newspapers (East African, Vision and The Monitor)

The national market information service is viewed as a long term strategic public goods service, which is catering for the needs of the general agricultural sector. The information is disseminated to producers, traders, processors, Government Ministries, development projects, NGOs, newspapers and a list of 100 traders and input supply companies, via radio, mobile phone, email, internet and fax.

Table 1 Commodities monitored and corresponding markets

CROP	Daily Prices	Weekly Prices	
	Markets	Comodity	Market
Onions	Markets	Matoke	Arua
Maize Flour	Owino	Fresh Cassava	Gulu
Maize Grain	Kisenyi	Sweet Potatoes	Iganga
Millet Flour	Nakawa	Beans	Jinja
Millet Grain	3 Commercial buyers	Beans Other	Kabale
Rice Threshed		Cassava Chips	Kasese
Sim Sim		Cassava Flour	Kitgum
Sorghum Beer	Levels	Groundnuts	Lira
Sorghum Flour	Wholesale	Maize Grain	Luwero
Sorghum Food	Retail	Maize Flour	Masaka
Beans Large	Off Lorry	Millet grain	Masindi
Beans Medium		Millet Flour	Mbale
Beans Mixed		Rice	Mbarara
Beans small		Simsim	Rakai
Cowpeas		Sorghum	Soroti
Groundnuts		Sorghum flour	Tororo
Grams		Soya beans	
Soya		Sunflower	
Cocoa		Cattle steak	Levels
Ginger		Chicken	Wholesale
Sunflower		Goat	Retail
Banana/Matooke		Fish	Off Lorry
Cassava Chips		Milk (one litre)	
Cassava Flour			
Cassava Fresh			
Potato Irish			
Potato sweet			

The Localised MIS in Uganda

Whilst the information from the National MIS provides a broad stroke information across the country, it is our view, as captured in the Government thinking, that small-scale farmers and traders are less able to fully capitalise on market information, compared with larger traders. This is because the large majority of farmers are not well organised and do not fully appreciate the mechanics of a liberalised market economy. Furthermore, any organisation wishing to provide appropriate, timely and accurate information, designed to strengthen the bargaining position of small-scale actors in the Ugandan agricultural sector is also faced with certain difficulties. Ugandans speak many different languages, more than 30, and the literacy level and understanding marketing is low. Different groups of market actors need different types of information depending on the crops they grow their location and the degree to which they co-operate with each other.

IITA has therefore established three pilot projects to test a new model for the provision of market information to local communities and/or specific market sectors. This service aims to provide information within a target district or cluster of districts. At each location a specialist market information officer is employed to collect and relay market information at the sub-county levels. The marketing officer has a motorbike which he uses to meet people in the district to both gather prices and discuss with the local farmers about the current market environment. The information gathered by the specialist MIS officer places emphasis on the most important crops in that location. This information is integrated with the national information to produce a radio script that has all the price data from the major district towns across the country, combined with news regarding the local market situation. This enables local producers and traders to benefit from national information which is re-packaged to

meet their needs in an educational format. The market news is broadcast through local FM radio stations in the local language at a time when most farmers are free to listen. This information is delivered in bulletins which aim to inform listeners about how to improve their marketing skills, and also in how to understand and use market information in negotiating for better prices as described by Shepherd (2001). Considerable emphasis is also placed on how collective marketing activities can provide farmers with economies of scale which is an essential part of improving marketing options (Shepherd, 2000).

We have tried to make the scripts as interesting as possible and this is done by including interviews with local producers and traders on topics such as grading and bulking and using two people in the scripts to create role plays to explain current market events, such as the effects of drought, incoming harvests, and new roads on market prices. The radio scripts have been much assisted by linking with the Developing Countries Farm Radio Network, a Canadian NGO that supports rural radio and has a number of generic scripts on their internet site, www.farmradio.org.

This process of working with the community and local FM stations aims to build community awareness of markets, market information and collective action. Where possible, the local service is linked to training in collective marketing and IITA is working with partners such as the Community Enterprise Development Organisation (CEDO) to provide farmers with practical training in the skills required to take full advantage of market information. Similar efforts that link market information services with farmer co-operatives has proven to be highly successful, as described by Wandschneider, in a case study for farmer co-operatives working in Mozambique with the Co-operative League for the USA (CLUSA), (Wandschneider and Coote, 2001).

Two of the three pilot sites have a marketing agent, who has a motor bike to visit the traders and farmers associations in the district. These market agents are closely linked with an FM radio station, so that information can be shared in the area. In the north of Uganda, a market agent was placed in Lira, the main trading centre in the north of the country and this agent works in association with Lira Radio. This northern zone has a focus on cassava, cotton and sorghum. In the southern target zone, there are two agents, one in Jinja, working with Busoga Radio and one in Tororo, working with Rock Radio. This zone focuses on maize and beans. In the western site, the farmers are more organised and in this case, they link to the IITA price information centre in Kampala directly as they do not require a local agent.

The local market information has met with considerable interest from farmers, local traders and radio companies and for many farmers this is the first time they can listen to information which is packaged for their needs, in their language. In the future, it is hoped to expand the coverage of the local market information service through linkage with the Government of Uganda's PMA programme and the newly

devised National Agricultural Advisory Service (NAADS). Similar trials of this local information service are also being tested in Kenya, via Kiambu radio in association with a local private sector service provider Immediate Communications Ltd. Nairobi, (Gitao 2001), and also in Tanzania, where specific types of market information is being linked to the animal feed sector, via a public-private sector consortia, (Kolijn, per comm.).

Dissemination of Market Information

In the past, most MIS services in Africa failed in their ability to disseminate, timely accurate information. The problems were associated with poor communication systems, lack of up to date information and high costs of staff and radio time (Robbins, 1998). The MIS services being developed in Uganda, have opted for part time staff and have taken a multi-media approach to dissemination of the information, viz:-

Email

Daily prices are provided via email to Government, traders and NGO on a email list and this information for the Kampala main markets is updated daily.

Internet

This same information is also available on the FOODNET project website, www.cgiar.org/foodnet.

FM Radio

The main market news for market information is broadcast in a 15 minute script, to the nation on a weekly basis through 12 FM radio stations. This broadcast covers almost the entire country and each station translates the programme into the main local language. The costs for this service are approximately \$150 / month per language, with a total annual cost of approximately US \$21,000. Due to the public goods nature of the information, the radios have agreed to disseminate this information at subsidised costs. Commercial rates for radio in Uganda are currently in the region of US\$ 150- 200 / minute.

Newspapers

The weekly prices are published in one of the leading newspapers and in other local publications.

SMS Mobile phone

Most recently the FOODNET project has developed a partnership with a local Short Messages Service (SMS) company, such that market information is linked with Mobile phones. Real time commodity prices can now be accessed from GSM mobile phones across the country by simply sending a keyword on the SMS platform. The SMS data system provides a new type of data platform and plans are underway to provide all the market agents with mobile

phones such that the district level data can be updated on a daily basis.

Who benefits and how do they benefit from Market Information?

Market information services are designed to benefit farmers, traders and consumers and the services being tested in Uganda are seeking gains in farmer sales prices and improved prices for collectively sold produce. In both cases this has been achieved via the local MIS, and informal survey data with farmers working in Rakai district, claim to have received 5-15% higher returns on their sales when they are able to negotiate on known market prices, compared with farmers who simply accept prices they are offered by traders. Similarly, farmers associations in Jinja are using the local marketing agent as a link to markets and this has proven to be successful for farmers in bulking for higher value sales to larger traders.

A theoretical cost : benefit for farmers is shown in Table 1. These figures essentially show that for a very small investment in market information, that producers and traders can pull a significant amount of money closer to the source of production, as they negotiate higher prices. IITA has received many hundreds of letters from farmers working in the local information service areas outlining their support to the service and the benefits they have gained through empowerment with market services. (Robbins *et al.*, 2000). In addition to this goal, there are many more beneficiaries for such services including district authorities, government ministries and departments, NGO's, relief agencies, research organizations, the business community and students. The local agribusiness centre uses the market data to forecast crop sales prices and NGOs in northern Uganda are using the trend data to support a credit and storage scheme. However, as stated in the PMA, the main target beneficiaries are the small-scale producer, as it is believed that this group are most vulnerable to situations where market information is unavailable or asymmetric.

Impact assessment

The acid test for any business support service is evidence that it is helping a sizable segment of the agricultural sector to raise their incomes and to improve marketing efficiency. In terms of increased empowerment, interest and some income gains by the more pro-active farmers, IITA has received a considerable response from farmers who have written into the radio stations indicating their support for the market news programmes. However, much of this information is anecdotal and IITA is currently designing two detailed impact surveys to capture the effects of the market information service on farmer's livelihoods and a series of studies on market integration and the effects of information based on radio signal strengths with IFPRI. These types of analyses are complex and the teams are currently developing methodologies and indicators required to record and measure the scale of impact that market information has on transaction costs and sectoral gains.

The first results in this process are however encouraging in regard to the integration of maize markets in Uganda, (Rashid, 2002). Using weekly maize price data for two sub periods, 1st week of 1993 to 40th week 94 and 40th week of 1999 to 30th week of 2001, market information dynamics of spatial integration among provincial markets were tested using Johansen's multivariate maximum likelihood co-integration framework. Based on the empirical results, the main conclusion from the study was that compared to the early years of liberalization, the extent of integration in Ugandan maize markets has improved and the results currently show that whereas 4 markets were integrated according to the dataset from 1993-1999, this level of integration has increased to include 8 markets as shown by the IITA-Foodnet data which covered the period from 1999 to 2001. This study is working factors of attribution for this change, but maintains that market information is an important component in this process.

Table 2. Projected benefits of Market Information

In the Eastern Uganda Pilot Site	
Population (Bugiri, Busia, Iganga, Jinja, Kamuli, Kapchorwa, Mbale, Pallisa, Tororo)	5,000,000
Average household size	5
Number of households	1,000,000
Average maize production per household	200
Present price of maize	270
Assume only a 10% increase in price due to MI	27
Total increase in income in the households	5,400,000,000
Exchange rate per USD	1,800
Amount in dollars	3,000,000
Investment in a localized market information service	30,000
Gain: One hundred times more income than investment	100

Sustainability and Ownership

For longer term sustainability, it is our view that the market information services in East Africa should be reviewed as was done in Tanzania, (Mbiha *et al.*, 2001), to ascertain the current weakness and new opportunities that can be employed by market information services in the region. It is also our view that new market information services should become autonomous, private sector agencies. This service provide gaining partial funding from Government, donor agencies combined with funding from private sector groups, markets and farmer associations. An alternative view, is to house an autonomous market information service within the ministry of Trade or Finance, but maintain clearly defined performance targets and require that there is funding streams from public and private sector sources. In both cases, the unit must be maintained as an independent entity that has sufficient financial and decision making independence such that it can operate on a continuous basis.

Revenue streams that are being explored by IITA-FOODNET include:-

1. Partial support for the service from overseas donors
2. Partial support from National Government
3. Income from private sector sponsors of the radio programmes
4. Free airtime from radio companies
5. Income from SMS phone calls
6. Income from specialist reviews of information
7. Income from market opportunities studies

Probably the most important costs are those for the radio dissemination and it is possible to cover these costs. The approach being explored in Uganda, is to develop a very high quality market information programme that syndicated, rebroadcast and heavily promoted across several radio stations. If the analysis of listener-ship proves to be high, then advertising slots can be sold, before, during and after the programme to private sector companies wishing to maximise their advertising time. This advertising would then contribute towards the costs of the programme. This type of approach is being advocated by FIT, Uganda and also by the Canadian based "Farm Net Radio".

Conclusion

Although market information services have undergone a period of longterm decline in much of Eastern Africa, there is a renewed interest in developing new types of services that provide specific types of information to particular clients but with a primary goal of supporting small-scale producers. These services, must be able to provide timely data at lowest cost, to large numbers of people in a language they can understand. Developing such a service is most likely to succeed when there is a conducive and supportive policy environment, such that a service can take advantage of new

alternative management options and new forms of media technology. In Uganda, the Government has developed a highly liberalised environment and has also developed a new policy framework for agriculture, under the Plan for the Modernisation of Agriculture. This framework provides an ideal climate for testing and implementing new types of public / private sector funded, demand driven services. The MIS in Uganda, was designed in two parts, to cater for both national and local market information service requirements. These services are currently providing information to more than 5 million people in Uganda and there are plans to provide total national coverage in the next 2 years. All of this will be achieved through close partnerships with the private sector and the Government.

The three most important features of the system are (i) governance, (ii) media outlets and (iii) integrating national and local information. The service operates on behalf of the Government but has an autonomous management system. The service is able to capitalise on a range of new communications systems for dissemination including, email, internet, FM radio and mobile phone systems. None of these services were available 5 years ago and using this media requires greater private sector participation which is critical in reducing costs. The integration of information at the national and local levels, provides a platform in which the most vulnerable, i.e., small scale farmers are given most support in understanding and using market information, but at the same time, not compromising access to information for those seeking a more rapid, national or international perspective of the marketing options. Developing agri-business support services which combine these qualities and meet the needs of very different clients at low cost is certainly key to sustaining market information in Africa in the future

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