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# MARKET INFORMATION SYSTEMS AND AGRICULTURAL COMMODITY EXCHANGES :

Strengthening Market Signals  
and Institutions



partageons les connaissances au profit des communautés rurales  
sharing knowledge, improving rural livelihoods



**Market Information Systems and  
Agricultural Commodity Exchanges:  
Strengthening Market Signals and Institutions**

**CTA Expert Consultation**

**Amsterdam, The Netherlands**  
28–30 November 2005

**Synthesis Report**



## Introduction

### Background

Since the mid-1990s, CTA has been actively involved in the promotion and pilot testing of market information systems (MIS)<sup>1</sup> and agricultural commodity exchanges (ACEs)<sup>2</sup> at the local, national and regional levels in Africa, the Caribbean and the Pacific (ACP). The results were reviewed at expert consultations in October 2000 and November 2001. CTA has also supported a series of training activities, and utilised electronic knowledge-sharing systems and publications to disseminate information.

The pilot work has generally been successful in improving technical and institutional arrangements for gathering, storing and disseminating market information. However, stakeholders have highlighted the need to increase the usefulness of market information to farmers and rural traders. Similarly, investments in developing new selling points (e.g. auctions, commodity exchanges) have successfully tested new ideas, but remain effectively inaccessible to some farmers (e.g. those that are poorly organised in terms of their marketing efforts or who are unable to deliver produce of a sufficiently high standard for formal markets).

### Objectives and expectations

The Expert Consultation on Market Information Systems and Agricultural Commodity Exchanges: Strengthening Market Signals and Institutions was convened to review CTA's investments in MIS and ACEs within a broad perspective to determine which are the more successful systems, what conditions have enabled them to function well, and how they are being used by farmers' organisations, traders and other development partners. Thus, the Consultation was expected to identify key factors that have supported success, and to discuss issues related to new opportunities for strengthening market signals and for gaining a better understanding of the conditions required to enable small-holder farmers to gain access to markets in a more sustainable and remunerative way.

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<sup>1</sup> A market information system (MIS) is a service that 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, policy-makers and others, including consumers (Shepherd, 1998: <http://www.fao.org/DOCREP/003/X6993E/x6993e03.htm>; accessed 22 August 2006).

<sup>2</sup> A commodity exchange (or commodities exchange) is an exchange where various commodities and derivatives products are traded. Most commodity markets across the world trade in agricultural products and other raw materials (such as wheat, barley, sugar, maize, cotton, cocoa, coffee, milk products, pork bellies, oil, metals) and contracts based on them. These contracts can include spots, forwards, futures and options on futures. Other sophisticated products may include interest rates, environmental instruments, swaps, or ocean freight contracts. Commodity exchanges usually trade futures contracts on commodities, such as trading contracts to receive something, for example maize, in a certain month. A farmer growing maize can sell a future contract on his or her maize, which will not be harvested for several months, and guarantee the price that he or she will be paid upon delivery; a breakfast cereal producer buys the contract now and guarantees the price will not go up when it is delivered. This protects the farmer from price drops and the buyer from price rises. Speculators also buy and sell the futures contracts to make a profit and provide liquidity to the system. (Wikipedia contributors, 2006: [http://en.wikipedia.org/w/index.php?title=Commodities\\_exchange&oldid=70205359](http://en.wikipedia.org/w/index.php?title=Commodities_exchange&oldid=70205359); accessed 22 August 2006)

The key questions addressed by the Consultation were:

- Sequencing:** Is sequencing important in terms of developing and applying elements of an efficient marketing system?
- Conditions:** Are there any preconditions necessary for these strategies, tools and institutions to work in support of small-holder farmers?
- Context:** In what ways do the marketing tools and strategies have to be adapted to work effectively in different ACP countries?
- Leadership (and ownership):** Who should introduce these tools and strategies? How should they be funded?
- Linkages:** Should these tools, strategies and institutions be introduced as single entities or clustered to make efficiency gains?
- Priorities:** Where should CTA invest, especially in terms of research and development (R&D) interventions?

## Methodology

An electronic working group was established with the Consultation participants and other selected partners to introduce the themes and provide a forum for sharing information on the topics to be debated. The e-working group was facilitated by a core group of experts; it commenced at the end of October 2005 and ran for 3 weeks. Weekly summaries were provided by one of the facilitators. The purpose of the e-working group was to enable the participants to raise issues and put forward ideas on the current thinking about marketing institutions, with the aim of learning from past experience and considering fresh viewpoints. The central question was: How can small-holder farmers in ACP countries take advantage of the opportunities offered by the liberalisation of agricultural markets? The e-working group defined the key areas (questions) for further debate at the meeting (*see* Introduction — Objectives and expectations *above*).

The Expert Consultation itself was a 3-day meeting organised under the following sessions:

- Marketing needs from government, trade and farmer perspectives;
- Innovations in MIS;
- Market instruments to strengthen the demand signal;
- Auctions, warehouse receipts and ACEs — case studies.

The following strategies, tools and institutions were identified and provided the context for answering the key questions:

Market Information Systems and Agricultural Commodity Exchanges:  
Strengthening Market Signals and Institutions

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<i>Strategies</i>	<i>Tools</i>	<i>Institutions</i>
<input type="checkbox"/> Marketing policy support	<input type="checkbox"/> Market development analysis	<input type="checkbox"/> Market information services
<input type="checkbox"/> Farmer organisation	<input type="checkbox"/> Market intelligence	<input type="checkbox"/> Warehouse receipt system (WRS)
<input type="checkbox"/> Grades and standards	<input type="checkbox"/> Establishing and integrating financial instruments	<input type="checkbox"/> Agricultural commodity exchange
<input type="checkbox"/> Establishing a legal framework for trade		
<input type="checkbox"/> Support to private-sector institutions		
<input type="checkbox"/> Advocacy and capacity-building, networking		

The meeting combined formal presentations, plenary discussions (question and answer sessions) and working group discussions.

## Key Results and Conclusions

### Management, ownership and partnerships

In terms of management of MIS, it was deemed inappropriate for the institution to be solely within the domain of government (evidence shows that full government control has been fatal to emerging MIS). In fact, no one entity should even own an MIS. Ideally, a developing MIS should involve collaboration and competition among government, private sector, development groups and public-sector agencies.

In general, it was felt that government and donor(s) should take the lead in determining policy for developing a market institution, with input from regional bodies, private sector, NGOs, universities and consultants.

However, it was recommended that an analysis be conducted of the roles and responsibilities of the various actors, and the needs for each individual market institution. An analytical framework (e.g. Table 1) may be used for this.

**Table 1. Example of analytical framework for evaluating roles and responsibilities for the development of a market institution**

	<b>Government</b>	<b>Consultants / NGOs</b>	<b>Farmers</b>	<b>Traders</b>
Who pays?				
Who plans and makes decisions?				
Who implements?				
Who uses?				
Who owns the outputs?				

### **Sequencing and preconditions**

Most participants felt that sequencing of investment in market institutions was useful, following the order presented at the consultation, namely: market information services – warehouse receipt system (WRS) – auctions – commodity exchanges.

*Ad-hoc* or unplanned investment was considered likely to lead to failure or poor performance. However, it is important to remember the uniqueness of each country in terms of location and contextual situation, and to consider this in planning MIS development. Some concern was expressed over the practicalities of trying to introduce and integrate ideas in a measured and sequenced way, because of the differing agendas of the various actors involved; for example, if a government or donor unilaterally decides that a new institution is required, this will most likely happen regardless of sequencing logic.

With reference to the list of interventions (institutions, strategies and tools; *see Methodology above*), it was considered that elements such as marketing policy support, market development analysis, and farmer organisation could be set up independently without any adverse effects on each other.

The same was also considered the case for market information services, market intelligence, and grades and standards; however, the effectiveness and performance of this second group would be significantly improved if the first three interventions (*see previous paragraph*) were already in place. For example, marketing information would be effective even in the absence of marketing policy, in the absence of marketing studies and in situations where farmers were not organised; however, market information could yield considerably more benefit if farmers were well organised and acting on the advice of clear marketing studies and strategies.

Conversely, introduction of the more sophisticated market institutions — e.g. warehouse receipt systems and agricultural commodity exchanges — would require some of the earlier interventions to be in place.

### **Sustainability**

For an emerging MIS to be sustainable, the appropriate institutional arrangements need to be in place; opportunistic strategies should be avoided; governments need to be involved for the ‘public goods’ aspect of the information; the private sector should pay for everything; and training (capacity-building) and universities should play a major role.

### **CTA priorities**

CTA’s mandate covers developing and providing services that improve access to information for agricultural and rural development, promoting the integrated use of communication channels for information exchange, and building capacity (mostly through training) in the generation and management of agricultural information. CTA may also provide funding for R&D.

The Consultation identified eight opportunities for CTA to play a strategic role in niche areas of R&D investment to combine specialised information with new ICT technologies to improve competitiveness and innovation within the agricultural sector of ACP countries.

These opportunities should then be developed (by CTA) beyond the pilot level for significant and sustained improvement of marketing institutions.

1. **Market information:** Conduct an impact study of the value, utility, quality and benefits of MIS in terms of client needs, accuracy, timeliness and accessibility. There should be six case studies from ACP countries, to compare those with small (10–15 million), medium (20–40 million) and large (60 million +) populations, those with strong and weak ICT capacity, and those having different levels of market engagement at local, national, regional and international levels. The analysis should identify what is and what is not working well and the reasons behind their success (or failure). The case studies should include ownership, implementation and management, with a view to determining which types of management system provide the best services (including which institutions are best placed to own and implement MIS), and how they can be supported financially. The study should also cover cost-benefit of the services.

The research will give better understanding of the status of MIS in ACP countries and should result in recommendations of best practices for the design and implementation of MIS that are appropriately targeted (i.e. at small-holder farmers).

The research should also enable CTA to develop policy recommendations on public goods or private-sector financial arrangements to provide long-term support for MIS. This will enable CTA to develop an advocacy and policy dialogue process with key stakeholders in selected countries to demonstrate the importance and value of MIS.

CTA should also become involved in the building of national capacity in the provision and analysis of market data targeted to specific groups.

2. **Marketing capacity tool:** Develop an on-line marketing profiling instrument for use by ACP economic research groups, policy-makers and practitioners to self-evaluate their country's position *vis-à-vis* marketing interventions, institutions and investments. Thus, in effect, providing a 'health check' of market capacity. Areas of investigation would include: MIS capacity and competence; farmer organisation; media coverage (radio, television, newspapers); ICT access (Internet, cell phone); trader organisations; financial linkage to key agricultural sectors; storage capacity (warehouse, cold chain); research linkage to the private sector; collateral trading status (warehouse receipt, commodity exchange) and legal status.

The tool would provide a low-cost mechanism for evaluating national or regional market needs and opportunities. The information could then be used as the basis for developing plans for investment or re-engineering options to improve marketing efficiency and performance.

3. **Marketing evaluation and strategy development:** With the results of the marketing capacity analysis, CTA, its ACP partners and their service providers would be in a position to develop support packages or strategies for marketing development. The tool would help evaluate whether proposed interventions would be appropriate.

- 4. Marketing support portal:** Provide an interactive information portal to support methods, tools and applications for strengthening marketing analysis, institutional development and linkage of small-holder producers to markets. Thus, CTA would act as a lead organisation in bringing the latest conceptual thinking in applied trade and marketing approaches, methods, tools and applications within a high-profile information and learning resource. Rather than dominating the activity, CTA should adopt a consortium approach bringing together other leading research, development and private-sector agencies. The information provided should be directly linked with specific iterative ‘learning alliance’ approaches to build a cadre of trade and marketing specialists that can build the capacity of public- and private-sector market institutions.

The portal would encourage the development of a community of practice to provide guidance in marketing, and agro-enterprise and agri-business development, including advice on strategies and sequenced areas of intervention to improve market efficiency. The portal should also support the marketing-evaluation and strategy-development tools developed (*see 3 above*).

- 5. Integrating trade and market support:** Explore options to integrate the trade-based information available via CTA’s Agritrade web portal with activities that support market-based interventions.

Such an integration should provide greater opportunity for dialogue and knowledge-sharing between actors involved in policy-development and decision-making and those involved in developing ACP business opportunities within specific sectors.

- 6. Linking farmers to formal market institutions:** Evaluate opportunities and catalyse the process of enabling small-holder farmers to manage their risk through engaging in formal markets.

Increased formalisation in ACP markets should provide increased food-security, better risk-management, more transparent interactions, opportunities to add value to produce, and generally strengthen good business practices. However, there are serious concerns about the benefits to small-holders. More and relevant information is required to ensure that infrastructure, information and quality-control equipment is available to organised farmer associations in rural areas.

This research should evaluate the equity of benefits in the transition from informal to more formalised markets, especially in relation to small-holders and the market chains they are involved in.

- 7. Best practices in farmers’ organisations:** In general, the better organised farmers are (collectively), the better able they are to take advantage of new market opportunities. Studies should be undertaken to evaluate where farmers are well organised and where they are not, and the key factors and methods that influence best practice in the establishment of primary and secondary farmer organisations. Best-practice approaches should be determined for farmers with good and poor market access, and those targeting high- and low-value markets.

8. **Low-cost MIS based on cell-phone networks:** Determine where and how, mobile (cell-phone) technology could be developed in specific ACP countries to improve the marketing opportunities for the poorer, small-holder farmers, as well as increasing marketing efficiency within and between ACP countries.

The research should provide recommendations and new innovations for the use of mobile technology in market information, trading and financial linkages (i.e. low-cost MIS). CTA and its partners will have the opportunity to design, test and privatise new services to improve the marketing performance of the poor.

### Key messages from the Consultation

1. The availability of timely, accurate and relevant market information is a *critical factor* in the success of MIS; however, empirical evidence is required to back up the anecdotal evidence available — CTA should therefore support evaluations and impact studies of existing MIS.
2. Addressing the (information) needs of small-holder farmers is *paramount* for improving their ability to engage with the market and thereby improve their livelihoods. Therefore, support to MIS should be channelled through farmers and farmers' organisations — CTA may need to modify its MIS-support strategy in this direction.
3. It is *essential* to recognise and understand regional (and national) differences in the state of development of MIS and other market instruments. Thus, improved knowledge- and information-sharing is needed — CTA is to promote networking at the ACP level via Internet (web-sites), publications and other means.
4. Development of MIS and other market instruments *should* be sequential. Thus, training, knowledge-sharing and consultations may be needed — CTA to contribute as appropriate (including advocacy).
5. MIS *should* be combined with other services (e.g. advice, advocacy, financial, legal, insurance). This requires a better understanding of what is required for an enabling environment and preconditions — CTA to disseminate appropriate information.
6. Public-private sector collaboration is *recommended*. However, concerns over sustainability can influence the type of collaboration achieved — CTA to disseminate appropriate information.
7. The ownership of an MIS may or may not be an important issue. Further consultation is required on priorities and the overall approach to development — CTA could work on building consensus among stakeholders.
8. Market information may or may not rank very high in relation to farmers' other needs. Further consultation is required on priorities and the overall approach to development — CTA could work on building consensus among stakeholders and priority-setting.

**List of acronyms and abbreviations**

ACE	agricultural commodity exchange
ACP	Africa, Caribbean and Pacific
CTA	Technical Centre for Agricultural and Rural Cooperation ACP–EU
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
ICT	information and communication technology
MIS	market information system(s)
NGO	non-governmental organisation
R&D	research and development
WRS	warehouse receipt system(s)

### **Technical Centre for Agricultural and Rural Cooperation (ACP–EU)**

The Technical Centre for Agricultural and Rural Cooperation (CTA) was established in 1983 under the Lomé Convention between the ACP (African, Caribbean and Pacific) Group of States and the European Union (EU) Member States. Since 2000, it has operated within the framework of the ACP–EC Cotonou Agreement.

CTA's tasks are to develop and provide services that improve access to information for agricultural and rural development, and to strengthen the capacity of ACP countries to produce, acquire, exchange and utilise information in this area. CTA's programmes are designed to: provide a wide range of information products and services and enhance awareness of relevant information sources; promote the integrated use of appropriate communication channels and intensify contacts and information exchange (particularly intra-ACP); and develop ACP capacity to generate and manage agricultural information and to formulate ICM strategies. CTA's work incorporates new developments in methodologies and cross-cutting issues such as gender and social capital.

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