

Technical consultation on the integration of statistical and agricultural market information services

Proceedings of a CTA workshop
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Summary

Over the last five years, the Technical Centre for Agricultural and Rural Cooperation (CTA) has been actively involved in promoting the establishment of effective market information services (MIS) at the local, national and regional level. This has resulted in a number of initiatives such as the setting up of a number of MIS pilot projects in Africa and the Caribbean. Although these projects have been largely successful in meeting their initial objectives, future growth and development of these services will ultimately depend on the level of their sustainability and the degree to which they can collaborate with private and public sector institutions, which have a stake in the process.

The technical consultation on the 'Integration of statistical services and agricultural market information services', which was organised by CTA, provided an excellent opportunity to tackle the above-mentioned concerns. The workshop was held in Wageningen, the Netherlands in November 2001 and its main objectives were to:

- Share information and experience with regard to:
 - MIS for the use of farmers;
 - running an MIS.
- Define the pre-requisites for an adequate 'Monitoring and Evaluation' system for MIS
- Develop a framework for:
 - public-private;
 - national-international

cooperation for performance and sustainability of the MIS.

It must be noted however, that although the technical consultation was primarily concerned with the integration of statistical services, it was acknowledged by the participants that the scope of the workshop should be broadened to include all the stakeholders in both the private and public sector as this would be more in keeping with the needs of the MIS.

Dr T. Niang opened the workshop on behalf of the director of CTA. He spoke of CTA's mandate within the new framework agreement, the Cotonou Agreement, which primarily lays emphasis on the need to strengthen institutional capacity development and information and communication management capacities of ACP agricultural and rural development organisations. It is within this context that support for the development of MIS is necessary, given the critical role it plays in promoting trade and improved agricultural products and services. Mr Tiberman M. Narain also welcomed the participants and further highlighted CTA's role and the Information Policies and Partnerships Department in particular, in promoting the development of market information systems.

Dr I. Khadar presented the programme and pointed out that CTA tended to support MIS that are primarily small, focused and demand-driven. However, there was now the

need for the services to expand and become commercially viable systems, thereby adding a new dimension to the CTA modified model, which states that:

To be effective and useful, MIS should be demand driven, community or sector-specific, with maximum participation of private and public sector beneficiaries.

One way of going about this, was to add the private-public collaboration component, in particular, that of the statistics department, since it was the most obvious public sector body that could support the MIS. However, there are other public agencies and private sector organisations, which can and should be involved, such as, the Central Bank, the Ministry of Agriculture, trading bodies, etc. Further, there was also a need to find an approach to monitor and evaluate MIS which is cost effective, and can be used and applied in a straightforward way.

Dr N. Poole (Imperial College at Wye) gave the keynote speech. His presentation drew heavily on elements of the New Institutional Economics (NIE) school of thought as it relates to issues important to the provision of market information. Small farmers often face uncertainties and higher transaction costs because of limited information, and as such, institutions have a role to play in reducing these costs and influencing the organisation and development of economic activity through the 'making, monitoring and enforcement of contracts' Hubbard, (1997: 242). Much discussion ensued after, and some of the issues/ questions that came to the fore included:

- How can one use technologies to empower small farmers?
- Who is it that one seeks to empower and how in practice?
- How can one work through communities?
- What role is there for traditional leaders in developing community approaches?
- Within any specific scheme, clarity is needed on what information should be collected and how it should be analysed and disseminated so as to promote and facilitate real transactions.
- The issue of the role of traders was discussed. The centrality of the role they play and the importance of cooperating with farmers were stressed.

The other presentations on the first day took stock of existing experiences in Africa, the Caribbean and the Pacific. Key issues for the performance and sustainability of the pilot projects were discussed some of which included:

- the lack of personnel with the required expertise to run an MIS;
- poor infrastructure;
- the question of availability of further funding and donor support;
- prevailing macro-economic environment to support an MIS;
- lack of willingness on the part of some governments to support MIS at the policy level;

- lack of commonality in the terms and concepts used.

Based on the discussions, which took place in the plenary sessions, two Working Groups were established to look at the following themes:

- How to make MIS work for farmers;
- How to make MIS work in terms of performance and sustainability;
- What are the requirements needed for a monitoring and evaluation (M&E) system?

Following on the discussions, an alternative definition for market information services was established. Important areas on which to base the development of MIS for poor farmers in ACP countries were also identified by the participants. Broadly, they were:

- *Design.* The design of the service should be based on a deep understanding of what was needed. One way of doing this, is to draw up clearly defined and focused objectives based on the findings and experience of others in the field.
- *Output.* This is largely determined by the design of the service. It should be timely, reliable, accessible and affordable.
- *Implementation.* The service should be functionally autonomous and professionally managed. All the stakeholders should commit to providing resources and there should be a clearly established stakeholders' agreement with respect to ownership and governance.
- *Performance.* Clear measurable performance indicators should be identified. A clear distinction needs to be made between internal performance measurements (related to how data are collected, collated, disseminated and utilised) and external performance measurements to assess the impact of MIS on actual transactions.
- *Sustainability.* This is strongly affected by the choice of target group. If the target group is poor farmers, it will be much more difficult to generate and collect user fees for the service and this has profound implications for the financial sustainability of the service beyond some form of public or donor financing.
- *Monitoring and evaluating* the service should be conducted on a regular basis so as to guide the decision-making of the service. The core elements of an M&E system were identified as:
 - clearly defined objectives of the service;
 - internal and external measurements of performance;
 - proper record-keeping;
 - pre-defined qualitative and quantitative indicators.

The technical consultation concluded that there was a paradigm shift in terms of the concepts and terminology used in MIS and that there is no unique model applicable across countries. Further, MIS should be seen within its proper context, as a

management tool, which can be used to promote production and trade. M&E provides a way in which the MIS can move forward to meet the needs primarily of the farmers as well as other stakeholders such as traders, and consumers.

The main recommendations of the workshop included the need:

- to develop mechanisms to quantify the impact of MIS on end-users;
- to promote financial sustainability, by further analysing the mechanism for internal revenue generation by a community/sector-based MIS.
- to monitor and evaluate operations of traditional/ informal MIS in order to improve the delivery of support to such systems.
- for increased linkages between MIS and statistical services and other related public sector agencies. MIS should foster collaboration with other relevant institutions in order to facilitate efficient data collection and dissemination of information. The 'option-tree' should be explored, which entails exploring various avenues for developing different levels of collaboration as well as public-private sector partnerships.
- for CTA to play a catalytic role in promoting the development of MIS and act as the focal point for ACP-MIS networking.

Keynote paper

1.1

Market information in theory and practice: Institutional perspectives

Nigel Poole (Imperial College at Wye, UK)

Introduction

Smallholder farmers in developing countries (DCs) face multiple marketing and exchange problems, among which informational constraints are much cited but little researched, and still less resolved. My paper will restate the problems of information and the difficulties in finding effective, efficient and equitable solutions to information problems. Many of these ideas have emerged from previous work conducted in Ghana, Tanzania and Zimbabwe (Poole, Kydd, Loader, Lynch, Poulton and Wilkin, 2000; Poole, Kydd, Lynch and Poulton, 2000; Poole, Seini and Heh, 2000), but are also drawn from reflections of other work in sub-Saharan Africa (SSA), years in South America, and relatively new research on agri-food and forest products marketing in Mexico and India.

In the second section, as I have been requested, I would like to introduce some theoretical insights into information problems from the New Institutional School on economic thought now very much in vogue, and that was integral to the research for my PhD on vertical coordination in the Spanish citrus industry (Poole and Del Campo Gomis, 1998; Poole, Del Campo Gomis, Juliá Igual and Vidal Giménez, 1998; Poole, 1999; Poole, 2000).

In the final section, an effort is made to move away from the theory towards practical solutions, thinking particularly about the business relationships between smallholder farmers and their buyers, and the opportunities afforded by new information and communication technologies (ICTs). These ideas are based on current action research proposals being negotiated with the UK Department for International Development.

Reiterating the information gap

Information problems

Producers experience a weak bargaining position *vis-à-vis* traders because often they do not have:

- timely access to salient and accurate information on prices;

- locations of effective demand;
- preferred quality characteristics of horticultural produce;
- alternative marketing channels.

Barriers to market access and information flows may be structural and behavioural. Structural barriers of a horizontal nature may be gender, family, educational levels, ethnicity and other social factors. Physical access to markets may be exacerbated by remoteness and poor roads and that means that even information that is available may not result in a response to market opportunities. Information that is available to rural communities may not be equally distributed, and smaller scale producers are more disadvantaged. Vertical characteristics of markets and marketing include personalised repeat dealing, exclusivity, trust and reputation effects.

Results of information barriers

The results of informational barriers are unexploited market opportunities, seasonal gluts and produce with inadequate quality specification and control, inequitable returns to producers, peri-harvest (in field pre-, and post-harvest) losses and fundamentally poor returns to the production and marketing system as a whole. In vegetable and fruit markets, the economic problems are magnified compared with other markets, such as those dealing with staple grains, due to high product perishability and other technical aspects of the products.

The quality of information

Market information is usually regarded as *data on prices and quantities exchanged, duly processed and made available to market participants*. The primary functions of market information services (MIS) are to collect, process and analyse such market data systematically and continuously, and to ensure delivery of information on a timely basis to all market participants (Poon, 1994). It is evident that information provision is a complex operation. Data collection is made difficult by the lack of uniform weights, measures, common grading and quality standards for agricultural products. The analysis of data requires technical skills and data need to be converted into information that is useful to the target population. Delivery involves technical and conceptual problems where information needs to be disaggregated to be meaningful in markets that are often segmented geographically and culturally.

Shepherd has distinguished *market* information, which consists of data on prices and quantities, from *marketing* information – ‘a much wider concept, which is likely to include details on potential market channels, payment requirements, packaging, quality and a whole host of information required by a producer to make a successful sale, including market information’ (Shepherd, 1997: 5) (emphasis in original). Shepherd then disaggregates market information into *current* and *historical* market information:

- current market information is data on current prices prevailing, and quantities traded, at different levels of exchange such as retail, wholesale, and farm-level;
- historical market information is data on market prices and quantities traded, compiled over an extended period of time and analysed.

The expectation of the work conducted on these issues is that better flows of information concerning supply, demand, prices, and quality characteristics will serve to moderate intra-seasonal market disequilibria in supply and demand and smooth price fluctuations. Better informed farmers may experience enhanced market access and make more appropriate business decisions. Efficient MIS should also provide advice to local government and other marketing bodies. Overall, more market information should promote more transparent and efficient market systems for all market stakeholders i.e. producers, traders and consumers.

Information provision

The bulk of the literature on market information in developing countries is founded on the assumption that there is a role for public market information services (or systems), because market information is a 'public good'. MIS are expected to make markets more 'transparent' (Schubert, 1993) by making more information more widely available. In practice, few MIS in developing countries have been able to provide either reliable quantity data or historical market information to market participants. Shepherd (1997) highlights problems both in the collection of market data and information dissemination. Data processing also requires a high level of organisational resources, often absent in public sector organisations in DCs. In the current climate of economic adjustment, there must be considerable scepticism about the potential to overcome the problems associated with the public provision of market information.

That is not to say that the state does not have a role in managing information in agricultural markets. Data on prices and quantities are important for staple foods and information needs on relatively non-perishable commodities can be handled more easily than other agri-food products. According to Galtier and Egg (1998), the role of the public sector is likely to be limited to local interventions targeted at local objectives. They suggest that these may be specific informational needs, or appropriate institutional developments to reduce informational and other transaction costs, for example, contracts (Poole et al., 1998).

Latterly, the research focus has shifted towards other information needs of a more entrepreneurial nature. McLeay, Martin and Zwart (1996) focused on marketing behaviour and strategic management including 'market knowledge'. This was described as:

- understanding market requirements and distribution channels;
- awareness of new crops and crop varieties;
- monitoring market signals;
- simultaneously planning production and sales activities.

In Zimbabwe, Poulton *et. al.* (2000) found that vegetable farmers expressed a clear preference for information on crops and market opportunities, rather than current price information. It was reported that 'You have to have the right crop at the right time if you want to get a good price'. It is this type of information and this business approach that enables farmers to be responsive to market conditions, that is, to be demand-led.

Information is a public good and a private good

The acquisition of such 'market knowledge' is possible through a range of formal and informal sources, the relative importance of which is likely to vary between producers and production and marketing systems, for a multiplicity of reasons, such as economic, social, cultural, political, and infrastructural.

Let us now examine the role of the government. It is accepted that market information – or some kinds of information, are a 'public good'. Economic theory reminds us that real markets are not perfectly competitive markets, but characterised by imperfections such as uncertainty for a number of reasons. As noted, generally there are low levels of information. Information is also asymmetric, that is not equally shared – producers are likely to be poorly informed compared with traders. Traders are the specialists, traders live and work in markets. Unlike farmers and Ministry of Agriculture officials, traders are professionals. Moreover, information is costly to acquire, and there are always incentives for both traders and farmers to give out misinformation, either through ignorance or through opportunism (a nice word for cheating!). Also, information has other economic characteristics – it is neither 'excludable' nor 'subtractable'. All these reasons suggest that information is a public good and should be provided by the government.

Information as defined above is also a private good, a source of competitive advantage. Traders do not act independently; rather, they function within networks that extend both horizontally and vertically. There are many examples of how traders try to deal with other traders whom they know and trust, as they hand goods over upon part payment, only receiving the balance once the buyer has sold the goods on. Market information also flows through these informal networks. Such flows of information within informal trading networks are, from a public policy perspective, second best to free and open flows of information in the 'public domain'. However, the transmission of relevant market and marketing information through these networks is often more effective (for network members) than dissemination through the official MIS.

The benefits of information are private. It is expected that farmers and traders who are well informed can be more effective business people and that trade should be more profitable. Information is power in bargaining, and because it is costly to collect, it is not willingly shared – except under unusual patterns of business cooperation. Therefore, information (or at least some kinds of information) is also a private good, and private sources should be part of the solution to information needs. And perhaps there are circumstances under which it is possible to envisage cooperative business behaviour between farmers and traders. Is it possible, or just naïve, to think that farmers might link with traders' networks?

New Institutional Economics (NIE) insights

NIE has come to the fore as an analytical approach to tackling problems of inter-firm relations in market systems. The information problems discussed above are closely linked to how firms relate to each other up and down supply chains. This section of the paper will therefore tackle coordination concepts and buying and selling (transactions) and discuss the way theory, particularly the transaction cost economics (TCE) approach

and ideas about organisations and institutions are helpful in understanding market coordination problems.

Coordination concepts

Vertical coordination is the preferred term for the linkages up and down the supply chain of buyers and sellers, and is a more comprehensive concept than vertical integration, capturing market, contractual and ownership coordination (Marion and NC117 Committee, 1986; Frank and Henderson, 1992).

Mighell and Jones published the seminal work on the use of contracts as mechanisms of vertical coordination in the food system in the early 1960s (1963). By vertical coordination, Mighell and Jones meant ‘all the ways in which the vertical stages of production are controlled and directed, within firms (by the administration) and between firms (by the price/market mechanism)’ (1963: 10). The means of vertical coordination include open market prices, government controls, use of different forms of contracts, and integration.

Barkema and Drabenstott expanded the taxonomy of agricultural vertical coordination mechanisms to cover the continuum from pure external to pure internal coordination. To this have been added some generalisations about the nature of products traded and the types of information needed, refer to Table 1.

Table 1: Taxonomy of vertical coordination (Adapted from Barkema and Drabenstott, 1995)

Form of coordination	Contractual mechanism	Product/ commodity specification	Information needs
External coordination	Spot markets	Low	Market
Intermediate forms	Contracting: <ul style="list-style-type: none"> - market specification - production management - resource-providing - relational contracts 	High	Market and marketing
Internal coordination	Integration	None	None

These ideas concern market structure, but coordinating the transactions between buyers and sellers is more than structure. Farmers and traders make decisions about buying and selling their goods and services, so business strategy is important in determining the flow

of goods through the market. However, here the concern is not just with flows of goods, but also resources – financial flows, i.e. payments from traders to farmers, maybe also credit and inputs, and certainly the coveted information that has been discussed above.

A focus on transactions

The concern of TCE is how best to organise exchange and improve the flows of resources through the supply chain. The focus on transactions and not just the price and quality of goods has its roots in history – the study of transactions is attributed to the US political economist John R. Commons. Commons was searching for an economic theory of the part played by collective action in the control of individual action. The three constituents of collective action were conflict, dependence and order. The unit of investigation that would encompass these three constituents was the transaction – ‘so I made the transaction the ultimate unit of economic investigation, a unit of transfer of legal control’ (Commons, 1934: 4).

Commons was one of the foremost members of what is now referred to as the Old Institutional Economics (OIE) school. The fundamentals of OIE concern the organisation and control of the economic system. The forces governing economic outcomes were regarded as mediated not first and foremost through the price mechanism, but through power relations, legal rights and the role of the polity – or government. In an era of market liberalisation, and within the context of this discussion on the public and private nature of information, this is an interesting idea. The operation of the price mechanism was not disputed, but institutions were held to supersede prices in importance. ‘It is simply not true that scarce resources are allocated among alternative uses by the market. The real determinant of whatever allocation occurs in any society is the organisational structure of that society – in short, its institutions’ (Ayres, 1957: 26).

A fundamental tenet of OIE is that economic power is an important factor in the allocation of resources and in the distribution of gains from exchange. This has already been highlighted above in terms of relative bargaining power and access to information. Also, OIE emphasises behavioural assumptions that are not simply self-maximising. That is to say, although people are sometimes selfish, and may cheat, they do not always do so. Cooperation sometimes happens, even in agri-food markets! OIE is now largely forgotten, but bestowed this concern with transactions that was subsequently taken up in the new guise of NIE.

In TCE it is the transaction rather than the commodity that is the unit of analysis. As noted above, a transaction is a process linking various functions, involving the exchange of information, goods, services, such as packaging materials, input supply and credit – money and property rights. Transaction costs are the costs of these exchanges. Hobbs (1996: 17) states that ‘Transaction costs are simply the costs of carrying out any exchange, whether between firms in a marketplace or a transfer of resources between stages in a vertically integrated firm...’ They arise whenever there is any form of economic organisation, be it within a vertically integrated firm, in a market or in a command economy (in which transactions are largely absent).

There is broad acceptance that transaction costs are of both an *ex ante* and *ex post* kind:

- *ex ante* costs – those incurred before the transaction is effected:
 - searching for potential buyers or sellers;
 - screening potential buyers or sellers for characteristics such as honesty, creditworthiness;
 - bargaining over terms of exchange and price determination.
- *ex post* costs – those incurred after the transaction is effected:
 - transferring property rights;
 - monitoring compliance with contractual terms;
 - enforcing sanctions in the event of non-compliance.

The true costs of exchange therefore comprise:

- the orthodox neoclassical transformation costs associated with the production and distribution of goods and services; and
- the transaction costs of searching, measuring, mediating and monitoring during the exchange process incurred in order to bring together buyers and sellers and complete the exchange of ownership.

The total costs of economic activity are then made up as follows:

$$\text{costs}_{\text{total}} = \text{costs}_{\text{transformation}} + \text{costs}_{\text{transaction}}$$

The source of transaction costs is the complexity and uncertainty of the real economic environment – ‘The ease or difficulty of contracting, and the types of contracts made, are determined by the level and nature of transaction costs, underlying which is the extent of imperfect information involved in making a transaction’ (Hubbard, 1997: 240).

The basic concepts underlying TCE are certain assumptions about behaviour, and certain dimensions of transactions. The sources of uncertainty are:

- behavioural assumptions: there is a human propensity to opportunism, or cheating – something not exclusive to either traders or farmers; and bounded rationality, or the notion that the capacity of the human mind for formulating and solving complex problems is very small compared with the size of problems in the real world;
- technical characteristics of products: unlike manufactured goods, agri-food products are characterised by a high level of variability in supply. For example, quality and quantity vary seasonally, and between producers and regions; some products are capable of differentiation, and most are perishable to some or to a great extent;
- characteristics of markets: business attitudes of individuals vary, but sometimes in a systematic way; ethical practices are one example; as noted, price levels and the degree

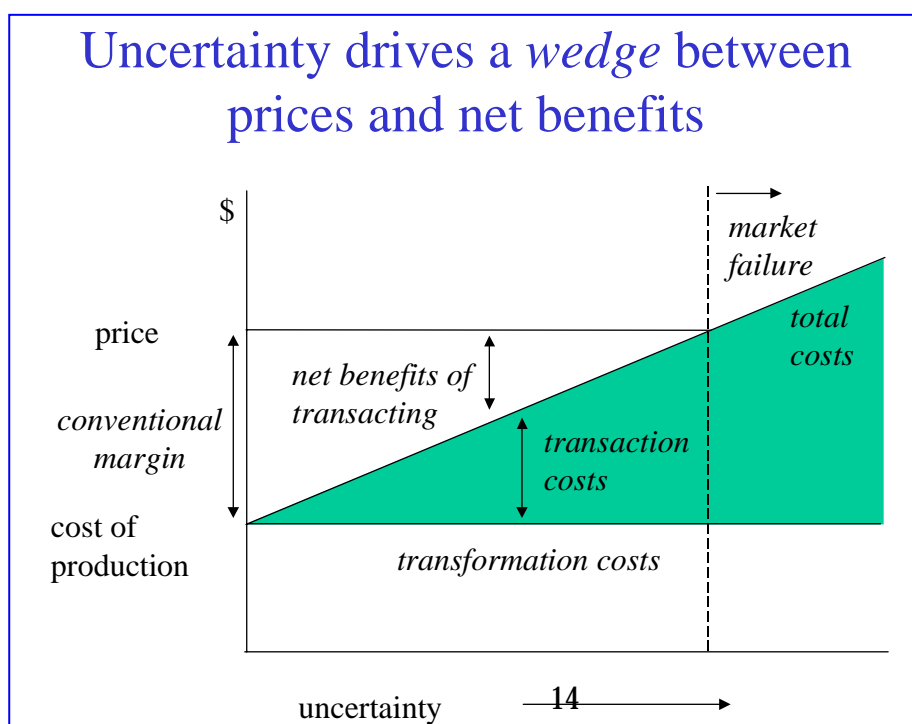
of price fluctuations are variable; and from a consumer perspective there is usually variability in demand;

- transaction dimensions: site specificity refers to the physical location – exchange on a farm may have a different dynamic to exchange in the market place; physical assets are those such as packaging material in which producers and traders have to invest; human asset specificity refers to the skills and business relationships that are generated in part through trading experience; and the frequency of transactions matters – how often do producers and traders deal with the same people?
- informational asymmetry is something that has been already referred to; also agency problems are those associated with delegating a task to someone else and how to ensure that employees or sub-contractors fulfil their responsibilities.

NIE enthusiasts agree with Commons that it is the formal and informal institutions (the laws, regulations, practices, and expected modes of behaviour), which govern transactions and affect the level of transaction costs. In fact, economic power is centrally rooted in institutions. North's thesis is that 'Institutions... are created to serve the interests of those with the bargaining power to create new rules' (1994: 360–1). Where there is a sophisticated business environment with a complex array of institutions, such as grades, standards, contract law and ethical practices, transaction costs are low. Where these are absent, then the cost of doing business is high, and can be so high that farmers and traders may choose not to engage in the market. Farmers might choose to produce for subsistence purposes if they cannot agree on satisfactory prices, or there are doubts about when or whether they will be paid agreed prices. Under such circumstances, the market fails to operate.

The interplay of ordinary production costs facing a farmer and the transaction costs incurred to overcome uncertainty can be demonstrated in the graphical model, Figure 1.

Figure 1: Showing the interplay of production costs of the farmer and transaction costs incurred



Therefore, it is the availability of information about products and markets and buyers and sellers that reduces the cost of doing business. It is not the price paid and received for the goods and services that finally determines the value of the transaction. Lack of information means that the total cost of doing business may be more than the price of the goods sold. Some of this information is available in farming communities; much of it is available in the trader community. Some information is public, some private. Some information can be collected by the government and disseminated in appropriate ways, and in some instances, information is voluntarily shared in order for buyers and sellers to engage more profitably in business.

Information and communication systems for disseminating information

In this section, practical information needs are highlighted in the first part, while suggestions on the ways in which communication will help to overcome the problems are explored in the second section.

Fresh produce, fruits and vegetables have been selected in preference to staple cereals, livestock, fish or forestry products, because they pose particular technical and information problems in marketing in terms of their variety, seasonality and perishability.

Information communication technology (ICT) media

The information and communications media are many – apart from word of mouth, they include newspapers, state-owned radio, private commercial radio, television, private high frequency radio systems, landline telephones. Finally, there are new technologies such as telecentres, e-mail and the Internet, VSAT, satellite and cellular (mobile) telephony. If the types of technology available are matched with the information delivery system (the medium) and the information needs for agri-food products, a matrix of information and communication technology can be generated, *see* Table 2.

Table 2: Matrix of information and communication technology

Technology	Level of organisation	Medium	Information provision/ requirements
'Mass distribution' media	Data collection, analysis, dissemination and interpretation	Database to population	Market
'Mass access' media	Data collection, analysis and interpretation	Database to person	Market and marketing
Telephony	Commercial infrastructure, telephone skills	Person to person, interactive	Marketing

The information requirements are complex for marketing the type of products mentioned above. However, it is important to note here the importance of interactive communication in providing that information, and that telephony (mobiles) is an appropriate way to deliver that information. MIS need a substantial level of organisation, but can (mass) distribute information, or, increasingly, offer the opportunity for others to (mass) access data using information technology (IT) systems.

Media and information quality

There is a place for radio dissemination and billboards alongside other rural services such as health and education. However, this needs to be accompanied with farmer training in record keeping and business practices and the targeted dissemination of information on market opportunities. It is important to note that through the mass media, the quality of communication is restricted to information that can be derived from traditional market data. Alternative market channels cannot be easily covered, and no deals can be sealed.

Interactive means that two individuals discuss market conditions and negotiate together and agree terms (not face-to-face, but over the telephone). By telephone, the farmer can explore different market channels, by calling market traders, central market organisations and officers, or even family and friends in the market.

Mobile telephony

There is growing evidence that the use of mobile telephones is growing even in poor countries. For example, a recent newspaper survey stated that there are now 100 cellular networks in SSA and that in 17 countries, more consumers use mobiles than the dilapidated fixed line networks. Even in Africa, where one might have thought that the technology would be least advanced because of the poverty of many countries, there is a new breed of telecommunication companies and no lack of investment (Financial Times, 2001c; Financial Times, 2001a). To be sure, the telecommunication companies are investing for profitable purposes, not altruism, and also not specifically to improve the levels of market information in rural areas. There are also problems with the socio-economic heterogeneity of rural areas and differential access to the technology. But the technology is already in place in many areas, and is spreading rapidly. The number of mobile subscribers is forecast to exceed 100 million by 2005 (Financial Times, 2001b). Moreover, much wider social and civil benefits will accrue from better access to telephones.

Government agencies and the telecommunication sectors in DCs need to establish and implement policies whereby telecommunications can be rolled out into rural areas in such a way as to alleviate, not exacerbate, poverty. Researchers will have an important role to play in supporting this, as new knowledge is needed on both technology and institutional innovations (such as private/ public partnerships and community participation). Experience is limited in this area, but the current commercial environment and the rate of technological change offer both opportunities and threats for poverty alleviation (Dorward, Poole, Morrison and Urey, 2001).

A research proposal

This research proposal concerns a shift away from formal MIS towards using new technologies to develop relational contracting between farmers and traders with a view to overcoming the costs of doing business. The advantages of relational contracting in theory are many:

- increased frequency of transactions;
- reduced incentives for opportunism;
- product characteristics are more easily specified;
- market preferences are communicated to suppliers;
- transaction assets are invested in contractual relations; to use the 'livelihood' concept:
 - human assets – 'human' and 'social' capitals
 - physical assets – 'financial' and 'physical' capitals
 - transactions interlocking credit, input and output markets become possible.

The intention is to pilot ICT solutions involving community organisations and user groups. The impact of the technology needs to be monitored for its socio-economic impact and poverty neutrality as well as the effects on agricultural marketing.

We are also keen to work in other areas such as using written contracts as a form of institutional innovation to overcome transactions and information costs. But that is another story!

Summary

In brief, the view propounded here is that solutions to information problems are unlikely to come only from the public sector. The nature of information problems is such that there must be linkages with the fast-expanding ICT media, and also linkages with commercial sponsors who are often perceived by national governments as having some social responsibilities.

Information comes from the experts, professionals and from other stakeholders within local market systems, such as:

- producers and producer organisations;
- traders and wholesalers and intermediary organisations;
- local commercial and municipal organisations.

It is necessary to encourage the private provision of market information and develop mechanisms that will promote the cooperative sharing of information between farmers and traders.

Finally, there is still a need for traditional information systems, and these need to be developed in order to coordinate information access with other rural services such as health, education, input and financial markets.

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Case studies

2.1

The pilot small-scale market information service in Ghana

Kofi Adom-Boakye (KAB Consultants Limited)

Introduction

Ghana is centrally located in West Africa, 750 kilometres north of the equator. It has a total landmass of 238,538 square kilometres and shares boundaries with Cote d'Ivoire, Burkina Faso and Togo and the Atlantic Ocean. In 2000, the population was estimated at 18.8 million.

The agricultural sector plays a critical role in the Ghanaian economy. It accounts for 60% of the labour force and one of the main crops grown, cocoa, is a major source of foreign exchange. For more than a decade however, growth within the sector has been declining, moving from 5.1% in 1998 to 4.0% in 2000. Although several factors impede agricultural growth in Ghana, the lack of market information has been identified as one of the major factors contributing to the poor performance of the sector.

The Ministry of Food and Agriculture's (MOFA) Statistics, Research and Information (SRI) directorate, which operates the only national agricultural MIS, is ill-equipped to provide the services required to serve the sector adequately. Further, over the last four years, SRI has had budget cuts. For example, in 1999 its budget was 1210 million and in 2000 it was reduced to 170 million. Other problems facing the institution include:

- over-worked and underpaid data collectors;
- lack of training for data collectors;
- lack of vehicles and equipment – personal computers, weighing machines, calculators, fax;
- long delays in information dissemination – minimum of 30 days;
- information dissemination is restricted – mainly to policy-makers and researchers; small-scale farmers hardly receive timely information on commodity prices from the MOFA (SRI) MIS;
- questionable quality of MOFA data in light of its constraints.

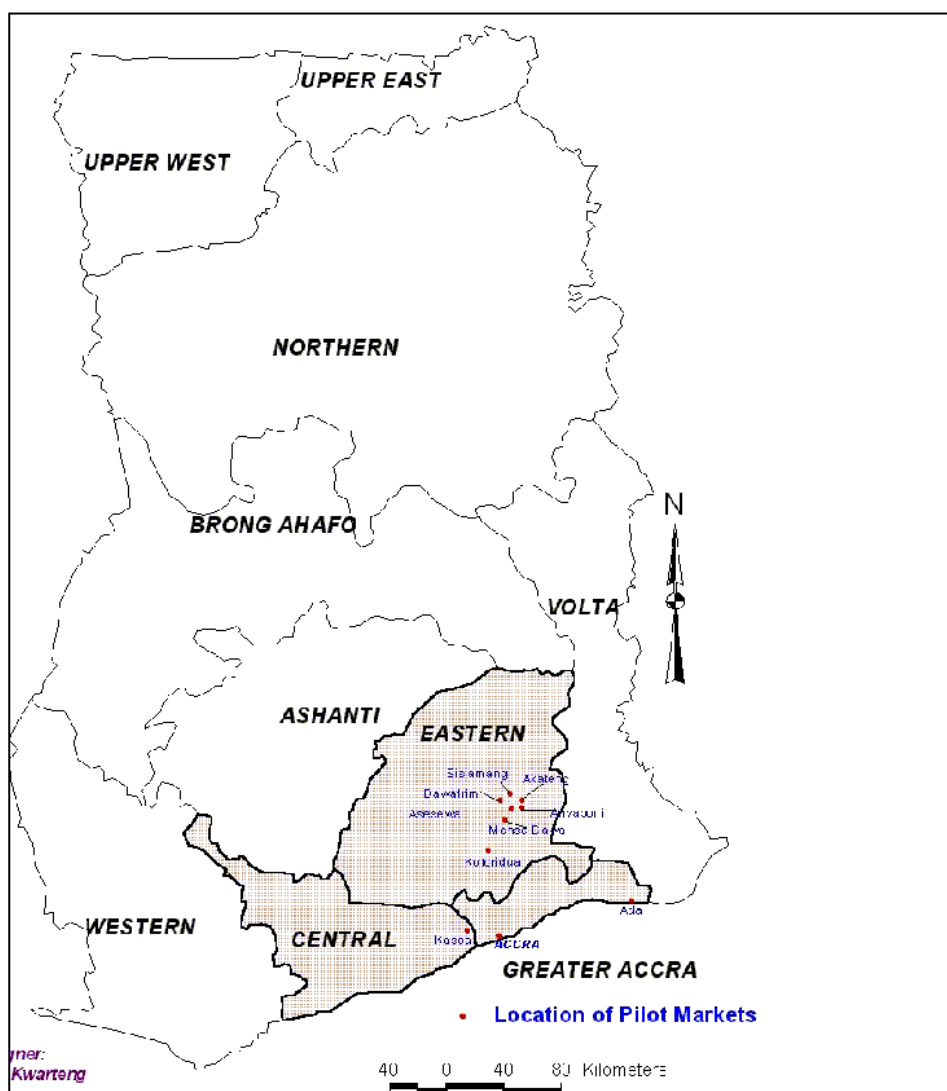
¹ The national currency the Cedi () has fallen from 3,600 to 7,325 to the US dollar since October 1999.

The state of the pilot small-scale market information service in Ghana

The small-scale market information service was started in November 1999. Its main objective was to design and establish a pilot MIS based on a single local assembly market in Ghana.

Currently, market information is disseminated weekly through three FM stations in three regions. There are now nine project data collection centres (in the early stages there were six centres) and these new centres have been established in Koforidua, the capital of the Eastern region and in Greater Accra (Ada, Accra) and Central (Kasoa), see Figure 1 below. The main beneficiaries of this information are mainly small-scale farmers.

Figure 1: Map of Ghana showing small-scale pilot MIS centres



Networking

- The project has established strong ties with the Manya Krobo District Assembly, which funded the office furniture and stationery.
- There is ongoing collaboration with the MOFA-MIS directorate in designing project expansion.
- The project is liaising with the New Edubuse District Assembly of the Ministry of Local Government and Rural Development, which has offered to provide office space and furniture effective 2002.
- There is ongoing exchange of information with the Ghana Agriculture Information Service.

Project assessment

Output

- A functioning MIS has been established which now operates in the six original centres.
- The project has been further extended to three markets (major ones) in three regions – Central, and Eastern and Greater Accra.
- Timely provision of market information on five major commodities is sent to various stakeholders on a weekly basis.
- Information is disseminated using the radio and billboard in three local languages, spoken by 6.63 million (36%) Ghanaians who live in the three regions.

Impact

- An average of 72 farmers and traders visit the project offices every week for information and requests.
- Middlemen (“CARRIERS”) at two markets (Asesewa and Akateng) have been cut-off the food marketing chain. Farmers in the two markets now have direct contracts with traders.
- Seven new fish traders and four new maize buyers have been introduced to the Asesewa and Akateng markets.
- An undergraduate student is presently conducting research on the MIS project.

Challenges faced

- There is difficulty in maintaining VHF communication equipment in areas without electricity.
- It is difficult to find and recruit literate women in the area where the project was first initiated.

Lessons learned

- Effective marketing of project to stakeholders is essential prior to commencement of any project.
- Collaboration with other governmental agencies is essential for project success.

Future and sustainability of the project

The project has been extended to another district/region. However, there is still the need to develop the skills of the project staff.

To ensure sustainability, the MIS will therefore need to expand to make it more attractive for donor funding. As a consequence, the MIS has been made a part of the Agribusiness Institute of Ghana, a new NGO, which has been set up with the support of donor funding for three years as well as assistance from local corporate sponsors. Further, financial support to ensure long-term sustainability is expected to come from the sale of services to large farmers, traders, associations, large-scale processors, researchers and consultants as well as contribution from various districts assemblies.

The main objectives of the institute will be to:

- Design and manage Ghana's agricultural market information service in collaboration with the Ministry of Local Government and Rural Development – MOFA.
- To conduct independent analyses and research of contemporary agribusiness issues relevant to Ghana.
- Disseminate the results of the studies among policy-makers, agribusiness stakeholders and the public through informed debate.
- Advise the government and other public institutions such as Parliamentary select committees on agribusiness matters.
- Provide agribusiness advisory services to stakeholders.
- Publish or assist in publishing briefing papers, background papers and articles or books on selected agribusiness issues studied by staff of the Institute.
- Organise seminars, workshops, conferences and lectures on agribusiness issues relevant to Ghana and where necessary related to African and international communities.
- Increase the cooperation and coordination of activities with similar institutions within and outside of Ghana.

2.2

The Kenya Agricultural Commodity Exchange (KACE)/ CTA pilot market information service

Adrian Mukhebi (KACE)

Brief background of the project

The objective of this KACE/CTA pilot project is to establish a commodity information system to provide relevant and timely market information to stakeholders in the agricultural sector in Kenya, focussing in particular on two of Kenya's staple food crops – maize and garden beans. The project, initiated in April 2000, involves providing partial financial support to two KACE market and information centres (MICs) in western Kenya, the main maize and beans producing region in the country. The MICs are linked into the KACE headquarters in a regional commodity trade and information system (RECOTIS). Clients, especially smallholder farmers, go to the MICs to receive as well as provide market information. Current information consists mainly of commodity offers, bids and prices from local, domestic, regional and global markets.

Status of the project since October 2000

Two MICs are operational and linked into RECOTIS. The exchange of market information is occurring as frequently as new information is obtained, sometimes several times a day. Working in collaboration with a Local County Council (Government) at one of the MICs, activities are underway by KACE to extend market information exchange to local rural markets under the jurisdiction of the Council.

Rural markets are often the first contact point of smallholder farmers with the formal market and KACE plans to establish information booths or *kiosks* at the markets, where market information will be made available on bulletin boards and print-outs. KACE staff will also be available to provide, explain and receive information.

There are about 500 clients in the RECOTIS database, from 25 countries, but largely from the eastern and central Africa region. Information exchange through RECOTIS occurs as soon as new offers or bids are received, often several times a week. The clients in the RECOTIS database include farmers, farmers' organisations, traders, processors, government policy-makers, development and relief agencies, NGOs, etc., in the different countries.

Relationship with the public sector institutions / networks / information sources

KACE has established collaborative relationships as follows:

- *A Local County Council*: for the collection and dissemination of market information in local rural markets.
- *The Kenyan Ministry of Agriculture and Rural Development*: for receipt by KACE of weekly market price information collected by the Ministry from some domestic markets where KACE has no presence.
- *The FOODNET Uganda*: for the exchange of some weekly market price information between Kenya and Uganda.
- *The Ministry of Agriculture Tanzania*: for receipt by KACE of some weekly market price information collected by the Ministry from some markets in Tanzania.

Assessment of the project

Response to the needs of farmers

The project is responding to the needs of farmers for market information, albeit inadequately. This is reflected in the increasing number of:

- visits by farmers to the MICs (50 per month at the start in mid 2000, to about 200 per month currently);
- commodity offers and bids received and disseminated through the MICs (about 20 per month initially to about 60 per month currently);
- invitations to the MIC managers to participate in the Ministry of Agriculture's extension meetings and workshops in the districts (about 3 invitations per month).

However, the two MICs cover only a small proportion of farmers in the country, and hence the majority of the farmers are not yet benefiting from the project. KACE is inundated by requests by farmers in other areas to open up MICs in their areas so that they can also benefit from the project.

Project outputs

Two outputs stated in the project proposal were:

Output 1: An established and functioning commodity market and information system linking KACE with two rural MICs, and over 300 contacts in the eastern Africa region and beyond.

Output 2: Relevant and timely commodity market information frequently made available to stakeholders in the agricultural sector through the KACE-MIC-RECOTIS information network.

Both of these outputs have been attained.

Project impacts

With only one and a half years since the inception of the project, it is still too early to evaluate the impact of the project in comprehensive quantitative terms. Nevertheless, the KACE-MIS is providing relevant market information to a variety of stakeholders, especially the smallholder maize and beans farmers, (who are negatively affected by the current forces of market globalisation and liberalisation, and cannot afford to access on their own), so that they can make better informed decisions about the production and marketing of their produce. It is also linking them to regional as well as global markets, currently in 25 countries.

KACE is receiving positive and encouraging feedback from MIC as well as RECOTIS users. Many say that the information service is useful and recommend that it should be extended to cover wider agricultural areas in the country, *see* Box1.

Box 1: Feedback from two RECOTIS users

I. The information provided has been very interesting and useful to me as a technical staff member of a donor agency. It is useful to know what surpluses are being generated in what crops and what the general price trends are. This information is useful in considering food aid and other policy issues.

I think it could be marketed to many donors, policy-makers and policy analysis institutes. I would add a larger number of donor personnel to the list and cultivate that market in that way. Other relief agencies could be useful targets for this information because they are attempting to increase their purchases in the region.

This information is useful to donors and this may be its prime value. It would be interesting to hear the responses that you receive from farmers and traders.

The information could also be eventually expanded to include information on grades, standards and regulatory obstacles/ requirements. How much might KACE be able to tell a potential exporter or local trader about the issues he may encounter in transacting a sale? This could also include brokerage, finance, and transport and storage issues.

COMESA may also be a potential client for this information. You may want to explore this with them.

Hope this is useful!

A user at USAID, Nairobi, Kenya

II. First, congratulations for all the efforts you are putting into RECOTIS. I think the recent work shows a highly practical way in which market information plays an important role within the food security and economic growth equation. Linking buyers and sellers is key to making markets more efficient and this is surely one way of achieving economically sustainable food security.

I believe more and more that locally managed trade based food security is something that offers the best hope for stepwise growth in the region. This goal is achievable, although not popular with many poverty-focused donors and agencies, and improvements in trade can be accelerated if the right production technologies and business support tools are available to producers, traders and processors.

RECOTIS is certainly focused on the trade issue and I support my colleague's view that this type of activity needs more profiling.

A user at FOODNET, Kampala, Uganda

Project sustainability

As a private sector activity, KACE-MIS is designed to be self-sustaining after an initial period of system development. The KACE-MIS is not an **end** in itself. It is a **means** to an **end**. That **end** is agricultural trade. The MIS is meant to facilitate agricultural trade through KACE as a commodity exchange. KACE charges two percent commission on the sale value of a transaction concluded through its services. This is the envisioned main source of revenue for sustaining the MIS when sufficient trade volume has been built up through the exchange.

Identification of key problems / successes / lessons learned

Obstacles encountered

The main obstacles encountered in setting up the KACE MIS were:

- *Accessing local telephone lines* for phone, fax and e-mail communications. It took several months to be allocated lines from local government post offices.
- *Costly telephone lines*: the land-based phone system is inefficient and costly. Often, monthly bills are inflated.
- *Irregular power supply*: Even when phone lines are working, power supply interruptions are a common, almost daily, feature.
- *Small-scale nature of farmers*: the agricultural sector is dominated by smallholder farmers, who face dis-economies of scale in marketing.
- *Market liberalization still is unfinished business* in the minds of potential clients: farmers still expect intervention by the government, especially to control market prices.
- *Unfavourable macro-economic environment*: a stagnant economy; high commercial bank interest rates and low business potential; limited income generation by KACE for attaining financial self-reliance for the MIS in the short-term.
- *Limited KACE institutional capacity and coverage*: the KACE-MIS is accessed by a limited number of clients. Extension in institutional capacity and coverage would improve business potential.

Successes and reasons

Two outputs were achieved as indicated above. First, two MICs were established and are operational with the help of CTA funding – one in Bungoma town in the western region of Kenya, and another in Eldoret town in the Rift Valley Province. Second, relevant and timely commodity market information is frequently exchanged among stakeholders in the agricultural sector through the KACE-MIC-RECOTIS information system.

Challenges

As indicated above, the **end** of the KACE MIS is to facilitate agricultural trade through the exchange. Sufficient trade volume through the exchange is designed to generate sufficient revenue to sustain the MIS and other KACE services. However, there has been limited generation of income to-date due to some of the obstacles highlighted earlier. The general unfavourable macro-economic environment is perhaps the greatest obstacle to revenue generation. For instance, the high commercial bank interest rates discourage working capital borrowing for trade. Expected improvement in the macro-economic climate in the country in the coming two years offers great potential for the success and sustainability of the project. In addition, the MIS is still a young institution and relatively unknown by potential clients. Sensitisation and promotion are ongoing.

Lessons learned

- Most of the clientele do not yet appreciate that market information has monetary value, which they should be willing to pay for.
- Smallholder farmers need to achieve economies of scale in marketing through groups/associations.
- ICTs are costly to access and apply in rural areas.
- Most of the clientele are still ICT unconnected / illiterate.
- It is costly to a private sector agency to disseminate market information *via* radio and television.
- Collaboration/ networking with other organisations shares the cost of information access and dissemination.

Future of the project

- Prognosis is positive: the future for improving agricultural market access, competitiveness and efficiency depends on MIS.
- System development: extension of MICs coverage; development and use of a Website.
- Capacity development: in staff numbers and quality.
- Development of collaboration / networking with other complementary organisations / institutions.
- Pursuance of business creation and income generation.

2.3

The Ugandan market information service

Geofrey Okoboi (International Institute of Tropical Agriculture – Eastern and Central Africa Programme for Agricultural Policy Analysis, IITA-ESARC)

Background

The FOODNET market information service project started formally in September 1999, after the collapse of the Market News Service, and forms part of the activities of the Regional FOODNET project for Marketing and Postharvest Research in Eastern and Central Africa. In 2000, the local micro-scale MIS was started with the financial assistance of CTA. The aim of the FOODNET MIS is to collect, tabulate, analyse, interpret and disseminate market data and intelligence on a timely and accurate basis to the farming and trading community in Uganda. The main objective of the service is to:

- improve market access, transparency and efficiency;
- increase market competition.

The service is a pilot project designed to test a model for the provision of market information to small-scale actors in the agricultural sector.

Current status of the Macro–MIS

The Macro-MIS collects information on prices of 32 agricultural commodities from 17 districts on a weekly basis. Information on prices and traded volumes is collected on a daily basis from three major wholesale markets in Kampala.

Further, primary and secondary information is collected on weather conditions and forecasts, supply and demand conditions, road conditions, import and export activities and regional and international; markets for products produced in Uganda. Dissemination of the information is primarily through the radio, e-mail, newspaper and the Internet to elite statistical users.

Limitations of the service

Any organisation wishing to provide appropriate, timely and accurate information, designed to strengthen the bargaining position of small-actors in the Ugandan agricultural sector is faced with the following constraints:

- there are several languages spoken in Uganda;
- the level of literacy is just slightly above 50 per cent;
- the way in which markets operate is not generally understood;
- different groups of market actors require different types of information depending on the kinds of crops they grow, their location and the degree to which they cooperate with one another.

Given these problems, IITA-FOODNET in conjunction with CTA designed and is currently promoting a new model for the provision of market information based on extensive research over the last four years.

The Micro–MIS model

The model has the following components:

- Collecting market information on a decentralised basis, i.e. from the sub-county and then integrating this with the national market information service, along the lines of the government of Uganda's policy document entitled 'Plan for the modernisation of agriculture,' (PMA).
- Targeting information at the district level or a cluster of 2–3 districts.
- Collecting information on relevant crops for that area.
- Disseminating information:
 - in the local language;
 - through local FM stations;to inform on the use of market information in negotiating for better prices; and to assist farmers in collective marketing activities and building community awareness.
- Collaborating:
 - through information exchange using e-mail, Internet, workshops and radio to small-scale farmers, traders and processors
 - with government departments (Ministry of Trade and Industry/ Ministry of Finance/ Ministry of Agriculture and the Uganda Bureau of Statistics).
 - with NGOs (World Food Programme, WFP; World Vision; CARE; Famine Early Warning System, FEWS; Agribusiness Development Centre, International Food Policy Research Institute and RECOTIS).

- at the macro-policy level (Intergovernmental Authority on Development, IGAD; National Agricultural Advisory Services; PMA).

Strengths of the Micro–MIS

- The three pilot projects have been well established, *see* Figure 1.
- Data are collected on prices, volumes trades, market demand and supply conditions, trade news etc., at the assembly and wholesale level.
- Information is disseminated on a regular basis in the local language, using local FM stations to more than 5 million people.
- There is training for farmers – there are courses such as ‘Farming as a business’ presented by Agricultural Co-operative Development International; ‘Understanding and use of market information’, FAO; and ‘Collective marketing and bookkeeping’ given by the Community Enterprise Development Organisation.
- There is also an effort to facilitate farmers and traders in linking up with larger traders and new markets.

Weaknesses of the Micro–MIS

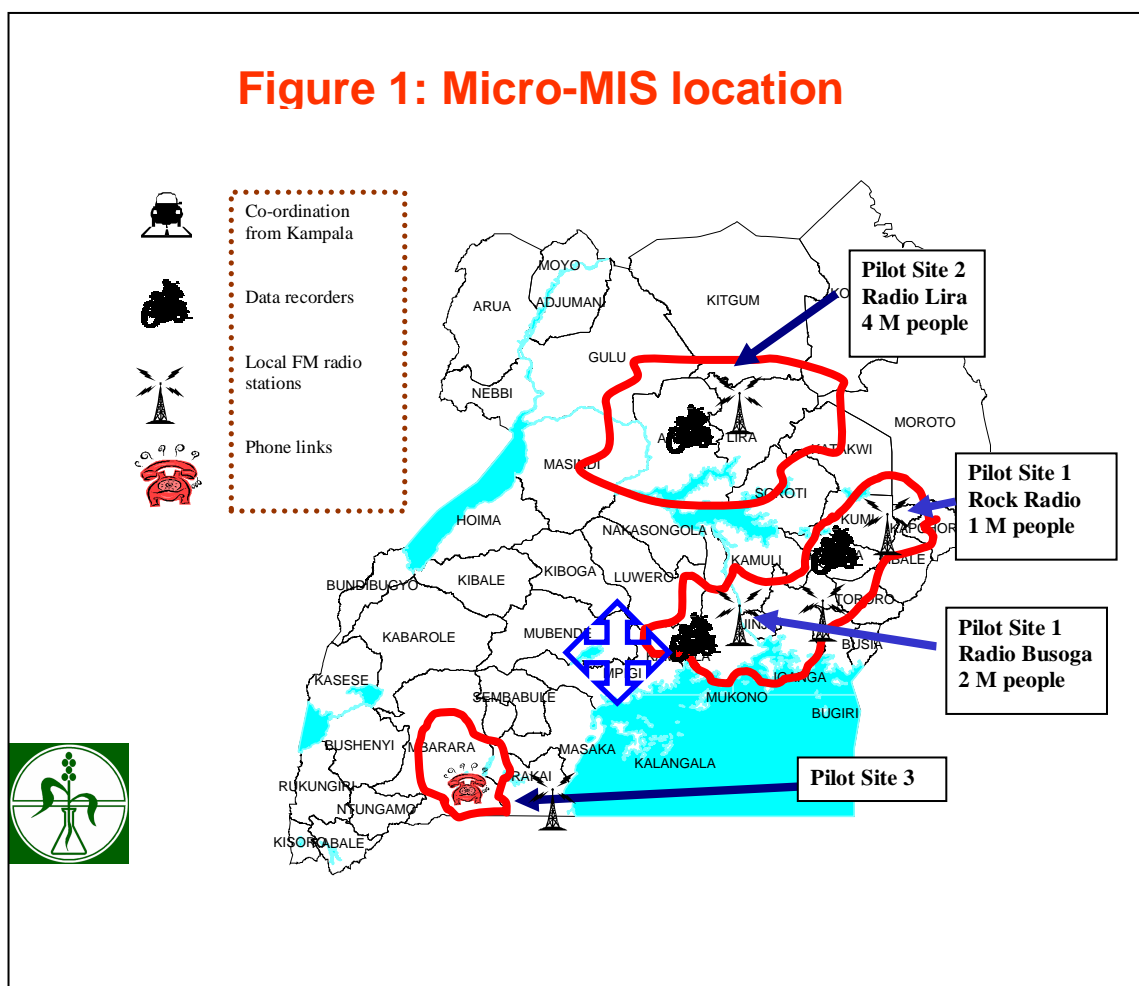
- A limited range of commodities is covered, for example, data on horticultural products, fish and livestock are not collected.
- There are poor records on volumes traded. After the privatisation of the markets in Uganda, the new administrators did not see the need to keep records on volumes traded.
- In order to operate the collective market properly, there needs to be wider application and more expertise is required.
- More robust methodology is needed with respect to M&E.

Opportunities for the Micro–MIS

There remains much to be done to increase the level of services at the micro–level, such as:

- Expanding the commodity range, which is planned in partnership with specialists in the livestock sector such as the International Livestock Research Institute based in Nairobi, Kenya and private sector agents involved in the processing industry.
- Increasing coverage, so that all major district clusters are supported with a localised information service in a given country. This may mean scaling up or down service data points.
- Developing the link with collective marketing agencies, so that producers and traders can aggregate commodities and introduce grades and standards in collaboration with the Cooperative League of the USA (CLUSA).

- Private sector linkage/ investment *via* radio, mobile telephone networks (MTN), local market management such as the Owino Market Traders and Transporters Association. This also has implications for future investment in MIS in the long-term and possible privatisation programmes.
- Utilising new applications of dissemination technologies – FM radios, mobile short messaging service (SMS), push and pull data systems, structured query language (SQL) databases, streaming servers for global markets, market pagers etc.
- Integrating policy groups to promote greater awareness and trade. This requires linking up with COMESA, IGAD, the World Trade Organisation and the International Labour Organisation. The project is currently working with the Eastern and Central Africa Programme for Agricultural Policy Analysis, FEWSNET and other policy groups such as United States Agency for International Development (USAID) and the European Union.



Threats to the Micro–MIS

There are several factors which continue to constrain the development of MIS in Uganda, namely:

- Lack of government support for local initiatives.
- Lack of investment from the donor community in support of the Second Tier Policy Reforms.
- Lack of market facilities to support commodity grading and standardisation.
- A return to managed markets, to avoid the ‘adding-up problem’ where farmers are encouraged to produce more in order to get higher incomes, but in the end receive low prices for their commodities due to an oversupply of the produce.
- Continuation of market collusion amongst traders.
- Lack of real policy reform at the regional level. Governments continue to sign agreements without really implementing them, e.g. lack of commitment to free trade.

Positive developments

- Since project implementation, there has been interest in micro market information.
- Elements within the private sector have been cooperating with radio stations, which give the project airtime at subsidised rates to broadcast market information.
- Larger projects within Uganda have started requesting greater MIS input, for example, CLUSA, the Investment in Developing Export Agriculture, Technoserve and WFP.
- There is a general shift of NGOs to the market driven approach.
- Expansion possibilities of the project are real, due to the government policy of decentralisation.
- MIS has been given high priority in the government policy framework i.e. under the PMA. There is now a Marketing and Agro-processing sub-committee.
- Given the high priority that the government has attached to MIS in its PMA policy framework, the potential for local fund-raising is increasing.
- Mobile SMS telephone possibilities are increasing.
- Real time price queries are now on-line and can be linked to other applications *via* European partners (i.e. coffee).
- Price data can also be linked to production datasets.

Sustainability and ownership

There are several options for long-term sustainability of the MIS that can be adopted. Such options may take any of the following forms:

- A government-owned MIS in the Ministry of Finance and the Ministry of Industry and Trade which is fully autonomous with finances paid through an endowment fund, set up by donors, (following the Honduras example where USAID set up an endowment fund). This contrasts with the previous situation in SSA where governments had full control and there was almost universal financial failure.
- Private sector owned institute with partial funding from the government, donors and the private sector has been set up.
- Wholly private sector MIS initiatives supported by media companies, market levies, producer associations and export levies.
- Community-based MIS, funded and run by the community can also be set up.

2.4

The Jamaican experience: Jamaica Exporters' Association (JEA)

Charles Reid (JEA)

Background

The Jamaica Exporters' Association (JEA) is a non-profit private sector organisation. Over 200 exporting companies are primarily involved in trading products such as fresh produce and ornamentals, processed foods, apparel, chemicals, beverages, pharmaceuticals, cosmetics, electronics, furniture, giftware and craft. Service providers (e.g. insurance, banks, airlines, shipping lines, laboratories and box manufacturers, etc.) also form part of the membership. A board of directors governs the Association and daily activities are carried out by a Secretariat comprising 11 staff members headed by a chief executive officer.

The goal of the association is to sustain growth and enhance the competitiveness of the export sector and in doing so, improve company operations and efficiencies through training and the provision of financial, technical and marketing services.

Marketing information system

One of the mandates of the JEA is to enhance the competitiveness of its clients by providing marketing information and intelligence to the export sector. A case in point has been the development of a marketing information system for the fresh produce export sector through the provision of marketing intelligence and trade facilitation services.

Implementation strategy

Initially, the marketing information system was designed for the benefit of export companies only. However, it was quickly realised in the implementation phase that this service had to be extended to farmers, if the sector was to operate efficiently, responding to the demands at the market place. Since the farmers are the ones responsible for producing and supplying products to the exporters, it was therefore critical that they had access to market information, which would enable them to make informed decisions.

The strategy employed, involved the collaboration of both the private and public sector.

The JEA had certain advantages such as:

- access to market information;
- analytical and publishing capabilities;
- IT expertise; and
- resources to acquire computer hardware and software packages.

In the case of the public sector, the Ministry of Agriculture had the requisite manpower and other resources necessary to collect production data from farmers. They also had personnel stationed at the ports who could collect export data from exporters on presentation of their export documents for inspection.

In many developing countries, market information systems tend to fail because they are carried out largely as project activities with external funding and expertise, having a limited lifespan. At the end of project, donor support also stops and more often than not, the government does not have the requisite resources to pay staff at the usually higher rates to continue with MIS activities. Cognizant of this, rather than hiring new staff or paying existing staff at higher rates, the job descriptions of personnel within the existing organisational structure directly involved in the MIS were adjusted to accommodate the new activities. The staff workers involved did not view this as additional responsibilities, but instead recognised the benefits as capacity building given the level of collaboration, training and technical assistance provided, which allowed them to become more efficient and effective in carrying out their jobs as well as make their work easier and less tedious.

Data collection

To collect the trade data, computers along with the appropriate software were provided to the Plant Quarantine officers stationed at the ports. Data on all products exported are entered directly into the computers by these officers on presentation of the export documents by the exporters, who have had their products inspected for approval for export. The data are then sent electronically to the JEA for analysis and reports (monthly, quarterly and annual) are generated and distributed. In this way, the public sector department benefits by not having to collate and tabulate their monthly reports manually. Further, the reports produced are more accurate and are completed on a timely basis.

The Ministry of Agriculture also asks farmers to register their crop production at the group meetings it organises on a regular basis. This strategy has served to complement the existing arrangement where extension officers on a regular basis visit farms island-wide to collect production data.

Accessibility of market information

Farmers are somewhat removed from the market and as result, the Association has embarked on a number of strategies to bring the market closer to the producers. Surveys are conducted and the findings presented to exporters and farmers in separate forums. Market information such as food safety standards and regulations are communicated to farmers and exporters through regular Town Hall meetings held at the local district level.

Meetings are arranged where exporters and farmers can actively discuss which crops are in demand, in which countries and when there are periods of high prices and demand for certain products. The JEA also responds to daily inquiries from farmers, exporters, media houses, researchers, students, consultants and service providers. Information is also accessible *via*:

- newspapers;
- radio (early morning farmer programme);
- talk shows;
- special programmes (e.g. during export week);
- telephone queries;
- Internet – Websites (JEA and Ministry of Agriculture)
- reports – monthly, quarterly and annual;
- monthly bulletins;
- newsletters.

The type of information disseminated includes:

- weekly wholesale terminal market prices (New York, Miami and Canada);
- domestic terminal prices;
- production data by location;
- product forecasting by location indicating availability/scarcity and price);
- farmgate prices;
- export trade statistics;
- market survey reports;
- market profiles;
- market access requirements;
- quality assurance protocols;
- marketing intelligence and trade facilitation services to JEA clients.

Inter-agency linkages

The Association has forged strong linkages with public sector agencies such as the Ministry of Agriculture, Planning Institute of Jamaica, Statistical Institute of Jamaica and

the Jamaica Information Service (a government media house). Various institutions utilise JEA data for further input into analytical reports and to substantiate various views.

Sustainability

The information is accessible to exporters, government agencies, farmers, students, banking and insurance institutions, universities, consultants, international funding agencies and service providers to the export sector such as box manufacturers, trucking companies, airlines and shipping agencies. The information is sold to most of the end users with the exception of farmers, government agencies and students. Exporters who are members of the Association have free access to some information but pay reduced fees for other types of information.

The JEA is also financed by subscriptions paid by its members and other income generating activities such as hosting trade shows; conducting training seminars for its clients with the presenter often being paid by a private company; hosting luncheons featuring speakers on topical issues etc. The Association also sources development funding to address trade related issues affecting exporting companies and farmers.

Strategic alliances

In addition to forming strong alliances with the local public sector in delivering marketing information to farmers and exporters, the Association has established a collaborative relationship with the Caribbean Agribusiness Marketing Intelligence and Development Network (CAMID) to enhance trade with other Caribbean states. Through this network, JEA exporters and farmers will have greater access to regional and extra-regional market information and intelligence. In addition, it is expected that such an arrangement will facilitate joint export marketing strategies for the North American and European markets.

2.5

CAMID network: Regional integrated marketing development strategy

Vassel Stewart (Caribbean Agricultural Research and Development Institute, CARDI)

Background

Government mandate

In 1996, the Caribbean Community (CARICOM) Heads of Government at its Barbados meeting responded to the declining fortunes of the agricultural sector by calling for a Regional Transformation Programme (RTP) for the sector, which involved the need to:

‘to transform the sector to international competitiveness, improve the incomes of all participants and contribute to more equitable income distribution through the application of modern, scientific, research methodologies for improved agricultural productivity and the development of sustainable and ecologically balanced production systems which protect the natural resource base’.

The aim of the RTP is to coordinate the identification and implementation of priority national and regional sub-programmes and projects under the following programme headings:

- agricultural policy support;
- agribusiness development;
- fisheries;
- forestry;
- human resource development;
- institutional arrangements;
- marketing development;
- technology generation, validation and transfer;
- water resource management.

A number of regional and national institutions were given responsibility for leading each of the above programmes. CARDI has lead responsibility for the technology generation, validation and transfer and marketing development programmes and support responsibility for the agribusiness development programme.

Constraints to marketing development

In executing this responsibility, the Institute consulted with sector participants and other collaborating agricultural development agencies, particularly CTA to identify the major constraints to marketing development. The following were identified as significant constraints:

- inadequate or inefficient market monitoring and intelligence systems;
- insufficient and inconsistent supply of the required products for trading;
- absence of or inefficient application of quality assurance systems;
- inadequate export transportation service and supporting infrastructure;
- inadequate level of technical support to the production process;
- inadequate marketing management, given the dynamics of agricultural marketing;
- regional culture of national and individual action as against regional and collective action;
- inadequate financial resources to support the 'learning' phase of the marketing transformation process.

Proposed solution and previous experience

Based on the above, a regional workshop of participants from the regional agribusiness sector, held in Tobago in 1997 agreed that a marketing development services programme should be established, comprising three components, namely:

- marketing intelligence;
- trade facilitation;
- quality assurance.

An analysis of experiences in implementing similar programmes, nationally and internationally, suggests that for such a service to be effective and sustainable, it should have the following features:

- private sector driven, affordable, accessible, timely and accurate;
- show proof of economic value to the public and private sectors;
- financed largely by the public sector, but with significant private sector input.

CARDI and its collaborators therefore sought to develop a strategy that could satisfy these conditions.

It was concluded that a networking strategy would best satisfy the above prerequisites and as such, the CAMID network was conceptualised and officially launched in May 2001.

Network definition and purpose

The CAMID network comprises national, regional and international public and private sector agribusiness entities that are willing to actively collaborate in the provision of a sustainable market intelligence and trade facilitation service to the agribusiness sector in the region.

Mission

The mission is to increase the competitiveness and growth of Caribbean agribusiness through the provision of marketing intelligence and trade facilitation services that are timely, accurate and affordable utilising collaborative strategies and state-of-the-art information, quality assurance and trading technologies.

Vision

Its ultimate goal is to be the main source of agribusiness information and trade facilitation service in the region. This vision will be achieved by adhering to the principles of providing a service that is scientifically sound, driven by customer demand, places high value on collaborative relationships, operates ethically and utilises state-of-the-art technologies.

Clients/ beneficiaries

Private and public sector entities in the agribusiness sector within and outside the Caribbean that have an interest in the Caribbean agribusiness sector will benefit from the services. However, the most direct benefits will accrue to network members, farmers, agro-processors, fresh produce buyers and sellers in the region. Network members, particularly the marketing staff of the Ministries of Agriculture, will have their capacity to meet the needs of their clients greatly enhanced through the increased access to information and trading services provided by the network members. They will in effect have their staff increased since each member will be able to call on other members for assistance in the execution of their marketing development responsibilities.

Strategy

The overall strategy of the Network is to put in place:

- A marketing system driven by a number of centralised national, public and private sector packinghouses/processors servicing domestic, regional and international markets.
- Caribbean warehouses in selected international markets with the capacity to meet the requirements of the B2B e-trade as well as the B2C consumer gift market trade.
- The joint promotion of a common Caribbean brand.

- A support programme to ensure the efficient functioning of the Integrated Marketing System.

The pack houses/processors will be the nerve center of the marketing strategy. They will be provided with the technical support to ensure their ability to find markets, coordinate production, organise shipping and deliver products to customers' specifications. In addition, these pack houses/processors will work together in undertaking a joint export-marketing programme, which will allow for:

- consolidation of products to satisfy volume requirements of large buyers;
- consolidation of financial resources to jointly promote products;
- consolidation of procurement efforts to reduce unit costs;
- sharing of information to reduce costs;
- negotiation for freight space;
- stronger lobbying voice.

The support programme will consist of:

- an e-commerce trading facility;
- national product supply and demand forecast service;
- weekly market situation reports;
- quality assurance protocol development;
- grades and standards development;
- agricultural marketing and production database;
- commissioned marketing research, industry studies and business plans.

Programme description

National product supply and demand forecast service

The underlining issue in all the discussions is the Regional Integrated Marketing System and the roles that the e-commerce software and product supply forecast software are expected to play in satisfying the objectives of the system.

Activities, schedules and respective responsibilities for the implementation of the system and more particularly the e-commerce and forecast software will also be determined. Building on this, the nature of the relationship between the CAMID Network and Venture Promotions Inc (VP Inc) will also be discussed and the elements of a draft Memorandum of Agreement developed.

With reference to the e-commerce and forecast software developed, the following are the specific issues that that should be addressed, with a view towards arriving at a consensus position:

- AGRICAST;
- user needs/requirements and objectives of AGRICAST;
- data collection plan;
- data entry plan;
- data aggregation;
- data storage plan;
- data dissemination plan;
- cost recovery/sustainability.

The process envisaged, involves most farmers completing monthly farm situation forms. This will include forecasts with respect to supply over the next four months with the first month being done on a weekly basis, as well as project plantings for the next three months. The forms will also allow farmers to indicate what kind of assistance they require from extension officers in terms of production related problems. The forms referred to here are to be delivered to schools and given to the children to be completed in the household.

Extension officers collect the forms and input the data using AGRICAST software. The software should have the capacity to aggregate the data for that extension district in terms of farmer production history, district production totals, country production totals and Caribbean production totals. The question here is whether the aggregation of individual farmer data should be done on or off line. The costs and benefits of storing this information on line is a concern, and the time to query and download information is likely to be prohibitive. It would appear that only the summary of each district, along with the national and regional totals for each product need to be on line.

The summarised data could be disseminated both on line, by hardcopy or through public media:

- E-COMMERCE;
- User needs/requirements and objectives of caricomproduce.com;
- Operation of an on-line shopping cart facility;
- Cost recovery/sustainability.

The process envisaged involves:

- Those certified farmers who have access to the Internet will post their offerings and bids to fill requests directly on the site for potential buyers (pack houses, processors and other intermediaries). Certified pack houses and processors will also post their offerings directly on site. They will ensure their supply capability by their access to individual farmer forecasts (obtained from AGRICAST and from their field staff) and will be required to put their own system in place to monitor the status of individual farmer supply situation.
- Where domestic trade is concerned, certified domestic buyers (inclusive of hotels, restaurants, supermarkets, processors and exporters) will be able to place request-to-buy based on their requirements (reverse bid) and/or bid on the offerings of pack houses and certified farmers. It should be noted that in the domestic market, it is the pack houses and the certified farmers that will bid on the 'request-to-buy' postings from buyers.
- Where regional trade is concerned, regional buyers, that is, buyers in other countries (inclusive of pack houses, processors and other importers) will place normal and reverse bids with pack houses. Note that farmers will not be allowed access to regional trade unless they become certified packers.
- Where international trade is concerned, the model employed for regional trade will be adopted. In addition, Caribbean operated warehouses based in extra-regional marketplaces will form part of the supply base provided by the Caribbean pack houses. The extra regional warehouses will allow for both B2B and B2C trade. The B2C trade will be largely confined to the gift market.

Sustainability of the regional marketing development programme

In designing the regional marketing development programme, which is the mandate of the CAMID Network, the need to develop a sustainable programme has always been a critical issue. Most components in the programme consist of supporting projects and activities that do not lend themselves to revenue generation. The e-commerce facility provides the only consistent potential source of revenue. It is therefore imperative that the manner in which this programme is implemented allows revenue to accrue to the network.

It is recognised that significant revenue will also have to be expended in the promotion of the e-commerce site nationally, regionally and internationally. At the national (and by extension regional) level, it is anticipated that governments will finance this activity through their many farmer education programmes delivered by the Ministry of Agriculture communication units. At the international level however, funding will have to be sourced from the private sector, government and donor agencies to meet the substantial costs that will be involved. These very two reasons i.e. the need to generate revenue and the high cost of promotion based largely on public sector financing, makes a compelling case for CAMID membership to own the e-commerce site.

As a consequence, the following arrangement with Venture Promotions Inc. has been proposed:

- The CAMID Secretariat will purchase the 'caricomproduce.com' domain name at a fee to be negotiated with VP Inc. Failing this, the CAMID Network will purchase its own e-commerce domain name.
- Venture Promotion Inc will license the CAMID Network to utilise its software. The licensee arrangement will be established with the individual CAMID members in each country. A fee of x% will be paid to VP Inc. based on completed transactions. The transaction will be deemed to be completed when sellers have collected revenue. The CAMID members with whom the agreement will be established (the e-commerce administrator) shall not be involved in trade in order to avoid conflicts of interest and ensure fair play. The role of the e-commerce administrator will involve the identification and certification of farmers, pack houses and buyers, the monitoring of transactions between domestic sellers and all buyers, the collection of fees and general overseeing of the e-commerce operations.
- VP Inc. will maintain responsibility for the maintenance and upgrading of the e-commerce software.
- CAMID Secretariat will promote the use of VP Inc. software regionally and internationally through its extensive linkages with international public and private sector collaborators.

Overview of discussions

3.1

Issues raised in the discussion on the Keynote speech

After the Keynote presentation, the participants had the opportunity to ask questions and raise various issues of concern. The presentation was thought provoking as it offered a new perspective on looking at the role of institutions and how MIS and in particular, farmers can benefit from improved arrangements. The discussion that ensued was stimulating and some of the key points and emerging issues, which came to the fore, were:

General

- Market information systems are a **means to an end** not an end in themselves. As such, it is very important to define the end to be served.
- Implicit in the CTA supported initiatives is the need to improve the market and broader economic position of the poor, so as to contribute to broader poverty reduction goals.
- The scope of the definition of the poor to be targeted was raised. Is it just poor farmers or can it include small traders and poor consumers?
- Issues related to the impact of MIS on poverty reduction through the stimulation of trade *per se* were also implicitly raised.

Issues arising

- The need to identify the target group who are intended to benefit from the MIS.
- The need to establish the baseline position on the situation of the target group.
- The need to establish the baseline position on the production patterns within the target group.
- The need to establish clear targets for the improvement the market position of the target group.
- The need to establish clear indicators to measure progress.
- It emerged from the discussion that different MIS initiatives were targeting different socio-economic groups, in order to promote poverty eradication.
- The issue of the role of traders within MIS initiatives was raised, since traders play a critical role between producers and consumers and are a vital source of information. Traders like farmers and processors are market participants and are consumers and providers of information for an MIS.

- The difficulties of collecting relevant, timely and accurate information were highlighted. The importance of targeting the delivery of information was also highlighted.
- The importance of clearly and specifically defining the outcomes to be achieved and promoted through the MIS was stressed.
- The information generated by the MIS must be relevant to the real opportunities which exist, in the light of the wider constraints faced.
- How does the work of the CTA initiatives relate to the other needs which producers face in finding better markets for their products (e.g. organisational strengthening, access to credit, storage and transport infrastructure)?
- A distinction was made between market information and marketing information. Market information is a subset of marketing information. Market information is limited to supply and demand and price issues, while marketing information is broader and includes issues of storage, transport, tariffs, government policies etc, affecting commodity trade.
- Another issue raised was the nature of the production at which MIS schemes were targeted. Is it primarily **commodities** or **products**? This was felt to be important since different challenges are presented depending on the nature of the product for which transactions are being promoted.

Issues arising

- Are CTA schemes focusing on market information (price and quantity issues) or marketing information?
- How can an MIS be set up to ensure that they benefit farmers and not just other operators in the chain? All market participants should benefit from MIS to achieve market efficiencies.
- How do CTA supported initiatives interact with and relate to initiatives aimed at addressing wider constraints on trade transactions in higher priced markets?

Theoretical concepts

- The insights provided by NIE were explored. A distinction was made between the **institutions** (rules and arrangements which govern transactions) and **organisations** (firms, governments, NGOs, etc.), which actually engage or influence transactions.
- The idea that power relationships rather than supply and demand considerations determine how markets work was advanced.

Practical considerations

- The complicated nature of transactions was highlighted (it is not just the sale of products which is often linked to credit and input purchases; and the price which are the main considerations, but also payment certainty).
- The importance of building up personnel relationships and regularity of transactions was highlighted.
- The importance of MIS initiatives reducing the level of uncertainty within transactions was highlighted. In this context, this issue of “contract” farming whether formally or informally organised, was discussed.
- The opportunities opened up by new technologies were stressed. The differential impact of new technologies on the relative positions of different parties in the chain was explored.
- The importance of MIS initiatives being approached not on a project basis but within a longer term institutional development perspective.

Issues arising

- How can one use new technologies to empower small farmers?
- Who is it that one seeks to empower and how in practice?
- How can one work through communities?
- What is the role for traditional leaders in developing community approaches?
- Is there a tendency to “over think” these issues when informal telephony service providers are already springing up all over the place?
- How can these “entrepreneurial” initiatives be supported and utilised?
- Within any specific scheme clarity is needed on what information should be collected and how it should be analysed and disseminated so as to promote and facilitate real transactions.
- This will vary greatly from MIS initiative to MIS initiative and will be critically determined by the broader context and the wider constraints faced.

- The issue of the role of traders was discussed. The centrality of the role they play as well as the importance of avoiding needlessly entering into an adversarial role were stressed. It was suggested that in some cases, traders should be seen as integral part of the beneficiary target group. Indeed, under some schemes traders were seen as the central target group, if the information provided to traders was being fed back to producers. The need to develop close relationships between traders and producers in order to ensure appropriate products of the desired quality are delivered to the market in a timely fashion was emphasised.
- In this context, broader poverty reduction objectives were seen as being promoted through the benefits producers derived from a broadening and strengthening of markets.

- The importance of broader infrastructural and organisational considerations to the success of any MIS initiatives was highlighted.
- While it was felt to be important that government and the private sector collaborate on MIS initiatives, the extent and context for such collaboration will vary greatly between countries and regions. Given these variations, no general conclusions emerged, with the exception that governments tend not to be responsive enough to the timeframes of private sector operators. Consequently, the private sector should lead information dissemination and transaction facilitation related initiatives.

Issue arising

- Market information systems or marketing information systems have very different requirements depending on the nature of the production. If producers are producing primarily for the market, then different types of information and different types of relationships need to be built in compared with those situations where MIS are trying to improve the returns on incidental surpluses produced in the context of subsistence orientated production systems.

3.2

Working Group discussions

The primary task of the Working Groups was to identify the main elements important to the development of an MIS, drawing on the case study experiences shared during the course of the workshop. Special attention was to be paid to the needs of small farmers, the more disadvantaged segment of the target groups as well as the need for the MIS to be sustainable and have a monitoring and evaluation component. Further, the CTA modified model¹ that was developed in the previous MIS workshop in 2000, was to be used as a framework on which to build on. As a consequence, three themes were identified and discussed in detail:

- How to make an MIS work for farmers;
- How to make an MIS work in terms of performance and sustainability;
- Determination of the requirements for an adequate M&E system.

Towards a definition for a market information service

As a precursor to formal discussions of the session themes, time was spent on establishing a clear understanding of the definition of a 'market information service'. The groups agreed to the following definition:

MIS is a service, which collects, processes and disseminates relevant information to enable the farmers and market intermediaries to make informed decisions on the choice of products, pattern of production and saleability of the products. It is a service operated by stakeholders (both governmental and non-governmental) which involves the collection on a regular basis of marketing information on widely traded agricultural products from rural assembly markets, wholesale and retail markets, as appropriate, and dissemination of this information on a timely and regular basis through various media to farmers, traders, processors, government officials, policy-makers etc., and others including consumers. The MIS should lead to an overall improved efficiency of the market.

This definition, the groups believed, would take into account the various models of MIS discussed in the plenary meeting. It also contrasts with the FAO definition of MIS²

¹ CTA modified model (Technical Consultation, October 2000) states that 'to be effective, MIS should be demand driven, community or sector-specific with maximum participation of private and public sector beneficiaries'.

which was first put forward to the Working Groups, in that it does not assume public sector funding. It also allows for groups other than farmers (i.e. intermediaries) to be target beneficiaries of an MIS service. This is because the groups felt that various groups of intermediaries (traders, processors, transporters, warehousemen, etc.) also often needed to be informed about market conditions in order for them to react to farmers' needs. It was also thought that the MIS should facilitate the sharing of information among communities as well as target specific communities or sectors.

There was much debate at the workshop on whether the focus of the discussions should be on market information systems or on marketing information services, given the experiences shared in the case studies. However, it was ultimately agreed that market information services and marketing information services should be seen as part of a continuum as systems and integration into the market become more developed.

How to make an MIS work for farmers

Six components were identified as important to the success of the MIS for poor farmers:

- how it is designed;
- the type of service offered (output);
- how it is implemented;
- performance of the service;
- sustainability of the service;
- the need to monitor and evaluate the service on a regular basis.

Design

The group felt that the most important stage of MIS provision for farmers was in the design of the service. If the initial design was based on a deep understanding of what was needed, then the output and operation of the service were likely to become more self-evident.

² FAO, 1997: MIS is 'a service, usually operated by the public sector, which involves the collection on a regular basis of information on prices and, in some cases, quantities of widely traded agricultural products from rural assembly markets, wholesale and retail markets, as appropriate, and dissemination of this information on a timely and regular basis through various media to farmers, traders, government officials, policymakers and others including consumers.'

The group agreed on the following fundamental necessities of MIS design:

- Clearly defined and focused objectives. These should be based on sound research findings and be informed by the experience of others in the field and on a stakeholder and gap analysis.
- Design of the database is important in terms of:
 - the source of data. One needs to be proactive by going to the farmers, buyers, sellers in order to determine their information needs as well as determining the information that they can supply;
 - the type of data to be collected;
 - method of collecting the data;
 - the method of dissemination i.e. telephone; farmer group meetings; newspaper, libraries, Websites, reports etc.
- The service should be gender sensitive and include a delivery mechanism to ensure this. For example, look at the ways in which information becomes accessible to women and develop the appropriate mechanisms that will facilitate this.
- Stakeholder and client commitment should be built into the design. The group was convinced that the success of the service needed to be predicated on clear stakeholder and client signals that the service was needed and that stakeholders and clients would be prepared to actively participate in and support the service.
- Dissemination strategy based on the most appropriate communication mechanism. The group was unwilling to prescribe specific forms of communication as this would depend on factors peculiar to the environment of the intended service – existing systems, degree of stakeholder sophistication, language, literacy, etc.
- There should be an information feedback mechanism (interactive) to allow for constant evaluation and modification where necessary. The group believed that no MIS service could remain sustainable or remain responsive to stakeholders' needs unless it contained an interactive system of information feedback, which would be constantly available to those stakeholders and in which such feedback would be analysed and acted upon.

Output

The group agreed that output would be defined by the design of the service. However, it was thought that it was self-evident that information provision should be timely (current information delivered at appropriate times), reliable (not influenced by outside interests), accessible (language, written or verbal, delivered to point of need, etc.) and affordable (to funders/stakeholders).

Implementation

Here again, the group agreed that the design of the service should be reflected in how the service was implemented. However, it was also agreed that the task of running the

service needed to be carried out efficiently, honestly and cost effectively. For this reason, the group advised that the service should be:

- Functionally autonomous. Once the design and output objectives had been met, the daily operation of the service should not be the concern of funders, government or outside interests or disproportional interests of any group of stakeholders, subject, of course, to monitoring and evaluation and regular stakeholder requirements. When in a sustainable condition, the group felt that the service could be managed by beneficiaries if they were properly trained.
- The MIS should be professionally managed, (i.e. run by appropriately trained personnel who can ensure data integrity).
- Stakeholders/clients should commit to providing resources particularly in terms of information, (linked to the feedback mechanism discussed under Design).
- Ownership and governance should be clearly established with stakeholders' agreement. The issue of ownership could not be resolved in the group and would depend on local circumstances.

Performance

- Clearly and specifically defining the objectives of the MIS in relation to the target groups was acknowledged by the group as critical to the development of the MIS. This would then allow the objectives to be easily measurable. Baseline data as it relates to the assessment of the objectives may however, need to be gathered.
- Key markets should be defined based on geographic location or consumer groups.
- Definitions of the major commodities traded and reported on should be put in place.
- Clear measurable performance indicators should be identified. A clear distinction needs to be made between internal performance measurement (related to how data are collected, collated, disseminated and utilised) and external performance measurement to assess the impact of MIS on actual transactions. External performance measurements will vary according to the objectives of the MIS. However, it is essential that in the design phase, baseline data are collected and realistic benchmarks are established for measuring the impact of the MIS on actual transactions. If the external effects of the MIS cannot be measured, then it is not possible to determine whether or not the MIS is effectively assisting the target group.

Sustainability

On the issue of sustainability, this is strongly affected by the choice of target group. If the target group is poor farmers, who produce incidental surpluses (i.e. are primarily orientated towards subsistence production) then it will be much more difficult to generate and collect user fees for the service. This has profound implications for the financial sustainability of the service beyond some form of public or donor financing. This needs to be taken into account when looking at the sustainability of any initiative and the whole approach to institutionalising any MIS.

Other factors that should be considered in determining the sustainability of the MIS are that it should:

- be market driven – be influenced by the target group needs;
- be linked to other supporting services including statistical services;
- have a mechanism for revenue generation;
- seek to institutionalise the service so that it becomes a part of institutional function;
- separate activities – there should be a clear demarcation of responsibilities between stakeholders;
- forge partnerships pragmatically – stimulating the input of other marketing organisations;
- foster group organisations e.g. farmer groups;
- seek and utilise start-up financing to gain financial independence.

M&E

The group felt that an M&E is essential to guide the decision-making of the service as well as determining the level of performance and sustainability of the MIS. The MIS should be both internally and externally monitored:

- Internally: Efficiency with which the MIS management delivers the service.
- Externally: Evaluators should comprise all stakeholders and the impact of the information on the performance of the stakeholders should be measured.

M&E should also:

- monitor the enabling environment – legal framework, communication systems, supporting institutions, social stability, etc.
- determine the depth and breadth of the network. That is to examine the network of information sources and recipients and their linkages.
- to direct future development and enhancement of the MIS.

3.3

Requirements for an adequate M&E system

This section was the result of both Working Group and plenary discussions. The topic generated much debate given the diverse experiences of the participants and the various stages of the MIS represented ranging from those in their infancy to those at the regional level. A basic framework was eventually agreed on, and areas of commonality outlined.

Common grounds

- The members of the workshop felt it was important to first discuss who and what an M&E system was for. The distinction was made between M&E, as it is understood in development projects, on the one hand, and normal business auditing and internal efficiency analysis on the other. It was agreed that it was likely that an M&E system for the MIS service would be needed for reporting purposes by the financers of the service. These may be development agencies or NGO donors, government agencies or private sector stakeholders. However, the principal purpose of the MIS should be for the decision-making, management and enhancement of the service. M&E must be seen as a management tool.
- Definitions in terms of the services offered by the MIS must be agreed on. It is based on these services that the M&E can be carried out. However, the M&E must not be too basic.
- Different conditions require different designs and different approaches towards the sustainability of the MIS. The model approach for all does not exist.
- MIS is only a tool within a more complex context where the implementing institution and its mandates matter, not the MIS as such. MIS is part of a marketing continuum. Therefore, the preconditions for the success of the MIS should be established. This helps to get the design right.

Design

It is important that the design is right and this involves setting preconditions with defined basic assumptions. This includes:

- contractual and legal framework;
- understanding the existing MIS system based on stakeholder analysis;

- good infrastructure;
- the need to know the capacity of the institution to effect the MIS. Human resource development should be put on the agenda;
- the need for a dynamic and open approach (creative) rather than a static, closed (dogmatic) approach when designing an MIS.

Core elements of an M&E system

Key elements identified were:

- clearly defined objectives;
- internal and external measurements of performance;
- proper record-keeping as a tool;
- the type of qualitative and quantitative indicators should be discussed and agreed on to ensure that they are based on what is of benefit and value to the farmer.

M&E and sustainability

- Involve stakeholders and those who pay into the governance of MIS in the M&E process.
- Rate of cost recovery is an appropriate measure in determining the sustainability of the service.
- The systems approach is being advocated where the choice of target groups should not be restricted to one sector or community, rather it should be wide enough to ensure adequate financial contributions.
- The information gaps are so diverse that one system cannot bridge them all.

Indicators

The groups identified some key indicators to be used in the M&E process. These were:

- Proper and relevant record keeping and analysis.
- Qualitative and quantitative indicators. Indications of how well (or badly) an MIS service is fulfilling its objectives need to be gathered quantitatively and qualitatively. Quantitative analysis of indicators over time, such as farmer income, farm-gate/retail price comparison and traded volume are unreliable as the effects of MIS cannot be disaggregated from other effects such as market changes, transport improvements, weather, etc. Spatial arbitrage opportunity analysis (the price differences between markets in different geographical locations) should offer a useful quantitative indicator. Qualitative analysis is likely to be carried out by survey.

- Transaction time / transaction cost. That is the time taken to supply a given volume of information and the cost of delivering that information.
- Rate of usage. That is a changing measure over time of how many intended beneficiaries are making use of the service.
- Rate of cost of recovery – level of financial sustainability / level of organisational sustainability. That is a measure of the financial contributions to the running of the service and whether these contributions will be maintained in the future. Also, the sustainability of the method of organisation of the service – supply of qualified staff and managers and training, etc.
- Range of commodities traded.
- Local Authority revenue – cess charged/ effect on revenue collection.
- Price stability.
- Numbers of producers/ traders requesting information.
- Ease of entry and exit from market.

3.4

Conclusions

- There is a paradigm shift in terms of the clarification of MIS concepts and definitions being used.
- There is no unique MIS model applicable across countries and regions.
- The design of any MIS must be linked to the environment in a holistic way (taking the economic, political, and social factors into consideration).
- Sustainability of the MIS is not confined to financial considerations but also involves institutional arrangements.
- Look at sustainability of an MIS from an institutional perspective and not just a project-based service.
- MIS must serve as a management tool.
- MIS support must be based on the individual needs as identified before programme design.
- MIS must not be seen in isolation of the general marketing development programme.
- M&E provides a way in which an MIS can move forward, especially in the face of challenges and mistakes.
- Networking is a valuable means of improving MIS systems. There is value in the sharing of experiences, for example, an MIS in one country can learn from MIS in other countries. Mechanisms for sharing information should therefore be explored.

3.5

Recommended further steps

Impact

- There is a need to develop mechanisms to quantify the impact of MIS on end users.

Sustainability

- To promote financial sustainability, there should be further analysis of the mechanism for internal revenue generation by a community/sector based MIS.
- The process by which stakeholder partnerships can be forged needs to be studied, given that partnerships often serve to increase the sustainability of the MIS.

M&E

- The operations of traditional/ informal MIS should be monitored and evaluated in order to improve the delivery of support to such systems.
- Examine new technologies and their relationships to informal MIS with special attention being paid to the patterns of communication. An effort should also be made to use the traditional systems that work well and if possible strengthen them.

Collaboration/ networking

- Increase the linkages between MIS and statistical services and other related public sector agencies. Find different ways in which the private sector can be engaged effectively with the public sector. In doing so, new ways of thinking can be introduced, for example, it may be possible to get public sector workers to collect the same data in a different way, which is of greater value to all, (e.g. JEA in Jamaica, *see* section 2.4).
- MIS should foster collaboration with other relevant institutions in order to facilitate efficient data collection and dissemination of information. The 'option-tree' here should be explored, which entails exploring various avenues for developing different levels of collaboration as well as public-private sector partnerships.
- CTA has an important catalytic role to play in promoting the development of MIS. Continued support by CTA of MIS initiatives in ACP countries is therefore critical in the continued development and evolution of MIS.
- CTA should be the focal point for ACP–MIS networking.
- CTA should ensure the inclusion of Francophone Africa in future MIS discussions, given that these countries often have very different experiences from those shared at the workshop. As a result, their approaches may also be different, bringing a fresh perspective to the process.

- A way needs to be found where practitioners who operate in isolation can contact others and share their particular concerns. Perhaps one way of doing this would be to set up e-mail communication between networks so that there can be continuous feedback and support.

Research

- More research needs to be done to fine-tune MIS concepts and terms, especially in light of the paradigm shift.

Annexes

Field trip: Flower auction in Aaslmeer

The organisers of the workshop thought that it would be an excellent opportunity to expose the participants to an example of a highly efficient and developed market information service within the Netherlands. Although the service could be considered to be at the high-end of the spectrum in terms of the objectives of the workshop, it would nevertheless prove useful in demonstrating that it is possible to build sustainable workable systems on a private basis but with public sector collaboration. In addition to this, it was hoped that lessons could be drawn and applied to any future development of an MIS.

Prior to the field trip, the participants received guiding questions, which were later discussed in the plenary session. Below are the questions given and the feedback.

Guiding questions for the flower auction

- What were the most striking features of the exchange?
- Which factors contributed to the growth and success of the flower auction?
- Do the growers feel that the information they receive is reflective of the real market?
- What lessons can be drawn from the exchange in terms of its usefulness and applicability (to us) with respect to:
 - producers (farmer);
 - sustainability of the system (how are they financially supported)?

Impressions

When the participants were asked to give their impressions of the flower market, their responses were spontaneous and enthusiastic:

- amazingly huge;
- top-down auction;
- useful to achieve higher prices for the commodities (e.g. some French producers sold their produce there because the prices were more attractive, so there were cases where the produce was transported from France to the Netherlands, then back to France);
- tremendous amount of available displayed information;
- producers and buyers were competing for the best prices;
- developed mechanisms on contracting payments, arbitrage;

- completely run by the private sector;
- huge effects of economies of scale;
- value-added for buyers and producers;
- wide variety of products;
- the auction is a symbol of the power of the organisation;
- future: Systems may have to change to a virtual one, although the human factor is still in demand

The flower auction and MIS

The participants felt that some of the main reasons responsible for the success of the auction included:

- its usefulness to producers;
- its role in linking producers to buyers;
- the transparency of the system;
- provision of access to product testing and research and development including innovations;
- high level of consciousness of the producers.

Performance and sustainability of the system

Reasons for the high performance and sustainability of the system are linked to the following:

- the participants (buyers and sellers) see the value-added in being part of the system and this contributes to its sustainability;
- the commodity is in demand;
- there is a high turnover;
- favourable transportation costs.

Evaluation of the workshop

The participants were asked two questions:

- What did you like in the discussions at the workshop?
- What do you want to be added to the process of further development of MIS?

In general, most of the participants enjoyed the exchange of experiences, the information shared and the frankness of the discussions. The discussions were lively and there was equal consideration of views put forward. Further, the experiences of practical solutions were appreciated in light of the various stages of MIS in the different countries. The workshop also served to strengthen the information base in MIS and facilitated networking among the participants.

Other points brought forward by the participants with respect to additions to the process of further development of MIS included:

- The need for deeper thinking on the design of MIS and the M&E component.
- More emphasis on research.
- Further analysis of client tracking/ monitoring mechanism and systems.
- More systematic focus on specific issues (option tree).
- CTA should take seriously the issue of studying the way forward ideas provided.
- The discussion should tackle all the stakeholders of the MIS, not just farmers, i.e. there should be more integration of the MIS.
- Institutional arrangements should be discussed.
- There is need for ongoing/ regular exchanges in MIS among the various ACP countries, (i.e. continuous networking).
- CTA should further facilitate exchange and development of MIS.
- CTA should facilitate funding partnerships with other agencies for new projects and facilitate further networking of various MIS.
- M&E should be incorporated in MIS activities in order to improve MIS development.
- Definition of the marketing programme in which MIS is to be posited.
- CTA should assist in developing projects on MIS in the Pacific Islands.
- An effort should be made on the part of those implementing MIS to make it sustainable. Do not depend on external assistance.

Workshop programme

Wednesday 21 November

- 09.00 – 09.30 Registration of participants
- 09.30 – 10.00 Chairman: *Mr Tiberman Narain*
Welcome addresses
Dr Thiendou Niang (on behalf of the director of CTA)
and *Mr Tiberman Narain*
- Presentation of workshop programme
Dr Ibrahim Khadar
- Introduction of participants
- 10.00 – 11.00 Keynote paper:
Market information in theory and practice: Institutional perspectives
Dr Nigel Poole
- 11.30 – 12.30 Responses to the keynote paper and discussions moderated by
Mr Gerhard Quincke
- 14.00 – 15.00 Chairman: *Dr Ibrahim Tiemogo*
Selected African experiences:
- Ghana
Mr Kofi Adom-Boakye
- Kenya
Dr Adrian Mukhebi
- Uganda
Mr Geoffrey Okoboi
- 15.00 – 15.30 Discussions moderated by Mr Gerhard Quincke
- 16.00 – 17.00 Chairman: *Mr José Filipe Fonseca*
Caribbean experience
Mr Vassel Stewart
- Pacific experience
- 17.00 – 17.30 Discussions

Thursday 22 November

- 6.00 – 11.00 Departure from Reehorst to the Aalsmeer Flower Auction
- 15.00 – 15.30 Presentation of Working Group themes (Mr Gerhard Quincke):
- *How to make MIS/ Statistics service work for farmers*
 - *How to make MIS work*
- 15.30 – 18.00 Working Group discussions to draw general lessons on:
- How to make MIS and Statistics services work for farmers, focusing on:
Relevance/ Effectiveness/ Impact
 - How to make MIS work, focusing on:
Efficiency/ Sustainability/ Performance

Friday 23 November

- Chairman: *Mr Paul Goodison*
- 09.00 – 11.30 Presentation of Working Group Reports
- Link between previous and present workshop
Dr Adrian Mukhebi and Mr Charles Reid
- Monitoring and evaluation (M&E) system
- Chairman: *Dr Ibrahim Khadar*
- 11.30 – 12.30 Future of MIS: Consequences of the technical consultation
- 12.30 – 13.00 Evaluation of workshop
(Moderator)
Mr Gerhard Quincke
- 13.00 – 13.15 Closing remarks
Mr T.M. Narain
Dr Ibrahim Khadar
Mr Kofi Adom-Boakye
- 19.00 Reception/ Dinner organised by CTA

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Acronyms and abbreviations

ARC	Agricultural Research Council
CARICOM	Caribbean Community
CARDI	Caribbean Agricultural Research and Development Institute
CMA/AOC	Conference of Ministers of Africa/West and Central Africa
CLUSA	Cooperative League of the USA
COMESA	Common Market for Eastern and Southern Africa
COMIS	commodity marketing and information system
CTA	Technical Centre for Agricultural and Rural Cooperation
ESARC	Eastern and Southern Africa Regional Centre
FAO	Food and Agriculture Organisation of the United Nations
FEWS	Famine Early Warning System
FM	frequency modulation
GOU	Government of Uganda
GPRTU	Ghana Private Road Transport Union
ICDD	Information and Capacity Development Department (CTA)
ICT	information communication technology
IDEA	Investment in Developing Export Agriculture (Uganda)
IFCD	Irish Foundation for Cooperative Development
IGAD	Intergovernmental Authority on Development
IITA	International Institute of Tropical Agriculture (Uganda)
ILO	International Labour Organisation
IPC	Information Processing Centre (Uganda)
IPPD	Information Policies and Partnerships Department (CTA)

IT	information technology
KACE	Kenya Agricultural Commodity Exchange
DC	developing countries
MIC	market and information centre (KACE)
MIS	market information service
MOFA	Ministry of Food and Agriculture (Ghana)
MTADP	Medium-Term Agricultural Development Programme (Ghana)
MTN	mobile telephone networks
NGO	non-governmental organisation
NCPB	National Cereals and Produce Board (Kenya)
NIE	New Institutional Economics
OIE	Old Institutional Economics
PC	principal centre (KACE)
PMA	Plan for the modernisation of agriculture (Uganda)
RECOTIS	Regional Commodity Trade and Information Service
RTP	Regional Transformation Programme (Caribbean)
SC	sub-centre (KACE)
SMS	short messaging service
SQL	structured query language
SRI	Statistics, Research and Information Directorate (Ghana)
SSA	sub-Saharan Africa
TCE	transaction cost economics
UNDP	United Nations Development Programme
UK	United Kingdom
US	United States

USAID	United States Agency for International Development
VP Inc.	Venture Promotion Inc.
WFP	World Food Programme