Centre Technique de Coopération Agricole et Rurale ACP-UE
Technical Centre for Agricultural and Rural Co-operation ACP-EU
CTA

Review of market information systems in Botswana, Ethiopia, Ghana and Zimbabwe

Study Report

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STUDY REPORT

Peter Robbins,
Commodity Market Information Service, London

The Technical Centre for Agricultural and Rural Cooperation

CTA (The Technical Centre for Agricultural and Rural Cooperation) was established in 1983 under the Lomé Convention between the African, Caribbean and Pacific (ACP) States and the European Union (EU) Member States.

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 these areas. CTA's programmes are organised around four principal themes: developing information management and partnership strategies needed for policy formulation and implementation; promoting contact and exchange of experience; providing ACP partners with information on demand; and strengthening their information and communication capacities.

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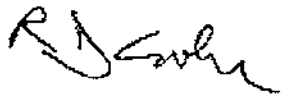
FOREWORD

During the implementation of our current Mid-Term Plan (1997–2000), CTA has devoted an increasing share of its resources to work in support of the promotion of market-led rural development. This is in response to ACP agricultural development priorities moving from simply increasing agricultural productivity towards improving welfare in rural areas. This ACP position also reflects the expectation that world trade in agricultural products will grow under the stimulus of continuing economic liberalization.

A sustained move toward market deregulation and increasing competitiveness in ACP economies requires market information systems that can provide appropriate support for decision-making. ACP countries can compete only if their exporters, including those engaged in building regional trade, can have access to the best information. A major challenge is to work with poor, small-scale farmers, traders and processors to provide them with the relevant, timely information they need in a liberalized economic environment.

This study concludes that many government-operated information services tend to provide information that benefits mainly agencies involved in agricultural and general economic planning. The study proposes an alternative information strategy which will ensure that key stakeholders such as farmers, traders and consumers have timely access to pertinent market information. This will involve the establishment of localized, demand-driven systems serving a particular community or agricultural subsector, supported by local and central government and run by those groups the systems are designed to benefit. Since the completion of this study in 1998, CTA has initiated a number of pilot projects, in collaboration with ACP partner institutions from the public and independent sectors, aimed at testing this concept and facilitating the definition of effective market information services.



Dr R D Cooke
Director, CTA

SUMMARY

The specific aims of this study were:

- to provide an accurate description of the existing market information systems and assess their effectiveness in supporting private and public sector decision-making

- to identify common factors for the success and effectiveness of market information systems.

The study considered the potential role of new information and communications technologies. Field visits were carried out between March and July 1998 in Botswana, Ethiopia, Ghana and Zimbabwe (Mokone, 1998; Habtu and Robbins, 1998; Nurah, 1998; Mauwa, 1998, respectively).

Agricultural developments in Botswana, Ethiopia, Ghana and Zimbabwe

The governments of these four African countries have adopted policies aimed at encouraging a more liberalized economic environment. Many state-controlled commodity marketing boards in Ethiopia, Ghana and Zimbabwe have been dismantled or privatized, or have been set on a more commercial footing. Private-sector trading companies now play a much more important role in the marketing and distribution of agricultural products.

These changes have brought some important benefits, but the evolution of efficient and transparent private-sector marketing systems has not kept pace with the dismantling of the old structures. Many of the private trading companies that have taken over the role of the state in commodity marketing lack experience.

This study concludes that a combination of poor legal control and lack of access to appropriate market information has encouraged collusion amongst traders, to the detriment of both producers and consumers.

The costs and difficulties of transporting perishable goods with volatile markets, over long distances and on poor roads, present the trader with many risks. In order to cover these risks, traders include for themselves high profit margins. This often means that farmgate prices bear little relationship to retail prices.

Information for government agencies

Government-operated market information services have been established in Ghana, Ethiopia and Zimbabwe. Unfortunately these services are under-funded, over-bureaucratic and lack the participation of other stakeholders in the agricultural sector. Their most important function is to supply information required by other government agencies to monitor economic variables and to plan agricultural and general economic policy. Such services are in need of reform, however, if they are to be of use to the majority of stakeholders in the agricultural sector.

Information for export and regional trade

State-owned marketing boards still monopolize the export of beef from Botswana and cocoa from Ghana. The state ensures the orderly marketing of tobacco from Zimbabwe, and the Ethiopian Government still retains a significant stake in the coffee export industry.

The organizations involved in the export of these commodities have an international reputation for professionalism and have a thorough knowledge of the markets in which they operate. They also have all the resources necessary to obtain the most accurate and up-to-date market information available.

Africa exports scores of other agricultural products, and has the potential to export many more. The Governments of Ethiopia, Ghana and Zimbabwe have established agencies to assist producers of these commodities in finding export markets for their goods and to provide them with market information. These agencies, however, are not equipped to provide the necessary detailed information needed by many potential exporters in order to trade successfully with overseas partners.

Several international development agencies offer a service to provide information about the international markets for a limited range of agricultural products, manufactured products and services. The work of these agencies is not coordinated, however, and they are not structured to offer the detailed information necessary to provide existing and potential suppliers with information about the specifications of products and the contractual conditions needed to attract buyers.

The potential for increasing regional trade between neighbouring African countries is limited - however, governments and international trade development bodies make no special distinction between the promotion of export trade and trade carried out within African regions. The regional economic community organizations have not yet set up the necessary apparatus to supply specialist information to producers and traders in order to assist them in expanding the trade between neighbouring countries.

Information for small- and medium-scale producers and traders

Most farmers in Africa, although isolated from the outside world, are well informed about the markets for their products in their immediate vicinity, freely exchanging news with neighbours about prices, supply and demand at local village markets. The largest African producers, traders, processors and exporters have been quick to utilize modern communications technology, and many are as well informed about the markets for their products as are their counterparts in the industrialized regions of the world.

The greatest need for improvement in market information systems lies between these two worlds of African agriculture.

At present, the ways most farmers receive up-to-date information about the market for any of their surplus production outside their immediate vicinity include:

- the extension services supplied by government
- radio broadcasts from government market information services
- the traders they sell to.

Unfortunately, the pressure on governments to reduce public expenditure has adversely affected the availability of extension services. This study has also concluded that the information offered by government-operated market information services is of little use to small-scale producers and traders. In Africa today, a producer might have to rely for market information on a single trader who monopolizes the trade in a particular isolated region. In these circumstances, prices offered by traders are more likely to reflect the producer's ignorance of the market than the price determined by the forces of supply and demand.

Without some knowledge of prevailing market conditions, farmers fall prey to dishonest traders and may lose a significant part of their potential income. They may not even be prepared to risk investing in the packing and transport needed to bring their surplus goods to market. This results in considerable wastage.

This study has accumulated evidence to support CTA's general recommendations for a successful model of a market information service. Such a service should involve the mobilization of all the stakeholders within a particular market sector, and preferably should be managed by them. The institution charged with controlling the service should be flexible and autonomous, and should be run with the minimum of bureaucracy.

This model implies a rejection of a centralized system remote from individual stakeholders, and favours the establishment of localized, demand-driven systems,

serving a particular community or agricultural sector, linked to and supported by local and central government, and run by those groups which the system is designed to benefit.

Farmers can benefit from market information only if they have the means of altering cropping patterns, holding stock back in poor market conditions, negotiating with more than one customer, and arranging transport to more than one destination. Sadly, many African farmers are unable to do any of these things. Small-scale traders lack the market power and access to credit needed to obtain higher prices from larger-scale traders.

Any programme designed to establish sustainable and cost-effective market information systems must recognize that many of the most disadvantaged groups of stakeholders must first be supplied with the means of taking advantage of the information they offer.

This report concludes that for market information systems to work effectively, a degree of coordination must exist between the intended beneficiaries of such a system. There are numerous instances where groups of stakeholders could benefit greatly from a market information service designed specifically for their needs. Many such groups have already recognized the need for such a service, but lack the necessary (and often very modest) means to establish it themselves.

If such groups are also working in an environment where private sector initiatives are supported by the legal framework of the country and encouraged by government, they are most likely to gain the greatest benefit from the establishment of a market information service.

Of all the trading environments examined in this study, some of those operating in Ghana appear to present the best prospects for the establishment of such a scheme.

The use of modern technology in communications systems

Africa lags far behind the rest of the world in its acquisition and application of modern electronic communications technology. But this study has identified many instances where such technology is used effectively to exchange useful information about the markets for agricultural products.

Many traders, farmers, farmers' unions and growers' associations have indicated to our consultants that they are aware of the advantages of using modern communications equipment, and could readily make use of it if they could acquire it. The greatest improvement in communication for most African farmers is likely to come from the use of less sophisticated technology such as telephones and radio.

Recommendations

Recommendations to government

Governments should establish independent monitoring mechanisms for the market information systems they operate, in which all stakeholders are fully represented.

Recommendations to government and development agencies

- Institution building in the agricultural sector should be a key priority for governments and development agencies.
- Market information should be gathered and processed at the local level and should be disseminated by local radio where possible.
- The cost of broadcasting agricultural market information should be subsidized through government funding or by donor agencies.
- A programme should be established to provide radio sets to isolated groups of producers and small-scale traders.

Recommendations to government and development agencies for the development of export information systems

- Government market information services should be supported in their efforts to collect and analyse available market information, and to pass advice based on this information to producers, processors, investors and exporters.
- A thorough study should be undertaken to identify potential trading opportunities which have not yet been exploited between neighbouring African countries. Such a study should be used to make recommendations on how regional market information systems could be improved.
- A service specifically dedicated to the provision of essential agricultural market information on a wide range of African agricultural products should be established to assist African exporters and agencies involved in the promotion of African exports. Such a service should form a new component of existing trade information networks.

Recommendations to the Government of Botswana and development agencies working in Botswana

- The formation of domestic growers' and traders' associations, especially those that are engaged in the production and trading of horticultural products, should

be encouraged and their products and services promoted. The Botswana Horticultural Council should be supported with the necessary resources and training to provide adequate and appropriate information to its members.
- Resources should be made available to train officials from the Botswana Agricultural Marketing Board in techniques of purchasing and importing agricultural products.

Recommendations to development agencies working in Ethiopia

Non-governmental organizations working in farming communities in Ethiopia should be supported in their work to provide market information.

Recommendations to CTA

A pilot project should be commissioned with the objective of designing and establishing a pilot, small-scale market information system based on a single local assembly market in Ghana. Senior market traders associated with this project should be given the opportunity to visit other countries in order to learn about the advantages of reforming their trading systems.

Recommendations to the Government of Ghana and development agencies working in Ghana

District Assemblies in Ghana should be assisted in implementing a programme for the installation of public telephones in their local markets.

Recommendations to the Government of Zimbabwe and development agencies working in Zimbabwe

- The Zimbabwean Farmers' Union should be supported with the necessary funding to obtain modern computers and modems, and with appropriate training for its information department staff.
- NGOs operating the Agricultural Finance Corporation's credit scheme should be supported in any efforts they might make to establish small-scale market information systems.

INTRODUCTION

The principal objective of most African farmers is to feed themselves and their families, and to sell any surplus production to pay for household utensils, farm inputs, medicines and education for their children. These surpluses not only feed the rest of the nation, but also represent the bulk of most African countries' export earnings. Anything that can be done to reduce the considerable cost and difficulties of linking producers with their ultimate customers must form a central feature of any development strategy for Africa. Programmes for building new roads and providing trucks and storage facilities are being implemented as fast as limited government expenditure and development budgets allow. The provision of accurate, timely and appropriate information which would enable stakeholders to make better decisions about what to produce and where to sell it is obviously equally important.

Over the past two or three decades, the international markets for many of Africa's most important export crops – cocoa, coffee, tea, sugar, spices and hard fibres – have become a great deal more competitive. Consumers in industrialized countries are demanding a wider variety of goods, higher standards of quality, and cleaner, safer foods. In the same period, new markets have opened up for Africa's natural products. The widening price differential between raw products and products prepared and packed for the supermarket shelf offers producing countries an opportunity to gain added value by processing their goods. Many of the millions of small- and medium-sized African producers and processors might be quite capable of responding to these opportunities, but will be unable to compete in this new environment unless they are well informed about changing consumer patterns in consuming markets.

African populations are growing and demand for food and other agricultural produce is increasing, but produce grown by isolated African farmers often goes to waste because farmers have limited knowledge of where or how to sell their surpluses or what return they are likely to make.

Recognition of the importance of the provision of market information for the agricultural sector in Africa is now firmly established. Many African governments and development agencies have established programmes designed to provide information to all stakeholders in the agricultural sector about the markets for their goods. The Technical Centre for Rural Cooperation (CTA) has concluded that much could be done to improve market information systems, and has embarked on a programme to discover how market information systems work in Africa and to develop a strategy for improving them.

CTA organized two international seminars in 1995 on 'The role of information for rural development in ACP countries' and 'Farmer strategies for market orientation in ACP agriculture'. The conclusions of these two seminars reflected a shift in

African, Caribbean and Pacific (ACP) national and regional priorities, away from efforts aimed mainly at increasing agricultural productivity and towards improving welfare in rural areas and increasing farmers' wealth. National and regional ACP representatives at a seminar organized by CTA in October 1996, entitled 'Priority information themes for ACP countries', confirmed this shift in priority. One of the recommendations of the seminar was that CTA should devote more resources to work in support of the promotion of market-led development.

The shift in ACP agricultural priorities in support of market-led development can be explained, in part, by the expectation that world trade in agricultural products will grow under the stimulus of continuing economic liberalization. A sustained move towards market deregulation and increasing competitiveness in ACP countries will create the need for market information systems which can provide appropriate support for decision-making. The emergence in recent years of new information and communications technologies is expected to contribute to the development of effective market information systems in ACP countries.

In January 1997, CTA organized a consultative meeting at its Headquarters in Wageningen, The Netherlands, to review 'Information and communication channels for promoting market-led development in African agriculture'. The specific aim of the meeting was to define the key steps to be considered in establishing effective market information systems. The workshop's conclusions and recommendations underlined the need for country case studies, with a view to obtaining an in-depth knowledge of existing market information systems in individual African countries. The principal emphasis was on national and regional markets rather than international markets and cash crops. The recent establishment of the ACP Chambers of Commerce and related agro-industry network demonstrates the increasing interest shown in this subject.

On December 1, 1997 CTA appointed Mr Peter Robbins of Commodity Market Information Service to coordinate a study reviewing the market information systems in Botswana, Ethiopia, Ghana and Zimbabwe. The overall objective of this study was to identify effective channels and alternative strategies which will facilitate the availability, dissemination and use of information in support of market-led development. The study also aimed to provide an accurate description of existing market information systems in Botswana, Ethiopia, Ghana and Zimbabwe and assess their effectiveness in supporting private- and public-sector decision-making.

A literature search was undertaken, and contact made with relevant international development agencies and international agricultural research centres in order to discover the findings of other studies made in this field. Executives from companies based in Europe were interviewed in order to discover their methods and knowledge of information transfer, and to obtain their views on possible improvements to market information systems in Africa.

In December 1997 consultants were appointed to conduct research in each of the four countries:

- Mr Meshack Mokone – Botswana
- Mr Yohannes Habtu Atsebha – Ethiopia
- Dr Kwaku Nurah Gyiele – Ghana
- Mr Boniface Mauwa – Zimbabwe

In March 1998 Peter Robbins visited the four countries and accompanied each consultant on a programme of unstructured interviews with key stakeholders in the agricultural sector, including ministers, government officials, agricultural researchers, bankers, agricultural union officials, extension service workers, non-governmental organization (NGO) workers, farmers and traders.

The objectives of these interviews were:

- to gain an overview of the marketing of agricultural products in and from the countries concerned
- to describe the market structure of each commodity in order to identify each market type in the agricultural sector
- to identify and describe existing internal and external sources of information and information systems for agricultural products
- to identify and describe innovative and successful market information systems for agricultural products.

At a briefing meeting held for the consultants in Addis Ababa at the end of March 1998, a list of eight commodities representing different market types was drawn up for each country. These were:

- a traditional commodity produced primarily for export by large-scale producers
- a traditional commodity produced for domestic consumption by large-scale producers
- a traditional commodity produced primarily for export by small-scale producers
- a traditional commodity produced for domestic consumption by small-scale producers
- a non-traditional commodity produced primarily for export by large-scale producers
- a non-traditional commodity produced for domestic consumption by large-scale producers
- a non-traditional commodity produced primarily for export by small-scale producers
- a non-traditional commodity produced for domestic consumption by small-scale producers.

Spread over the four countries, subgroups of commodities with other market features were represented within this mix, including perishable and non-perishable goods, cash crops, livestock, products gathered from the wild, and semi-processed goods. The markets for each of these commodities have been studied in addition to those for maize and cotton, two commodities grown in all four countries.

In April and May 1998, the consultants carried out field studies in their respective countries, formally interviewing a wide range of stakeholders including producers, traders and processors of each of the commodities selected for study, and suppliers and users of market information. Government officials, agricultural researchers, trade union officials, bankers, NGO workers and extension workers were also included in the interview programme.

Chapter 1

KEY FEATURES OF THE FOUR COUNTRIES STUDIED

Botswana

Botswana has a small population dispersed over a vast area. Its diamond-mining industry has made it considerably richer than the other three countries studied, but 80% of the population still make their living from agriculture. Beef production is its third most important foreign revenue earner, after diamonds and vehicle assembly.

The country is partially dependent on grain imports, and heavily dependent on the import of horticultural products. Domestic and foreign trade in farm products is almost totally monopolized by state-controlled marketing boards. The Government has recognized serious inefficiencies in the Agricultural Marketing Board's dealing in grains. Private trading activity in the sector is confined almost exclusively to imports. As there is no significant private trade in agricultural products, the government's market information service is confined to the posting of seasonal prices set by the marketing boards.

It has been estimated that local horticultural production could be increased significantly, but is seriously hampered by a lack of municipal market places and an almost complete absence of traders in domestically produced products.

In recent months the Government has established an agency to promote exports.

Ethiopia

Ethiopia has a large population and produces a very wide variety of agricultural commodities. However, its agricultural output is finely balanced and can plummet during unpredictable periods of drought.

Ethiopia has only recently emerged from a long period under a command economy regime. The Government's and international development agencies' main focus in agriculture is to prevent a recurrence of the devastating famines that have affected the country in recent years.

The Government has established a new market information service with assistance from international aid agencies, but this service is again focused on early warning for disaster prevention.

A flourishing trading community has evolved quickly, but there is strong evidence

of collusion amongst traders to fix prices, to the detriment of the producers and consumers.

Coffee represents two-thirds of Ethiopia's foreign exchange income. The state retains a significant interest in the coffee industry, and its marketing system is efficient and well respected in the industry.

Ghana

Almost all farming in Ghana is on a small scale, but a few large farms and plantations have been established, especially for the production of export crops such as palm oil and pineapples.

Ghana's trading system, run by associations of female traders (market queens), is highly efficient but is based on price fixing at local and regional market places. The system is accepted as part of the tradition of the sector. Farmers are comparatively poorly organized at both geographical and production sector levels. Traders, producers and government agencies are represented on District Assemblies.

The Government has established an elaborate market information system, but its main function is to provide information for other government agencies. Its information output is of little use to small-scale traders and producers.

The marketing of cocoa, Ghana's most important export commodity, is still monopolized by the state, but this is done with a high degree of professionalism.

The government-operated Export Promotion Agency does not have the necessary resources to assist existing and potential exporters of agricultural products to realize their full trading potential.

Zimbabwe

The Zimbabwean Government has adopted a programme of economic structural adjustment and has privatized all of its state-controlled commodity marketing except the Grains Marketing Board, which has remained under government control mainly for food security reasons. It also retains mechanisms to ensure an orderly market for tobacco – the country's most important export commodity.

Zimbabwean agriculture can be divided into two main sectors.

- The commercial sector consists of approximately 5000 large farms linked with well managed processing, packaging and marketing industries. The Commercial Farmers' Union is well resourced and provides commercial farmers with very high-quality technical and market information. Local trading houses also

provide market information for this sector. Commercial farmers own the land they farm and can raise credit by using their land as collateral. The marketing of products from the commercial sector is characterized by long-term contractual links with large trading and processing conglomerates. A commodity exchange dealing in grains and pulses has been established recently. Mainly commercial farmers, major processors and consumers use the exchange. Tea and tobacco are sold at public auction.

- The communal sector consists of approximately 750 000 small-scale farmers (40% are women). Farmers in this sector do not hold tenure of the land they work and find it difficult to raise credit. The system of marketing surplus products from this sector is inefficient and poorly controlled, mainly because of the wide dispersal of small-scale production and poor transportation and communication links.

The Ministry of Lands and Agriculture has established a market information service designed mainly to serve the communal sector and to provide information to other government agencies. Its extension service also acts as a provider of information to the communal sector, but the service is severely hampered by funding restrictions.

In the past few years it has become widely recognized that these market information systems are inadequate. DANIDA, the Danish development agency, has recently agreed to assist the Ministry of Lands and Agriculture in establishing a new market information service, and hopes to include key stakeholders in the decision-making processes for designing and controlling the service.

The Zimbabwe Farmers' Union receives assistance from several development agencies to represent the interests of communal farmers. The Union does its best to provide farmers with marketing information on an inadequate budget. It works closely with the government's extension services.

An export promotion agency, Zimtrade, has been established as a joint public–private-sector enterprise, but restricts its activities in the agricultural sector to fruit, vegetables and flowers.

Chapter 2

STUDY FINDINGS

The African agricultural sector suffers from a plethora of difficulties. The climate in many regions is notoriously unpredictable. Access to credit, storage facilities, transport, farm inputs and extension services are all limited. Legal rights of access to water supplies and the use of land are in need of reform. Many African governments have adopted liberalized economic policies, but monopolistic and dishonest trading practices are not uncommon features of African agricultural markets. Prices of Africa's main exported agricultural products are no higher now in US dollar terms than they were 20 years ago.

Organizations set up during the colonial period for both administrative and commercial purposes, and used since for the assembly of marketable quantities of goods by state marketing organizations, are falling into disuse. The evolution of new organizations, which could be used by farmers, processors and traders to operate successfully in a free market system, has not kept pace with governments' dismantling of public-sector control of the distribution and marketing of national production.

Agricultural production in these countries is dispersed over very large areas with a much lower population density and much poorer road and rail networks than in most industrialized countries. Most production is generated on a very small scale, and much of it is used by the farmers themselves or marketed informally to local consumers. In order to accumulate enough produce to make it commercially viable to transport by long-distance lorry or rail to a major town or port, several bulking-up operations may be involved. Farmers may bring what surpluses they have to a village market. The produce of several farmers may then be bought by a local trader, who sells it to larger traders, and so on. As there are few communication links between the producer and the final consumer, who may be several hundred miles away, it is perhaps not surprising that the prices paid by consumers often bear little resemblance to the price received by farmers.

To a great extent, the difference between farmgate and retail prices can be explained by the cost of transport, packing, finance costs and the trader's margin. Trading margins often need to be high to cover the risk inherent in such circumstances.

The importance of market information

European farmers and traders in agricultural products have access to over 100 Internet sites of interest to the industry. These give access to national and international agricultural commodity markets and constantly updated prices, company market reports, yield estimates, weather reports, and assistance with training and with financial and

legal problems. Specialist journals publish detailed information about potential new markets, trends in consumption, and news about companies involved in the trading, distribution and storage of products and the producers of farming inputs. Many radio and television programmes cover technical and business aspects of farming. Farmers' unions and growers' associations have marketing departments to help their members with specific information requirements. Agricultural trading companies distribute newsletters with their interpretation of market trends. More importantly, perhaps, the competitive climate of trade in agricultural products in Europe allows farmers to negotiate fair market terms and conditions for the sale of their goods and the purchase of their inputs.

The burgeoning demand for and use of market information about agricultural products in Europe reflects an appreciation throughout the industry that markets can be made more transparent and efficient if all stakeholders are made fully aware of market conditions.

Although the governments of the four African countries studied have committed themselves to policies that encourage industrialization, agriculture still employs more workers than any other sector and, with the exception of Botswana, remains their most important source of export income. If Africa is to make a success of its move towards economic liberalization, it too must place the provision of market information in a central position in its development strategy.

This study has identified an urgent requirement to develop market information systems in these four African countries. The efficacy of such systems will vary according to the economic environment in which they operate and, more particularly, with the type of marketing system which prevails in these countries.

The degree to which countries have implemented policies designed to encourage a more liberalized economy varies considerably. The domestic marketing of agricultural products in Ghana is controlled by associations of female traders (market queens). Although there are important negative aspects to this system, these associations are accepted as part of Ghana's traditional culture and perform a vital role in the agricultural sector. The Government of Ghana has instituted significant reforms to liberalize the economy and, apart from retaining control over the external marketing of cocoa, which is Ghana's most important foreign revenue earner, the production and marketing of agricultural products are carried out in the private sector.

Botswana is a major exporter of diamonds and has by far the highest *per capita* income of the four countries studied. For this reason, perhaps, the reform of its agricultural sector has not been regarded as an important priority. Its main agricultural markets are controlled by parastatal trading companies, leaving very little room for private sector trading activity. State-controlled agricultural marketing organizations have a semi-social role in guaranteeing food supplies and offering equitable market access to small-scale producers.

In Zimbabwe, parastatal marketing boards controlling the markets in cotton, beef, milk and other dairy products have been turned into commercial companies, but their retention of assets and know-how has enabled them to maintain a dominant role. The Grains Marketing Board remains in the public sector, but some competition has been sanctioned. Well organized commercial farmers have their own trading system.

Communal farmers, by contrast, suffer all the familiar problems of farmers elsewhere in sub-Saharan Africa. The private-sector marketing system operating in communal areas is inefficient for many reasons. Communication difficulties certainly represent a major factor, but the main problems are structural – a very large number of farmers producing goods of varying quality in quantities that are too small to offer traders commercially viable opportunities.

Ethiopia is only just emerging from the effects of a long period under a command economy system. The government's policy towards agriculture is dominated by food security after several catastrophic famines in recent years. A free market trading system is, however, evolving rapidly. A very poor road and transport system means that there can be many trading links between producer and consumer, resulting in large disparities between retail and farmgate prices. Poor regulation of the marketing system offers traders the opportunity to collude on sales prices.

The findings of this study make it clear that the development and support of market information systems in countries with such different domestic trading systems cannot be approached with a single strategy. Different groups of stakeholders in different countries have different strengths and weaknesses, and a varying capacity to make use of specific types of market information.

There is no doubt, however, that in all four countries the welfare of the farming community, the efficiency and transparency of the trading system and the development of the economy could be greatly improved with the provision of timely and appropriate market information.

Over the past few years, the benefits offered by improved information systems have become recognized as an essential component in the development of African agriculture.

> "The participants stress the need that this process must be underpinned by a series of positive measures such as a credit system with reduced transaction costs, local facilities providing advice and disseminating information on domestic and international markets...and decentralized technical and managerial training bodies."
>
> *Final Declaration,*
> *19th Annual Meeting of Representatives of*
> *ACP-EU Economic and Social Interest Groups, 1995*

> "It is recommended that the donor community supports African farmers' organizations to engage in collectively marketing their products, assist them with programmes aimed at acquiring know-how and market information and to make credit available."
>
> *Working document, Association of North–South Campaigns Conference on Commodities, 1996*

> "Efficient market information provision can be shown to have positive benefits for farmers, traders and policy-makers. Up-to-date, or current, market information enables farmers to negotiate with traders from a position of greater strength. It also facilitates spatial distribution of products from rural areas to towns and between markets. Well-analysed historical market information enables farmers to make planting decisions, including those related to new crops. It also permits traders to make better decisions regarding the viability of intra- and, perhaps, interseasonal storage. Moreover, information of this type assists agricultural planners and researchers and can make an important contribution to early warning of impending food security problems."
>
> *Shepherd, 1997*

> "A high level of uncertainty surrounds the activities of peasants in developing countries. This uncertainty reflects climatic factors more extreme in the tropics, unstable markets, paucity of information and insecurity due to low social and economic status. Information on prices, price trends, input use and cost can be useful in reducing uncertainty and the consequent risk aversion."
>
> *International Coffee Organization, 1998*

Without access to information, farmers are unable to decide when and where to sell and what price they are likely to get. Without answers to these questions, farmers often decide that the risk of losing an investment in packing and transportation is too high, and will not bring produce to market. This has the effect of reducing competition between suppliers. Traders may decide to buy in one location, only to find that prices have dropped to below their cost price at the location where they intended to sell. Knowing more about prices and other market conditions reduces market risk for both farmer and trader. A reduction in risk is passed on as a saving in the cost of transactions. "Farmers will alter their mix and quality of crops if they receive information which convinces them that by doing so they will gain a higher income" (Shepherd, 1997).

The terms of reference for this study state that

> "a sustained move toward market deregulation and increasing competitiveness in ACP countries will create a need for market information systems which can provide appropriate support for decision making".

The market information systems established in Ghana, Zimbabwe and Ethiopia have the important function of providing government agencies with the information necessary to assess inflation trends, estimate export earnings and develop and monitor government policies in agriculture.

Botswana and Ethiopia are net importers of food products, and Zimbabwe must rely on food imports in periods of poor harvests. Information supplied by government-operated market information services is a vital component in early warning systems designed to prevent food shortages, control strategic stockpiles and plan regional distribution programmes. This study found that government agencies are generally satisfied with the market information supplied for these purposes.

Farmers and traders engaged in the production and marketing of major export crops are adequately supplied with relevant market information by government and private-sector organizations. Suppliers and specialist government export promotion agencies find it more difficult to obtain relevant information about potential export markets for new or less important agricultural commodities. Although some sources of information are available to assist African exporters of agricultural products, these are far from comprehensive, and are often inappropriate and poorly promoted.

Unfortunately, one conclusion of this and other studies in this field is that state-operated market information systems have not been able to provide the information needed by large sections of the agricultural sector. Private-sector provision of market information has begun to evolve as parastatal marketing organizations are dismantled. The largest commercial producers and traders experience very little difficulty in obtaining the highest quality market information, supplied mainly by private-sector sources, about both domestic and international markets. Such services are beginning to utilize modern communications technology, which potentially has an important role in supplying the timely and relevant information needed by all stakeholders in agricultural markets.

The serious shortage of relevant market information, from both private and public sectors, that is available to small-scale and communal farmers producing products for the domestic market, is the most critical common feature of the four countries covered by this study.

Government-operated market information systems

A survey by the Food and Agricultural Organisation of the United Nations (FAO) in 1995–96 in 120 countries found that 53 governments operated a functioning market information system. The majority of these systems focused primarily on data gathering, but failed to translate data into commercially useful marketing information for farmers and traders.

The market information services operating in Ghana, Zimbabwe and Ethiopia conform to the definition proposed by the FAO:

> "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, policy-makers and others, including consumers."

It should be noted that the information offered by these services is limited and should be distinguished from marketing information which might include additional information about products, such as who they might be sold to; the quality requirements for particular markets; transportation to these markets; and the type of contractual conditions that should apply.

> "When farmers have access only to market information (i.e. basic market demand and supply data), then they are often in a position of **reacting** to market decisions. Access to **marketing** information, however, allows farmers to act more directly in the market place - they can select and improve the products they market, choose better marketing and delivery channels, do a better job in promoting products and, in some instances, even influence price."
>
> *Van Crowder, 1996*

Several other studies have identified serious shortcomings in market information services operated by the state. The range of data supplied by these services was found to be of little use to the bulk of decision-makers in the agricultural industry.

> "Output of these national marketing information services tends to be raw price data. This may be averaged or summarized, but it is not given further processing to make it informative for ordinary people."
>
> *Bay-Petersen, 1996*

> "Many countries have attempted to provide market information but their success rate has been poor. Market information services have repeatedly proven to be unsustainable and where they have endured they have often failed to provide commercially useful advice, confining themselves to the gathering of frequently unused data. The vast majority of [market information] services cannot be considered to provide commercially useful information to farmers and traders. A large percentage of market information systems are primarily data-gathering exercises and even this is done inadequately. Market information systems suffer because

> they are frequently operated by government officials who lack a commercial approach. More importantly, the majority face significant resource constraints."
>
> *Shepherd, 1997*

> "None of the traders interviewed in Ghana used the Government's fortnightly price broadcast as a source of information. They claimed that the price broadcast does not help them much to enforce higher prices or locate cheaper supplies since by the time the broadcast is made, prices have already changed significantly. Itinerant traders claim to possess more current information on prices and supplies than that given on the radio. A market queen at the Kintampo market commented that the data collected from them are not made known but [are] instead sent to Accra to be locked up in cabinets."
>
> *Kwaku Nurah Gyiele, consultant*

Our consultant in Zimbabwe, Boniface Mauwa, quotes from a report by the Danish International Development Agency on the Zimbabwean market information system operated by the Ministry of Land and Agriculture (MOLA):

> "There is a wide range of information available on the activities of the agricultural sector in Zimbabwe. Numerous organizations, private and public, gather information on marketing and production trends, but it seems that the MOLA does not have the capacity to sort this information and create an overview of where the real gaps are and how to analyse and present the information available."

In a survey of government-operated market information services conducted by FAO in 1994, each organization was asked to describe its main problems with the collection, processing and dissemination of market information.

The Central Statistical Authority of Ethiopia listed a lack of adequate facilities for data collection, a lack of up-to-date methodology in price surveys, a lack of training for data processing, and a shortage of personal computers.

The (then) Ministry of Lands, Agriculture and Water Development in Zimbabwe listed a need for a coordinated market information system, a lack of resources, and the lack of a system of information dissemination, especially for smallholders.

The Ministry of Food and Agriculture in Ghana identified a reduction in staff strength for data collection, lack of modern computers, and the high cost of dissemination of information through state-controlled media.

It is also apparent that the market information services surveyed in these three coun-

tries suffer from other, structural problems. Underfunding is one common feature, but a lack of proper monitoring and participation by other stakeholders is another. The output of information they offer, consisting typically of 15-minute weekly radio broadcasts and a monthly hard-copy bulletin, is meagre considering the elaborate methodology they employ. Market information systems in Ethiopia, Ghana and Zimbabwe are duplicated, in part, by other government agencies.

Market information systems for regional trade

Cross-border trade is an important feature of the economies of all four countries studied, especially for the three land-locked countries. Traders in agricultural goods from Togo, Burkina Faso, Côte d'Ivoire and Ghana travel extensively throughout their region where many communities share a common language. Botswana is dependent on food supplies from South Africa and Zimbabwe. Most Zimbabwean exports are transported through South Africa or Mozambique, and many trading houses and processors are owned by South African companies. Ethiopia is also a net food importer and coordinates its purchases with surrounding countries.

The major road and rail systems in Africa were designed in the colonial period as a means of transporting goods from mines, plantations and farms in the interior to the coast, for onward export to consuming countries in the rest of the world. The lack of transport systems linking different locations within the continent represents an impediment to regional trade. Many neighbouring countries in Africa share similar agro-ecological zones and therefore produce similar agricultural products. They are also likely to have similar consumption patterns.

An increase in trade among neighbouring countries is therefore likely to be limited compared to trade with major consuming countries which are unable to grow the type of products produced in Africa. But opportunities for regional trade do exist, for example when different neighbouring countries favour different tastes in staple foods (e.g. cassava, maize or rice in West Africa), or where one country might have better conditions to grow the crop favoured by its neighbour. There is also likely to be significant scope for utilizing processing capacity in one country to add value to products grown in another.

The governments of the four countries studied do not make a specific distinction between their efforts to promote regional trade and the provision of market information on regional trade, except insofar as they have formed regional economic communities.

The Economic Community of West African States, of which Ghana is a member, and the Community of Eastern and Southern Africa, which Ethiopia belongs to, are still in the process of eliminating tariff barriers and standardizing banking links but have not yet developed a market information system for agricultural trade.

The Food Security Sector of the Food, Agriculture and Natural Resources Department of the Southern African Development Community (of which Botswana and Zimbabwe are members) has an important role in coordinating early warning systems on food supply. It is also charged with coordinating information for the organization, but this does not include current market information.

The authors of a recent report produced on behalf of the Conference of Ministers of Agriculture of West and Central Africa recommended the establishment of regional units of African experts, assisted by a committee of agricultural stakeholders. This group's mission would be to analyse information and define strategic choices to assist in decision-making and negotiations.

The provision of more information specifically designed to assist regional traders would boost the volume of regional trade.

Market information systems for export trade

Exporters of agricultural products need to be able to identify overseas customers who are prepared to examine samples, test-market products, and brand them if necessary. They need to know which quality standards apply and how to judge the size and sustainability of potential sales. They must also know what conditions of sale they need to offer to attract the interest of a buyer. Some African exporters have access to such information comparable with any exporter in the world. However, many more producers fail to export successfully because they lack access to such information.

Large-scale commercial producers are generally able to procure through private channels the information they need to export their products successfully. The governments of all four countries studied have also ensured that state-owned companies responsible for marketing their country's most important export items are equally well informed.

Cocoa products represent 24% of Ghana's total exports (International Cocoa Organization, 1996), Tobacco represents 30% of Zimbabwean exports (SADC, 1996), and coffee represents fully two-thirds of Ethiopia's total exports (IMF, 1996). Of the four countries studied Botswana is least dependent on agricultural exports, but a large percentage of its population is engaged in the rearing of livestock, and meat products represent 3% of its exports.

It is now widely recognized that the system of using state-controlled marketing boards for the purchase and distribution of commodities has tended to distort markets, disguise inefficiency and stifle enterprise. When the very existence of the state depends on successful overseas marketing or distribution of a particular commodity, however, governments still take a keen interest in the process. Ghana and Botswana have

retained their monopolistic marketing boards for cocoa and beef, respectively. Zimbabwe and Ethiopia have chosen to retain a high degree of government control over the marketing of tobacco and coffee, respectively. In all four cases, the state acts on behalf of private-sector producers and traders, and applies all the necessary resources to secure the most accurate information available in order to obtain the best prices and conditions of sale for these products.

In Ghana, the export of cocoa is still undertaken by the state-operated Cocoa Marketing Board of Ghana (COCOBOD). This organization is responsible for the external marketing of all the cocoa produced in Ghana, and purchases most of the country's cocoa production from many thousands of small-scale cocoa producers (and some larger producers) through another state-owned company, the Produce Buying Company. Twelve private-sector trading companies have also been licensed by the government to purchase cocoa on behalf of COCOBOD, and these represent about 30% of total purchases. The price received by producers and the margin earned by traders are fixed by a government committee.

COCOBOD has a good reputation as a sophisticated and well informed supplier to the international market, maintaining efficient control of quality and utilizing hedging facilities on the international futures markets to try and maximize sales prices. The board retains recognized experts in the cocoa market in the main sales centres, attends all the main meetings of the cocoa industry, and has at its disposal the most modern means of communicating with other suppliers, traders, brokers, commodity market analysts and consumers.

In Botswana another parastatal marketing organization, the Botswana Meat Commission (BMC), maintains a monopoly for external sales of meat products (principally beef), although private traders and local butchers are allowed to purchase these products for local consumption. Most exports are made to Europe under a quota system, and the control of exports by a single organization reduces the problems of administrating this quota.

The BMC has three overseas offices staffed by professional meat traders who offer marketing training to employees from Botswana. It is equipped with modern computers, telephones, fax machines, e-mail and Internet connections.

In Zimbabwe, tobacco is produced both on large commercial farms and on small-scale farms in communal areas. The Tobacco Industry Marketing Board, a parastatal organization, is charged with ensuring the orderly marketing of tobacco in Zimbabwe. This includes giving equal access to both small- and large-scale producers (all of whom must be registered by the Board). In theory it is empowered to control the quantity of tobacco coming to the market, but in practice limits this to advising farmers to reduce production in periods of glut. The export of tobacco is in private hands. It is auctioned through state-licensed auction houses to processors and trading companies

who act as intermediaries for international tobacco merchants and consumers.

In Ethiopia the private sector is increasing its share of control of coffee marketing, but the industry is regulated by the Coffee and Tea Authority, a parastatal company. Although smallholders produce some 95% of coffee, there are some larger, commercial coffee estates including some state-owned farms. Coffee is sold at auction in Addis Ababa and Dire Dawa to international coffee merchants, both by private Ethiopian traders and by the state-owned Coffee Processing and Warehouse Enterprise (CPWE). Ethiopia is a member of the International Coffee Organization and the Association of Coffee Producing Countries. It participates fully in these organizations' functions and employs recognized coffee trade experts. The CPWE, which accounts for most sales for export, is regarded by the International Coffee Organization as being 'extremely well equipped'.

It is perhaps not surprising that these governments pay such considerable attention to export earnings, and these arrangements demonstrate that when the need arises, state-owned marketing organizations can gather and utilize all the available market information necessary to organize a first-class marketing operation.

Market information for less important exported commodities

Many dozens of different agricultural products are already exported from Africa, usually through long-term arrangements with local agents and subsidiary companies. It is likely that many more African countries could be internationally competitive in markets for fruit and vegetables, spices, ornamental plants and other non-traditional products. The growing international market in organic products is one in which African producers, who do not rely on artificial pesticides and fertilizers, might be expected to compete successfully.

More and better processing would result in adding value to the goods produced. There are also signs that Africa is being considered a more important source of nuts for the snack industry. Efforts are being made in many African countries to solve quality problems associated with the processing of peanuts, macadamia and cashew nuts to bring them up to international standards.

Producers are often ignorant of the international price of these products, and do not know how to find alternative outlets. They need a method of discovering the latest market prices for these goods (Box 2.1), translated into 'delivered port' or 'free-on-board' prices. They need to know what type of packaging and what quality specifications are required in individual markets. They also need information about other potential customers and how to go about making sales to importers in consuming countries without necessarily selling through local agents.

The quality of expertise and resources that are made available to assist in successfully exporting the most important agricultural products contrasts with those available for new and less important agricultural goods.

Box 2.1 The need for an appropriate market information system

The export promotion agencies contacted during this study complained of severe shortages of communications equipment, insufficient budgets and a shortage of trained staff.

A number of recent initiatives have been taken by multinational agencies (see Chapter 4) to provide Internet links to international commodity markets. Unfortunately, most trade on international soft commodity futures markets is not particularly relevant to African producers. The only commodities traded on these markets that are of direct relevance for Africa are coffee and cocoa. The prices of coffee and cocoa traded on the London International Financial Futures and Options Exchange and the Coffee, Sugar and Cocoa Exchange in New York truly reflect the prices African producers receive. Forward prices for coffee and cocoa traded on these markets can be used as a basis for pricing forward deliveries of these products and, just as importantly, they offer a hedging facility to African producers to fix minimum sales prices.

The international market for sugar is much more complex. Several African countries have sales quotas for the EU market at prices which are much higher than those on the 'free' international markets. The prices obtained for large, bilateral contracts, including those for cane sugar and sales of surplus EU beet sugar stocks, are often arrived at by secret negotiation between giant sugar-dealing companies. Formal futures markets do not offer a reliable pricing or hedging facility for the African producer.

Cotton prices traded in the USA reflect mainly the supply and demand in the local US market. Prices for some deals in African cotton reported by the Liverpool Cotton Service are estimates only, and cannot give African farmers a very accurate idea of the price they could obtain on forward sales. Soya, maize and sorghum prices traded on US markets again reflect the trading conditions in America. Prices traded on the South Asian palm oil markets give African producers an idea of the general price trend, but are unlikely to coincide accurately with the international price for African palm oil.

Only a comparatively small number of commodities are traded on futures markets where traded prices, delivery dates and sales conditions are publicly available. The bulk of commodity transactions are made in private negotiations between producers and international trading companies, or between traders.

A more accurate system of assessing the true international market value of the scores of agricultural products exported by African countries could be devised, as has been done in the main consuming regions of the world – notably in Europe and North America. This would involve the establishment of an organization having close relationships with traders and sellers in the African market.

Dr Gyiele Nurah reports that exporters in Ghana are inexperienced. They lack well established markets, market channels and contacts, and an adequate knowledge of export procedures and marketing practices. Complaints of poor product quality, inadequate freight space, price undercutting and poor timing of harvests are not uncommon.

The Governments of Ethiopia, Ghana and Zimbabwe have recognized this problem and have established agencies (usually within government departments) to promote the sale of their countries' products abroad. These agencies are not linked directly with government-operated market information systems or with the marketing structures used for the main export products. In 1998 the Government of Botswana established the Botswana Export Development Agency, an autonomous, government-funded body which is likely to play the same role as the export promotion agencies in Ghana and Ethiopia.

These agencies conduct market research on behalf of local producers, and provide market information. Such organizations would typically organize trade fairs in countries which represent a market for their goods, and produce promotional materials such as brochures describing the country's products and listing the names of exporters. They also run enquiry services to answer questions and make business connections for potential overseas customers. In addition, they try to discover what products could be successfully exported, and help producers of these products to identify customers and overcome the logistical and bureaucratic difficulties of delivery and payment. They may even help exporters in their negotiations with buyers. With the exception of Zimtrade in Zimbabwe, these organizations do not receive fees from the exporters that they have helped, and rely on state funding with some assistance from development agencies.

Although these agencies make an important contribution to their countries' efforts to improve the volume and value of exports, they are seriously constrained by lack of resources and experience of international trading in agricultural commodities. Zimtrade confines its provision of information on agricultural products to the horticultural sector.

As public expenditure in all four countries is being continually reduced, promotion agencies are obliged to work within ever-tighter budgets. Currently, the export promotions agencies in these countries rely to a great extent for market information on the few international organizations set up to help third world exporters. These are the International Trade Centre, FAO, the World Bank, the Commonwealth Secretariat and the Europe-Africa-Caribbean-Pacific Liaison Committee for the Promotion of ACP Horticultural Exports (COLEACP). They also rely on the remaining organizations established in consuming countries to assist exporters in developing countries, such as the Centre for the Promotion of Imports from Developing Countries in the Netherlands, and those in Canada and Sweden. Limited funding is also available

from international development bodies and some non-governmental organizations (NGOs) to assist these agencies.

In theory, export promotion agencies could have access to the international wire services carrying commodity market information, such as Reuters, Bloombergs and Bridge News. But subscriptions are expensive, and the information carried is designed mostly for international trading houses and is likely to be useful only to the very largest African exporters.

Chambers of commerce

Chambers of commerce in different countries around the world vary from autonomous bodies with a voluntary membership to state-controlled organizations that companies must join as part of their legal registration. Some are locally based, others nationally. National chambers of commerce have affiliated with each other to form regional and international organizations such as the International Chamber of Commerce to provide arbitration services and advice. In recent years, chambers of commerce have established international links through Internet and e-mail networks, including the Worldwide Network of Chambers of Commerce and Industry (www.worldchambers.net), which offers a number of different services including a registry of members, a business opportunities bulletin board and e-mail facilities for contact between buyers and sellers. In these systems, however, there is no specific service to provide current market information on agricultural commodities from an independent source.

Those trading companies based in Britain and The Netherlands specializing in trade in African agricultural products which were contacted during the course of the study did not use any chamber of commerce websites, but preferred to use established commercial links and local agents.

Typically in the four African countries studied, chambers of commerce represent larger industrial, service-sector and trading companies, and offer members low-cost access to photocopying, fax, telex and the Internet, a library of trade journals and directories, a national business registry or database, market research reports, and an enquiry answering service. They also organize trade missions, workshops and seminars. Invoices and certificates of origin need to be certified by chambers of commerce or other officially recognized bodies in order to comply with international trade regulations.

The Ghana National Chamber of Commerce is a founding member of West African Chambers of Commerce. In 1989, with the assistance of the United Nations Development Programme, the International Trade Centre, the United Nations Conference on Trade and Development (UNCTAD) and the World Trade Organization, the West African Trade Information Network was established for Anglophone West African

Countries – Ghana, Liberia, Nigeria and Sierra Leone – designed to inform entrepreneurs of timely business opportunities in the sub-regional commercial exchanges.

Market information systems for domestic trade

The principal emphasis of this study is on national and regional markets rather than international markets and cash crops. Small-scale farmers represent the vast majority of agricultural producers in these countries and they are responsible for feeding the bulk of the population. Most of these farmers are isolated both in spatial terms and in their lack of access to communications technology. Most small-scale farmers produce for the domestic market, and it is in this field of enterprise where market information would be most useful for the farmers themselves and the economy in general.

At a very local level, farmers are good at gathering information from nearby village markets, for instance, using it efficiently, and disseminating it by word of mouth to their neighbours. The greatest obstacle to market transparency occurs at the provincial and national level for farmers with a surplus which is too large to be absorbed by the informal local market. Market efficiency is radically affected by an inadequate flow of market information between producers, locally based small-scale traders, and traders in provincial and national market centres. Lack of appropriate information puts farmers at a serious disadvantage in their negotiations with traders.

> "The dealers who buy produce have a vested interest in keeping farmgate prices low and minimizing their risk. Generally they have much better access to market information than the small-scale farmers they buy from. It is common for farmers to end up bearing the greater part of the risk, while the dealers end up with a greater part of the profits."
>
> *Bay-Petersen, 1996*

If willing buyers are unable to communicate with willing sellers, products can go to waste. Dr Gyiele reports that in most parts of Ghana, it is estimated that between 30 and 50% of cassava is left unharvested.

The role of traders in domestic markets

This study has produced ample evidence that, under poorly regulated conditions, traders with their relatively superior knowledge of the market take advantage of both producers (especially small-scale, isolated farmers) and consumers. There is also evidence that in some circumstances traders collude to fix both buying and selling prices. In Botswana, the Agricultural Marketing Board remains convinced that it is disadvantaged by collusion amongst traders, even on very large-scale transactions.

In Africa today it is impossible not to be reminded of Adam Smith's famous maxim:

> "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices."

The importance of the role of traders in agricultural products in these countries should not be underestimated. Even where anecdotal evidence of unfair practice is most prevalent, traders take considerable risks. Smaller traders also suffer from a lack of up-to-date market information and can lose heavily, especially on more volatile markets such as horticultural products. With considerable distances to cover, transport costs represent a high proportion of the value of delivered products. If agricultural goods become spoiled or roads rendered impassable or dangerous, as is often the case in rural Africa, the total value of a purchase may be lost.

With the exception of Botswana each country is endowed with an active trading community, from village retailers dealing in a few kilos of locally produced goods, to multinational trading companies responsible for marketing the bulk of Africa's exports. But each marketing system suffers from varying degrees of inefficiency which could be addressed in part by proper regulation of trading practice, but also by the provision of appropriate, timely and accurate market information.

In Botswana, the marked absence of private traders means that the country cannot properly utilize its productive potential and must rely heavily on imported agricultural products that could, to a significant extent, be produced at home. Farmers of horticultural products must 'wear two hats' and fill the role of the trader to find customers for their products.

In a liberalized economic environment much of the information required by producers can be obtained only from the trading community, but traders are often unwilling to cooperate, even with government agencies, if they feel that the publication of such information is not in their interests. In Zimbabwe, for instance, several private- and public-sector organizations were convinced that some traders go so far as to give false information in order to manipulate markets in their favour.

In any strategy designed to improve the availability of market information, it is of vital importance to convince the trading community that increased information leads to more efficient markets and a greater volume of trade, and thus it is in their interests to participate fully.

Modern communications technology for domestic market information

Africa lags far behind the rest of the world in its acquisition and application of modern electronic communications technology, but there are many instances where such technology is used effectively to exchange useful information about the markets of agricultural products. In the small part of Ghana where the service operates, market

women use cellular telephones in order to discover essential information about the tomato market; the Commercial Farmers' Union in Zimbabwe has a home page site on the Internet (www1.samara.co.zw/CFU/); the Botswana Meat Commission utilizes modern communications equipment as well as any European trading company. Government departments charged with the collection and dissemination of market information utilize computers and specialist software to process data, but their performance could be greatly improved with more and better equipment.

Many traders, farmers, farmers' unions and growers' associations have indicated to our consultants that they are aware of the advantages of using modern communications equipment and could readily make use of it if they could acquire it.

Pamela André, Director of the US National Agricultural Library, states that "evolving information technologies are one of our best hopes for providing agricultural information where it is needed, when it is needed, regardless of geographical location or other definitions of 'remoteness'." (André, 1996).

It is clear that the speed at which new technology is spreading in all parts of the world, combined with the falling cost of communications, will have an impact on access to information in the African agricultural sector. For most small-scale farmers and traders, however, such innovation remains a distant prospect. Low as the numbers benefiting are (Table 2.1), the increase in the number of telephones *per capita* in some countries is substantial. In Ghana and Botswana the number of telephones in use nearly doubled between 1993 and 1997; in Zimbabwe there has been a 60% growth in a similar time period, but in Ethiopia there was no increase.

In Ghana, the use of telex, fax, e-mail and the Internet has hardly started. Dr Gyiele reports that a few companies utilize the new cellular telephone system but their coverage is limited to the immediate vicinity of the two main cities, Accra and Kumasi. There are no telephone connections to any of the 200 or more rural town markets in Ghana. This means that traders and farmers are obliged to travel extensively by truck, bus, motorbike or car, and often return more than once to the market to check how prices have changed before making a transaction.

Large-scale traders have been the first group of stakeholders to acquire all the modern communications equipment they need to keep themselves informed about market conditions in provincial and national markets. This has had the effect of widening the information gap between the more and less powerful groups in the agricultural industry.

As Jan Bay-Petersen warns us, "In our enthusiasm for what electronic information systems can do, we must not forget the problem of equity. If this is overlooked, it seems likely that unequal access to highly effective information systems is going to follow and reinforce the present inequalities of wealth. If we emphasize electronic

Table 2.1. Comparative connectivity

Country (population)	Telephones: Lines per 100 people (1996)	Telephones: Public phones per 10 000 (1996)	Telephones: Cellular phone sub-scribers	Fax per 100 people (1996)	Computers: PCs	Computers: Internet hosts (1997)
Botswana (1,459,000)	4.09	4.36	–	0.34	10,000 (1997)	24
Ethiopia (58,506,000)	0.25	0.26	–	0.16	na	78
Ghana (17,832,000)	0.44	0.25	12,766 (1996)	0.5	20,000 (1995)	252
Zimbabwe (11,832,000)	1.47	1.99	11,300 (1997)	0.41	80,000 (1996)	599
UK (58,533,000)	52	49.03 (1995)	9,000,000 (1997)	8 (1997)	10,000,000 (1995)	440,000 (1995)

technology too much in agricultural information we may find that we are helping only those who already have the best access to information to get more of it" (Bay-Petersen, 1996).

The greatest improvement in communication for the medium-term future is likely to come from the use of less sophisticated technology such as telephone and radio. Electrical and telephone connectivity is still very poorly developed in all four countries studied, and is mainly confined to large towns and their surroundings. Programmes to develop cellular networks are growing rapidly, but the challenge will be to offer access to such equipment to individuals and organizations in the agricultural sector who cannot afford it.

The role of radio in domestic information dissemination

Radio is clearly the most effective and appropriate means of communicating information in remote areas to farmers, many of whom have poor literacy skills.

Ownership of battery-operated radios is widespread and the development of a clockwork radio (see Box 2.2) means that even the lack of access to batteries need not be a problem. Furthermore, the development of local FM radio offers the prospect of broadcasting information about local market conditions in the local vernacular.

> "About 95% of retailers, wholesalers and farmers cannot read and write, making the dissemination of market information through newsprint very difficult. Price announcements made in English are understood only by about 5% of market participants."
>
> *Kwaku Nurah Gyiele, consultant*

Box 2.2 Clockwork radio

The clockwork radio was invented by Trevor Bayliss in the UK in 1994. It was funded primarily by the then UK Overseas Development Administration (now Department for International Development). It is currently manufactured in a modern factory employing 35–40% people with special needs outside Capetown, South Africa.

Numerous NGOs and humanitarian organizations in Europe, Asia and America have endorsed the radio. These include the Red Cross and the UN. The radio was initially intended for people in developing countries where affordable energy is scarce or non-existent.

The radio utilizes personally generated energy, and has no need for expensive and polluting batteries or any external power source. The energy storage and release mechanism is based upon energizing a steel spring by winding it from one spool to another. As the spring returns to its original position, it releases its energy and applies rotational torque into transmission. The transmission consists of a gear box which drives a direct current generator, providing energy for the radio receiver.

The clockwork radio is a three-band (AM/FM/SW) radio and will work for 30 minutes following a 30-second winding. A new version of the radio, with a built-in solar panel, has recently been developed.

The radio has been designed to work in developing world conditions and has been thoroughly tested in adverse environments. It is well equipped to deal with dust and heat, it is extremely durable, and the wind-up mechanism lasts for years. Although the purchase cost is fractionally higher than for a conventional radio, the savings in energy costs soon make up the difference.

Unfortunately, access to radio airtime has become increasingly limited as some governments attempt to put state-owned radio stations on a commercial footing. Some balance needs to be achieved between the cost of making broadcasts to assist farmers and the overall benefit to the economy which would result from better market awareness.

Andrew Shepherd and Alexander Schalke found a commitment on behalf of the government in Indonesia:

> "Daily radio broadcasts are an essential component of the impact of the MIS in Indonesia. They require a considerable commitment by the staff

> of the MIS to ensure that the texts of the radio broadcasts reach the radio stations every evening. While time availability on the radio is a slight constraint, Indonesia does not presently encounter the problems faced by many other countries where radio stations require large payments in order to carry MIS broadcasts. Any country wishing to establish an MIS should, from a very early stage, ascertain the willingness of the media to carry market information, and the likely costs involved."
>
> *FAO, 1995*

There are some hopeful indications that local groups will, on their own initiative, make use of local radio stations if they become available. For instance, at the beginning of the harvest, particularly for perishable crops, some villages in Ghana broadcast messages on the local FM radio to announce that their harvest has started.

No cases of funding market information broadcasting from advertising were identified in the four countries investigated. Advertising revenue is being used more and more to fund state-controlled radio stations in the trend towards commercialization and privatization of state assets. Privately owned stations are also being established, funded entirely by advertising. Advertising directed towards farmers with little spending power is not considered to be commercially viable. NGOs and other development agencies in Zimbabwe have paid for radio station charges, but the trend has been to cut the length and frequency of broadcasts as these charges increase.

In some Asian countries, banks and companies supplying agricultural inputs have sponsored broadcasting and other means of disseminating market information. In the African countries studied, however, it was found that access to credit is very much a seller's market. Banks have no difficulty finding borrowers in the agricultural sector for the limited credit available and see no need to advertise by way of sponsorship. Manufacturers and distributors of machinery and farm inputs such as agricultural chemicals or seeds are easily able to identify the comparatively small proportion of large-scale producers and processors who can afford their products without resorting to public advertising.

Evaluating the efficiency of domestic and export market information systems

Although significant extra costs can be attributed to the lack of availability of market information, the cost of providing information also adds to the costs of transaction. The cost of government-operated market information services varies considerably. As one might expect, industrialized countries offer highly efficient and elaborate services to the agricultural sector and can afford the high cost involved. According to Bay-Petersen (1996), Japan's Ministry of Agriculture, Forestry and Fisheries spends US$9.5 million per year on maintaining and operating its information service for fruit and vegetables alone.

The market data collection and dissemination operation of the Central Statistical Authority of Ethiopia costs US$1.5 million per year. The budget for the first 2 years for the new DANIDA-funded market information service in Zimbabwe has been set at US$500 000. The Government of Ghana put an annual cost of its market information service at a modest US$10 500 in 1994. The true cost may be much higher (possibly covered by other Ministry budgets), as it employs about 80 people.

None of these African market information services is sufficiently well monitored for us to determine how cost-effective they are. It seems clear that, however useful they might be in providing information to other government agencies, they have proven extremely inefficient at providing the market information needed by most players in the agricultural industry.

Large-scale commercial enterprises can afford to choose the type and quality of market information they think appropriate for their needs, and one can assume that the choices they make are cost-effective.

The collection and dissemination of market information at the very local level by word of mouth among farmers and small-scale traders in all four countries can be efficient, especially in local homogeneous groups based on family or a common language or culture.

With the exception of Zimtrade in Zimbabwe, government-sponsored export promotion agencies are fully funded by government or international development agencies. The benefit offered to exporters by these agencies would be extremely difficult to measure.

Any programme designed to establish sustainable and cost-effective market information systems must recognize that many of the most disadvantaged groups of stakeholders must first be supplied with the means of taking advantage of the information offered. Market information systems alone cannot improve the welfare of their intended beneficiaries. Farmers can only benefit from market information if they have the means of altering cropping patterns, holding stocks back under poor market conditions, negotiating with more than one customer, and arranging transport, as the need arises, to more than one destination. Sadly, many African farmers are unable to do any of these things.

Likewise, many small-scale traders have no other option but to buy from a limited number of suppliers and sell to a limited number of customers. They lack the market power and access to credit necessary to obtain higher prices, even if they know that the prices and conditions they are being offered do not conform to those on the wider market. Based on an examination of existing examples of the use made of available market information, it is apparent that success depends on the nature of the groups which receive the information and the relationships such groups have with other stakeholders.

Unfortunately, this study did not identify any examples of market information systems providing the information needs of stakeholders in a particular location or agricultural sector that were operated and controlled in full partnership between local or national government and stakeholders.

The role of banks and their information requirements

Banks play a major role in African agriculture. Agriculture is seen by many banks as an intrinsically risky business, and they prefer to lend to industry, trading or other services where larger organizations in these sectors can provide collateral, business plans and cashflow forecasts.

In all four countries studied, the government has either state-guaranteed or subsidized sources of credit for farmers, but these are usually very limited. Those banks in the private and public sectors that do offer credit to the agricultural sector prefer to lend to large-scale enterprises.

In 1977, the Agricultural Finance Corporation of Zimbabwe lent Z$711 million to 1625 of the estimated 4500 commercial farmers, but only Z$161 million to 20 145 of the estimated 750 000 communal and resettlement farmers.

Banks need to approve loans to both farmers and traders. In order to assess the risk on these loans they must know a great deal about the industry. Most banks that lend to this sector have agricultural divisions staffed by agricultural experts who can make accurate forecasts of the likely return on the capital advanced and the risks involved. They closely monitor all the information on agricultural markets made available from government and private sources. Banks, however, compete with each other for business and are not generally willing to make publicly available the information they gather and process.

> "The commercial banks offer a wide range of services in support of market information activities. However, most of this information is collected to enable the bank to carry out their work, such as project appraisal and evaluation. Thus banks collect this information not primarily for dissemination purposes but for internal bank use."
>
> *Boniface Mauwa, consultant*

The growth of credit unions and local banking trusts has been a continuing feature in Africa over several decades. Several international initiatives have been launched to support these 'micro-banks', including an UNCTAD-supported credit line from the Banque Internationale in Luxembourg; several 'ethical' banks established in industrialized countries offer similar loans. The Canadian Co-operative Association supported by the Canadian International Development Agency has initiated a programme to establish and support credit unions in Africa.

Most credit unions in Africa are 'workplace-based', offering credit to teachers, factory workers, truck drivers, etc., but some have been established to serve local agricultural communities. Where they exist, they could be used to disseminate market information.

Chapter 3

CONCLUSIONS AND RECOMMENDATIONS

This study has discovered many instances where all but the very largest stakeholders at all levels and at every link in the chain of commercialization, the filière, could gain significantly from appropriate and well defined programmes offering access to market information.

The significant differences in trading systems in all four countries mean that no single set of recommendations can be made for these countries.

There are also differences between market types within each country, especially the differences between large, commercial structures and atomized, small-scale structures, and differences between production and trading for export and production and trading for the domestic market. Recommendations for improving access to market information must take these differences into account.

The requirements of government agencies for market information are significantly different from those of producers, processors and traders, especially those in the private sector. Recommendations for improving market information systems in these countries must reflect this difference.

There are, however, certain common problems affecting access to market information between countries and between different sectors, which can be addressed with the same general approach.

Market information for government agencies

Officers from government agencies who were interviewed during the course of this study indicated that they were generally satisfied with the type and quality of information about domestic and international agricultural markets needed for monitoring and planning purposes. In most cases the systems used to gather such information appeared to be over-elaborate and were often duplicated, but this problem is a matter for the governments concerned.

Unfortunately, these systems are integrated with the states' provision of information to the wider agricultural industry, and this is an area where serious deficiencies have been identified.

Once a government-operated market information system has been established it has a built-in resistance to its own monitoring. Ideally, market information systems should

be responsible to the stakeholders who need the information provided, but since (in the medium term) this may be expecting too much of the governments funding these systems, some method of independent monitoring should be implemented.

It is recommended that governments should be encouraged to establish independent monitoring mechanisms for market information systems which would reflect the interests of all stakeholders.

Market information for exports

There are several international organizations dedicated to the promotion of African exports, including some that provide market information for agricultural products. The Governments of Ghana, Zimbabwe and Ethiopia have established agencies designed to assist exporters successfully to market their goods abroad. Associations representing producers and traders of exportable goods help their members to find markets and to provide useful information. Chambers of commerce, supported by development agencies, utilize their links with the International Chamber of Commerce networks to help African companies, including those involved with agricultural products, to provide some types of marketing information.

The information available to exporters of each country's main agricultural export product is of high quality and, provided that the existing systems of provision retain their present levels of support, is adequate.

However, information of the type and quality needed to exploit the export potential of other African agricultural goods is inadequate.

Development agencies have promoted several recent initiatives aiming to link African exporters with sources of business and trade information using modern communications technology. These include the WTO/World Bank Information for Technology Initiative; the African Information Society Initiative of the Development Information Services Division, UN Economic Commission for Africa; UNCTAD's Trade Points; and the ACP-EU Trade Information System. Chambers of Commerce have also established the Worldwide Network of Chambers of Commerce and Industry. These services do not carry up-to-date information about agricultural markets, however.

Most international companies specializing in trading agricultural commodities with Africa are inundated with unsolicited offers of produce, and have learned to ignore them. These offers are usually poorly worded and reveal a lack of understanding of the often detailed market requirements of the trader. These traders prefer to use their own agents or other trusted intermediaries to contact producers, and to assess the quality of their products and their ability to deliver them to the required specification. African exporters need access to much more detailed information about required

specifications and current market prices if they wish to attract the attention of potential foreign customers.

A service specifically dedicated to the provision of essential agricultural market information on a wide range of African agricultural products should be established to assist African exporters and agencies involved in the promotion of African exports. Such a service should form a new component of existing trade information networks.

There is a widely held but false assumption that the future prices of agricultural commodities can be predicted. Even the largest international trading houses, which have every means of collecting and analysing the most accurate data available on growing conditions, stocks, yield predictions, consumer trends, plant diseases, etc., often lose fortunes by making wrong predictions. If the largest market players could accurately predict future prices, these markets would not be anything like as volatile as they are.

Governments should not be in the business of using market price predictions to advise farmers on what products to grow, when to grow them, or how much should be produced. There are, however, certain trends in consumption that can be predicted and which the agricultural sector could make use of.

Along with the virtual demise of several international commodity agreements there has been a long-term downward trend in commodity prices. The prices charged for these products in the supermarkets of industrialized countries have not reflected this downward trend, however. This growing price differential between processed and unprocessed products offers an opportunity for producing countries to earn greater revenue by adding value to their products by more processing and vertical integration.

Consumers in industrialized countries are making ever-increasing demands for higher quality agricultural produce and for safer, more hygienic food. Exporters must be prepared to install better and more modern quality control systems if they wish to compete in these markets. Foreign consumers also prefer branded products which can be advertised more efficiently and confer guaranteed quality standards. They are also looking for a greater variety of products, creating niche markets for some goods.

Government market information services should be supported in their efforts to collect and analyse such information, and to pass advice based on this information to producers, processors, investors and exporters.

Many small- and medium-scale African producers of primary and processed products are daunted by the prospect of exporting for the first time. In order to export, producers are faced with two classes of problem.

- There is a need to offer products which comply with the quality standards demanded in the consuming country. These could include phytosanitary standards, appearance, packaging, etc.
- There are commercial, logistical and bureaucratic obstacles involved in exporting. These include identification of overseas buyers, foreign exchange banking arrangements, customs declarations, certificates of origin, transport documentation, etc.

It would be useful if potential exporters could tackle the first of these two types of problem before attempting the second. The first set of difficulties could be tackled by acquainting producers with the quality problems involved in supplying those consumers in their own country who demand the same quality specification as consumers in major consuming markets.

Governments should encourage those national consumers who purchase goods produced to international standards, including airline catering companies, international class hotels and holiday resorts, to discuss their purchasing requirements with potential local suppliers.

Market information for regional trade

The Economic Community of West African States, the Community of Eastern and Southern Africa and the Southern African Development Community were all established to promote political and economic links between neighbouring states. These bodies have not yet created the necessary agencies to provide information about agricultural markets within their regions, which would assist in the development of trade in these commodities.

The scope for increasing regional trade in Africa is limited by those factors discussed above. It is unlikely that new opportunities for regional trade have been fully explored. The prospect of growing a product in one country and utilizing the capacity for processing in another may represent a particularly important element in any increased trade.

A thorough study should be undertaken to identify potential trading opportunities which have not yet been exploited between neighbouring African countries. Such a study should be used to make recommendations on how regional market information systems could be improved.

Market information for the commercial-scale agricultural sector

This report has not attempted to offer precise definitions of the many types of agricultural enterprises in the four countries. Economic differences and the differences in marketing systems would, in any event, make this a highly complicated task. It can be said, however, that in each country there are private- and/or public-sector

agricultural enterprises which are well financed and managed along the lines of similar enterprises in wealthy industrialized countries. For the purposes of this report, such businesses are described as commercial enterprises.

In general, these enterprises are well resourced in terms of managerial and marketing skills, capital equipment and communications technology. They are also well organized as a sector and have formed themselves into growers', processors' and traders' associations. These associations are equipped to gather and disseminate appropriate market information for the use of their members. Many of these enterprises are able to use their own staff or agents to collect all the market information they need directly from domestic and international sources. Subsidiaries of multinational companies are usually provided with further market information by the research departments of their head offices.

Larger-scale farmers and traders, farmers' cooperatives and associations are likely to be able to make use of statistics which demonstrate long-term price trends, national and regional stock levels, planting intentions, import requirements, national yield estimates, demand indicators, etc. Such information needs to be collated at the national level, but is less time-sensitive than information on price movements, for instance. It is possible that users of this type of information would be willing to pay a fee to the government agencies that supply it.

It is important to recognize the links between the commercial enterprises and the rest of the agricultural sector. Many of these enterprises in Zimbabwe employ communal farmers as out-growers. Some offer packing facilities to smaller farmers, and many commercial trading companies purchase their goods from small-scale local traders and from traders in the informal sector.

In Ghana, commercial farmers live with small-scale farmers and may well be blood relatives of some of them; any current information received by them is immediately passed on to small-scale farmers in the vicinity. In order to maintain and support these linkages it is necessary to include commercial enterprises, where appropriate, in strategies designed to improve access to market information.

> "To overcome possible abuse of market power through preferential access to information, it is desirable that market information be available to all who can use it"
>
> *Shepherd, 1997*

Market information for small-scale producers and traders

The terms of reference for this study reflect the movement in ACP national and regional priorities towards improving welfare in rural areas and increasing farmers' wealth.

The overwhelming majority of people who make their living from agriculture in Africa could gain most from the provision of appropriate market information, yet these many millions of people are the least well served by existing market information systems. Establishing new systems and improving those that do exist represent the greatest challenges in this field.

This study concludes that the approach towards improving market information provision must be designed to suit the different marketing systems that have evolved in each country. Such systems cannot be imposed upon potential users, but must be designed and operated with their full participation.

Critical information requirements

In general, small-scale producers and traders are well informed about conditions in their nearest local market, but they need to be able to compare local market conditions with those further away. Transporting goods to the capital city, a tourist centre or even the nearest town may not always be feasible, but knowing the latest price traded in these other markets enables them to judge whether the cost of extra transport would be profitable, and to judge whether the price being offered by a particular trader who serves those markets is fair. They also need to know about the differences in price between one grade of product and another. These differentials may change over time, but there may be periods when it is worth the producer's time to improve the grade of their product by extra sorting, improving production methods or growing a different variety of the crop.

In many isolated areas, the volume of trade is too small and too widely dispersed to generate a livelihood for more than a few traders. Some traders will take advantage of the lack of competition to defraud farmers on either price or performance. They may also collude with other traders to keep farmgate prices low. Farmers need information on individual traders' track records, so that they can avoid those who are untrustworthy. The availability of this information is likely to improve the performance of traders generally.

These are the most important kinds of information required by small-scale operators in the African agricultural industry. So how can such information be gathered and disseminated within the limited resources that are likely to be available?

Market information provision

At present, centrally based, government-operated market information services are unable to provide this type of service. One option would be to boost the resources of these national operations. Several major development agencies have already taken this option. DANIDA has recently agreed to finance the new market information system in Zimbabwe; the US Agency for International Development is helping to

establish the new market information system in Ethiopia; and the UNDP and FAO have assisted Ghana in its market information service. This option is unlikely to be cost-effective or sustainable, however:

> "Often set up by donors, they [market information systems] have proven to be unsustainable once donor support has been withdrawn"
>
> *Shepherd, 1997*

Market information systems suffer from several kinds of structural problems, discussed above, which have tended to make them over-bureaucratic, over-elaborate and out of touch with the providers and users of information. The difficulties of transmitting local information to a central body add to costs and delays in reporting.

There is a danger that the patchy performance and high cost of government-operated market information services will discourage further assistance for this purpose and may even negatively affect peoples' opinions of market information systems in general. It remains true, however, that the bulk of participants in the agricultural sector are too poor to provide proper market information for themselves, and that new or better information systems offering a service to these participants should involve government agencies.

> "This (the movement away from state-sponsored marketing) has been accompanied by a recognition that if marketing activities formally carried out by the state are to be taken over by the private sector then some government support needs to be provided to promote the creation of a competitive market."
>
> *Shepherd, 1997*

The most obvious method of disseminating information is by radio. Many farmers are illiterate and speak local languages or dialects. In Ghana, 50 different languages are spoken. Ethiopia has three major language types, each with at least a dozen separate dialects. Information disseminated at the local level can use the local vernacular.

The trend in all four countries studied is toward the commercialization of state-controlled radio services and the encouragement of competing private stations, often using FM transmission. In April 1998, the Government of Botswana put out invitations to tender for two new private radio stations, and in Ghana some district assemblies are proposing to invest in their own local stations. These new services could be utilized to carry market information designed specifically for local use. It has been estimated that almost all villages in Ghana and Botswana have at least one radio. The situation in Zimbabwe and Ethiopia may be different, but the cost of radio sets is low, especially if an entire village can share one set. The advent of the clockwork radio (see box, page 26) may make broadcast information even more accessible.

Dissemination of market information can also be achieved less successfully by other means. The posting of billboards at market places, shops, churches, schools, lorry depots, bus stations, clinics, storage depots and other public places has proved useful in some circumstances. (Women represent a significant proportion of African farmers and, especially in Ghana, of traders. Dissemination of information through women's groups and schools and clinics may be effective in reaching women.) The provision of public address systems in larger markets may also prove useful. The information provided needs to be updated regularly if it is to reflect swiftly changing market conditions which, again, suggests local organization.

Growing conditions vary considerably over the countries in question. Different areas specialize in different crops, which means that growers and traders in one area may not have the slightest interest in information about the markets for goods produced in another.

Most crop production is seasonal. Market information is of critical importance only immediately before and after harvesting. If a particular region produces only one or two crops for onward trade, it may not need to rely on a year-round information service.

The market conditions for some products (especially non-perishable products such as spices, fibres and waxes) are often comparatively stable compared with the markets for some perishable goods. Local producers and traders of this type of crop may not need to be as regularly informed about market conditions.

Producers and traders in different regions often use different forms of measurement, bag size or standards of weight. This is rarely accounted for by centrally organized information systems.

> "The solution is to decentralize information dissemination and set up local marketing information centres, linked with a national centre. Dissemination from local centres is often by low cost methods such as display-boards in villages."
>
> *Bay-Petersen, 1996*

This study concludes that market information should be gathered and processed on a more local level, and should be disseminated by local radio where possible.

Government-operated market information systems and local bodies in Ghana, Zimbabwe and Ethiopia are obliged to pay fees to local and national radio stations and newspapers to carry market information at the same rate as advertisers.

It is recommended that the cost of broadcasting agricultural market information should be supported through government or donor agency funding.

It is further recommended that a programme be established to provide isolated groups of producers and small-scale traders with radio sets.

This study has concluded that information systems can succeed only if they are associated with groups of agriculturalists, traders and other relevant institutions (including NGOs, extension services and farmers' unions who work closely with small-scale enterprises), who have the necessary coherence and organizational strength to make use of information systems and who have already recognized the need to establish and support such systems.

Unfortunately, the process of forming private-sector organizations for agriculture in these countries has been a slow one. Groups with a common cultural background have formed the most successful examples of cooperation. These may be based on informal family ties, language groupings or even religion. Such groups have the capacity to link with other groups with similar interests to form larger organizations and/or to contribute to the work of farmers' unions or other representative civil associations.

Individual farmers do not generally have the means to store or transport goods in any significant quantity, and lack bargaining power with traders of their produce or suppliers of inputs. They often cannot raise loans from banks because of their lack of legal status and/or collateral. They are also poorly equipped to collect and distribute information about the markets for their goods.

Institution building in the agricultural sector should be a key priority for governments and development agencies.

This study has accumulated evidence to support CTA's general recommendations for a successful model of a market information service. Such a service should involve the mobilization of all stakeholders within a particular market sector, and preferably be managed by them. The institution charged with controlling the service should be flexible and autonomous, and should be run with the minimum of bureaucracy.

This model implies a rejection of a centralized system remote from individual stakeholders. It favours the establishment of localized, demand-driven systems serving a particular community or agricultural sector linked to and supported by local and central government, and run by those stakeholder groups that the system is designed to benefit.

> "Marketing and other information services might benefit by making use of traditional social groupings and channels of information, rather than setting up competing new ones."
>
> *André, 1996*

In some ways, the establishment or improvement of many different market information systems appears to be a more challenging task than operating a large, centralized system. It is clear from the work undertaken in this study, however, that the need for specific assistance may be easily recognized, often taking a form which could be quickly, simply and cost-effectively provided.

Farmers and traders are quick to follow the successful innovations made by others. The establishment of one popular, sustainable and successful system is likely to lead to the evolution of similar systems. There may be no need to commission a massive study to identify and design systems for every district in every agricultural sector at once.

Although Shepherd's FAO study (1997) was principally concerned with state-controlled systems, his recommendations echo this point.

> "An MIS with the necessary commercial approach should initially concentrate on just one or few principal wholesale and assembly markets. Product coverage should be limited to those crops which have a sizeable number of producers, are seasonably important and which are much in demand. A gradual approach is strongly recommended."
>
> *Shepherd, 1997*

> "The Zimbabwe Farmers' Union argued that it is difficult to start big and that, as a start, it would be interested in looking at (starting an information service for), say, maize."
>
> *Boniface Mauwa, consultant*

Botswana

Botswana has probably made less progress towards a more liberalized trading system in the agricultural sector than the other three countries examined in this study. There are some obvious reasons for this. Unlike the other three countries, Botswana depends only to a minor extent on the export of agricultural products. Its only major agricultural export is meat (mainly beef) and meat products. The homogeneous nature of this trade can be controlled efficiently by a single exporter, and the state has assumed that role. It has taken on this responsibility to reduce competition among exporters, to benefit from economies of scale in slaughtering and processing where hygiene considerations are important, and also to allow access to export markets for both small- and large-scale producers.

The agricultural sector is still by far the largest employer in the country, yet Botswana is a net importer of food products. Most arable farmers in this large, thinly populated country grow food products to feed themselves, and have no surplus for trading. There are some larger-scale producers who grow for sale, but the number of

traders of these products in Botswana is tiny and consists mainly of importers and retailers.

The government believes that the country has not exploited its agricultural potential, and has concluded that one reason for this is the lack of an organized trading community. Farmers may be capable of producing more products for sale, but they lack traders to sell them to.

This seems to be especially true for the horticultural sector. The bulk of these products are imported to the main centres of consumption from neighbouring countries. The Botswana Horticultural Council has concluded that there is considerable potential for expanding production in areas close to the main cities, but the lack of competitive trading outlets and the lack of physical markets make it difficult for producers to sell their goods.

It is recommended that the Botswana Government and other agencies should encourage the formation of domestic growers' and traders' associations, especially those engaged in the production and trading of horticultural products, and assist them in promoting their products and services.

The parastatal Botswana Agricultural Marketing Board (BAMB) has a semi-social remit to equitably purchase and distribute grains and pulses on the domestic market. It is also responsible for importing the bulk of the country's deficit of these products. But government officials, including those from BAMB itself, have admitted that the organization is seriously hampered in its work by a lack of access to information about potential sources of supply from abroad, and by a lack of expertise in acquiring them. BAMB officials would benefit from a training programme covering competitive tendering and negotiating techniques in commodities trading, and how best to access the market information they need to successfully carry out the work of their organization.

It is recommended that resources be made available to train officials from BAMB in the techniques of purchasing and importing agricultural commodities.

The Botswana College of Agriculture has an excellent reputation and is interested in expanding its curriculum into the entrepreneurial aspects of farming. The College has initiated several seminars in this field bringing together farmers, researchers and government officials. If such a course could be established at the Botswana College of Agriculture, it could also be offered to traders in the private sector.

The benefit of establishing and supporting the horticultural sector in Africa has long been recognized. Horticultural production requires only low levels of land and water use, is labour intensive, and produces products with a high value-to-weight ratio. It has only a limited impact on the environment, and can make a useful

contribution to foreign exchange generation. It has been estimated in Zimbabwe that the return from 1 ha of mange-tout equals the return on 20 ha of maize (Boniface Mauwa, consultant).

The Botswana Government and the Botswana Horticultural Council have concluded that a significant proportion of the US$30 million worth of horticultural products now imported into the country could be produced domestically.

The Botswana Horticultural Council is keen to promote the industry by developing its own grading system and disseminating appropriate information to existing and potential horticultural farmers. There are very few, if any, traders in domestically produced horticultural products. Producers are obliged to find their own customers or to transport their products to the main municipal market, which is not even located in Gaborone, Botswana's capital and by far its largest city. Farmers need to be made aware of the current price for the quantities, types and grades of competing imported products. They also need a directory of local buyers, together with a list of the products required and the quantities they need to purchase.

The Council is now well established and is capable of organizing the distribution of information to its members. Unfortunately, it lacks the modest resources needed to collect, publish and distribute this information. The organization needs an information officer with the necessary training to produce and publish a regular newsletter to be distributed by post to members. It also needs the necessary funding to establish a telephone network to local markets and retail sales outlets to establish current prices and demand.

It is recommended that the Botswana Horticultural Council should be supported with the necessary resources and training to provide adequate and appropriate information to its members.

The Botswana Government has not yet needed to establish a market information service for agricultural products, as very little public-sector trade in agricultural products takes place and prices are fixed by parastatal bodies. If the government decides to change this system and encourage free market enterprise in this sector, there will be a need to establish market information services.

Ethiopia

The transport system in Ethiopia is very poor. There is only one rail link to the sea, and there are so few roads for such a large country that some farmers are obliged to walk for up to 3 days to reach a road.

The climate in Ethiopia is very uncertain, and farming communities must attempt to grow several different crops with varying degrees of drought resistance. This often

means that some farmers end up with a deficit of one crop and a surplus of another. Most produce is therefore traded between farmers at a local or district level. Since electronic communications systems are almost non-existent, farmers may be unaware of prices being paid in the next village market, and may not even know how to get to markets further afield.

Government extension services are weak in Ethiopia; most outside assistance to farmers comes from international aid programmes often administered by local and international NGOs. Oxfam has recently initiated a programme of mapping roads and markets in the most vulnerable regions, using satellite photographs, in order to inform local NGO workers who can then inform farmers.

The tenuous state of agriculture in Ethiopia has been a major concern for development agencies, and NGOs are extremely active in helping small-scale farmers to produce food and to generate income from the sale of surpluses if they occur. They have forged close links with farming communities and are trusted by them to provide impartial information. The NGOs contacted during the course of this study were keen to develop market information systems to assist with their work.

It is recommended that NGOs working in farming communities in Ethiopia be supported in their work to provide market information.

Ghana

Associations of female traders control the domestic marketing of agricultural products in Ghana. Although there are important negative aspects to this system, these associations are accepted as part of Ghana's traditional culture, and perform a vital role in the agricultural sector. The efficiency of this trading system is significantly hindered by the lack of means to communicate market information between producer and trader and between traders in the marketing chain (except in the limited area where cellular telephones can be used). A single transaction may involve traders in several long journeys between markets and production areas to check volumes and prices. The costs of travel and the time taken to make these investigations represent a significant proportion of the retail price, but could be greatly reduced if farmers and traders had access to a public telephone system. At present there are no telephones installed in Ghana's 200 or more rural markets.

Local government in Ghana is administered by District Assemblies, which are made up of locally elected members and include representatives of the farming community and trading associations and of the Ministry of Agriculture and Food. District Assemblies are responsible for the administration of local markets and have demonstrated their willingness to contribute to increasing the efficiency of these markets.

It is recommended that District Assemblies in Ghana should be assisted in implementing a programme for the installation of public telephones in their local markets.

It is likely that a combination of liberalized trade legislation and improved communications systems will increase competition in Ghanaian agricultural markets. The present system has evolved over many generations and can only be gradually reformed. Unfortunately, market traders have no knowledge of how trading systems in other countries operate, or how a more liberalized system could increase the volume and efficiency of trade and thus benefit the trading community.

The government-operated market information service in Ghana currently fails to meet its objectives of providing commercially useful information to most producers and traders in the agricultural sector, and is now experiencing a significant reduction in funding.

It is recommended that a pilot project should be commissioned with the objective of designing and establishing a pilot, small-scale market information service based on a single local assembly market in Ghana.

Of the four countries covered by this study, Ghana has the strongest trading tradition. Trading associations are well organized and efficient and, although the system works by controlling short-term prices at the individual market level, traders are a respected part of society and are traditionally obliged to respect the interests of producers and consumers. Almost all farming is carried out on a small scale, which has encouraged social cohesion in the farming community. The Government of Ghana has also adopted policies to create a liberalized environment for traders and other commercial enterprises.

For these reasons, Ghana offers the best opportunities to establish a pilot model for a low-cost, sustainable and participatory market information service which, if successful, could encourage replication.

The objective of this project would be to establish a small-scale market information system. Farmers and small-scale traders in Ghana have identified their most critical need for market information as being the up-to-date prices of their products in the different markets of their region (Table 3.1).

> "Farmers must seek out and compare the information available for different outlets if they are to sell to the best advantage."
>
> *Kwaku Nurah Gyiele, consultant*

This would not only help farmers to identify the best market to deliver their goods to, but would also help them determine whether they are being offered a fair price for their product.

Table 3.1 Information needs of stakeholders in Ghana – perceived needs for market information systems by user groups

User group	Perceived information needs	Who to provide
Farmers	Market outlets, current prices, demand, quality preference, credit availability, trends in consumer preference, farm inputs	Government agencies, NGOs, private companies, banks, extension agents, district assemblies, churches
Traders	Supply, demand, price trend, current price, production forecasts, quality preference, credit availability, packaging, quantities stored, transport data, consumer preference	Government agencies, District Assemblies, trade associations, banks, consumers, transport unions
Exporters	Supply, export demand, current prices, price trend, future market potential, importers, packaging, export tariffs and taxes, crop forecast, consumer preference	Government agencies, foreign trade partners, exporter and producer associations, customers/importers
Processors	Raw material availability, prices, production trend, packaging, credit availability, quality	Processor associations, producer associations, customers, NGOs
Planners and policy- makers	Production and price trends, current production and prices, production and price forecasts, consumer preferences, credit availability, input availability, transport, quality	Government agencies, District Assemblies, NGOs, international agencies, news agencies (newspaper, radio, television)
Bankers	Prices, yields, margins, insurance	Banks, customers, government agencies
Consumers	Current prices, supply, location, supply and price forecasts, quality	Traders, processors and public services

In order to provide such information, it would be necessary to gather information from several markets in the area, and perhaps from the main national markets of Accra and Kumasi. Since the government-operated market information service already collects such information from many markets, some system needs to be devised to link this with the national system.

For those markets not covered by the national system, the small-scale service will have to arrange its own method of information collection. Using local agents based in the town or village where these markets are located might help achieve this.

Clearly, access to telephones would greatly facilitate this operation. Most medium-sized villages have PTT offices, but the establishment of such a service might best be linked to a programme of telephone installation at local markets.

The establishment of local FM radio stations has offered an opportunity for efficient dissemination of market information. A new, locally based service should be designed in order to take advantage of this opportunity, and negotiations with the local station on broadcasting fees should be carried out at an early stage of the investigation.

If the system is to be sustainable on a small scale to service a generally poor community, costs must be kept as low as possible. Staffing might be arranged on a part-time basis and office space and equipment rented from market administrators, local Agricultural Ministry branches, District Assembly, etc. Reporting might only be necessary at crucial pre- and post-harvest stages. The number of products covered should also be limited to those of most interest to stakeholders.

The project should identify a District Assembly which could be assisted to establish a locally based market information service. Its representatives should be willing to assist in improving market information systems associated with its local market.

The main products transacted on that market should be identified, and producers and traders of those products consulted in order to determine which commodities should be covered by the system, what kind of information is required, and how it should be collected, analysed and disseminated. The time required for staffing the operation, and the skills and equipment needed, should be assessed in order to make an estimate of the capital and running costs. The study should also determine what training potential operators of the system might need, how this training might be provided, and how the system should be monitored. An assessment should also be made of the likely benefits such a system would bring.

The enthusiasm of local traders for the system will need to be assessed, as they are likely to be among the main suppliers of information as well as being one of the beneficiaries. The offer of a telephone located in the local market might encourage their cooperation. Any new system is unlikely to succeed without their full cooperation and participation.

Potential funders (including the local and national government, local producers' and traders' associations, NGOs and other development agencies) may be approached to assist in establishing the system.

It is recommended that senior market traders associated with this project should be given the opportunity to visit other countries to learn about the advantages of reforming their trading systems.

Zimbabwe

Indebtedness is a common feature of African rural life. Some traders operating in the communal areas of Zimbabwe also advance money against sales of produce. These traders are poorly regulated, and many have been accused of unscrupulous business practices. Some farmers often have no option but to sell at low prices to repay loans.

The Agricultural Finance Corporation (AFC) of Zimbabwe has started to advance loans to groups of communal farmers who work closely with some NGOs. The NGOs guarantee the loans, but ensure that the farmers' groups are properly organized to market their products and to service their loan. This successful project might be a suitable model in which a market information system could be included.

Such a system would need to be more elaborate than the local model system proposed for Ghana in this report. The trading system serving the communal areas of Zimbabwe is inefficient and lacks transparency. Producers need up-to-date details of prices traded in local and more distant markets, but they also need information about the traders of the products they produce, and the services they offer.

It is recommended that NGOs operating the AFC credit scheme should be supported in any effort they might make to establish small-scale market information systems.

The success of the new, DANIDA-financed, state-operated market information system in Zimbabwe depends crucially on a partnership with a number of Commodity Advisory Councils. Certainly, the new system appears to lack the central involvement of stakeholders exemplified by the successful Senegal market information system model for its horticultural sector (see Box 3.1), but it is probably too early to assess how effective the new system will be in representing stakeholders in their respective sectors.

There are already several duplicated market information systems operating in Zimbabwe, and it would be of little use to add to them or to implement any programme that might impede the development of the new system. The problem in Zimbabwe is not, in any event, the lack of available information, but the means of disseminating it to hundreds of thousands of small-scale farmers in the communal areas.

The body most farmers recognize as representing their interests and which could be most trusted to offer useful and impartial information is the Zimbabwe Farmers' Union (ZFU). One farmer expressed this view when she described the Union as "our eyes and ears". The ZFU has a sophisticated network of divisions and branches

Box 3.1 Economic Observatory of Senegalese Horticulture

The Economic Observatory of Senegalese Horticulture has been operating in the Dakar market since 1994. Its strategy is very different from that of state-managed systems, and consists of organizing the operators in the marketing chain in order to make it more efficient. The initiative was taken by the Horticultural Department of the Ministry of Agriculture and by scientists of the Agricultural Research Institute (Institut sénégalese de recherche agricole, ISRA) which was already collecting price data in Dakar. The origin of the system is thus in the state sector, but the private sector was also involved right from the start. Foremost among the latter group was the National Horticulture Association (Conseil national interprofessionel d'horticulture, CNIH) which was set up to fight the challenge of other exporting countries, particularly Burkina Faso and Kenya, competing for the European Market. CNIH's membership comes from all levels of the marketing chain, including one association of large exporters and one of small exporters. All parts of the chain from both public and private sectors meet every week to discuss developments.

The Agricultural Research Institute provides information on market prices, the Customs Service supplies data on imports and exports, and the producers talk about the stage of development of their crops and indicate disease problems that might be of interest to the research organization. The downstream side looks at what it might do if it seems that there is going to be a gap in production, and the upstream side can set about trying to respond to the market demand.

Papa Abdoulaye Seck, special adviser to the Director-General of ISRA, has said that "As President Senghor would have said, the association both gives

extending over the entire country and product range. It already provides a wide range of information to farmers through radio broadcasts, newsletters and farmers' meetings. It works closely with the government's Department of Agricultural, Technical and Extension Services and with NGOs and other development agencies.

Increased support for the ZFU would not in any way reduce the effectiveness of the new market information system. Indeed, the new system needs to work with organizations that have the necessary network of close connections with the hundreds of thousands of farmers in the communal areas. These farmers have very limited access to telephones, and very few own radios. Their only means of obtaining independent market information is through word-of-mouth communication with union representatives and other union members.

and takes because, once people are together, they can talk about their problems and find common ground from which to manage the conflicts that are inevitable in a market chain in which the problems of one section are not necessarily the same as those of another. Discussion leads to mutual understanding and to a consensus from which every-one, including the consumer, benefits."

The effectiveness of the Observatory could be improved still further, particularly as a provider of information, for example by distributing to the various media the two-page minutes of its weekly meeting. This would be cost-effective because "as everyone freely gives of the information that he has, there is very little additional expense". The Senegalese Horticultural Observatory is lean, participatory, and has practically no formal organizational structure. It has, however, benefited from one especially favourable circumstance which Papa Seck considers very important: "Agricultural policy in our country since independence has resulted in very little interference in the horticultural sector. When one is not circumscribed and encumbered by directives it is natural to be self-reliant and to grasp the initiative. Horticulture was well to the front when 'liberalization' and 'disengagement' became the watchwords. This is why private sector initiatives in horticulture have flourished in recent years compared to those in other agricultural sectors that were for long under the yoke of tight government control."

This clearly confirms that a single type of market information system cannot be applicable to all situations. It also shows the need for those most closely involved in the business to be fully part of it.

From 'Harnessing the informal sector', *Spore* No. 69, June 1997 (CTA).

Unlike the Commercial Farmers' Union, whose members can afford to support their union with modern communications systems, the ZFU finds it increasingly difficult to meet the information needs of its members. The organization needs to communicate more efficiently with its branch offices, and to generate and distribute more up-to-date market information. They are in need of a small number of modern computers fitted with modems for e-mail. They also require training in publishing for staff in their information department.

It is recommended that the ZFU be supported with the necessary funding to obtain modern computers and modems, and with appropriate training for its information department staff.

Chapter 4

POTENTIAL INTERNATIONAL LINKAGES

The importance of developing agricultural market information systems in Africa has been recognized by many governments and development agencies. This recognition has been translated into practical programmes on a national, regional and international level. Several development agencies including the US Agency for International Development, the Food and Agriculture Organisation of the UN (FAO), the Danish International Development Agency, and Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) have helped governments set up market information systems.

Most effort has been concentrated on the provision of information to assist exporters of African products. This has taken many forms: information for legislators and officials on changes in international trade agreements; the provision of publications on specific markets; price information on certain selected markets; the provision of electronic communications systems to government trade agencies and traders, including Internet communication networks; and funding for export promotion agencies for trade fairs, seminars, training and materials.

It is likely that any programme designed specifically to provide existing and potential African exporters with detailed and appropriate market information on a wide range of agricultural products will only be effective if it utilizes modern communications technology to provide an interactive information system.

Some of these services do not distinguish between the provision of market information on agricultural products and general trade information. Most are linked with government agencies rather than the private sector. None of these services is designed to supply independent, up-to-date marketing information on a wide range of African agricultural products, appropriately translated for private-sector exporters or potential exporters. Some of these services, especially the electronic communications systems, could, however, be utilized to carry information of this kind.

The UN Conference on Trade and Development's Trade Point Development Centre (www2.asianconnect.com/untpdc/welcome.html) offers free access through the Internet to the databases on trade and investment-related subjects kept by UN organizations, including the International Trade Centre (ITC), the UN Development Programme, the World Health Organization and the General Agreement on Tariffs and Trade. It also helps national groups to design their own websites. Its electronic Trading Opportunities system allows users in developing countries to post information about their products or services (including a special service for fruit trade) on the web and to be directly linked to interested customers.

The International Fund for Agricultural Development's Knowledge Network (www.ifad.org/) was established for interactive communication between grassroots agriculturalists, decision-makers and experts from UN and other international organizations. The network's overall goal is to help efforts to relieve poverty in developing countries, with an emphasis on combating desertification and encouraging sustainable development and access to credit. Within this network, traditional farming techniques that have proved successful for one group of farmers can be promoted to other farmers. Decisions made by governments and development organizations can be analysed and commented on by those likely to be affected by changes in policy. Proposed development projects can also be coordinated. The network proposes a multi-node approach to communication, using every appropriate system from modern technology, to solar powered computer links, to word-of-mouth communication through NGOs and church organizations. As yet, no proposal has been made to include the collection or dissemination of market information in this system.

The ACP-EU Trade Development Project was established "to act as a catalyst to meet the needs of enterprises regarding trade information, and transfer knowledge". The project is coordinated in Brussels, with a website offering trade information mainly from institutional sources. The project is designed to help put information seekers in touch with organizations which can provide the type of information required. At present the project is targeted at only 20 ACP countries, including the four countries covered by this study. The system does not collect, generate or analyse market information about agricultural products.

The Worldwide Network of Chambers of Commerce and Industry (see www.worldchambers.net) offers a number of different services, including a registry of members, an Internet business opportunities bulletin board, and e-mail facilities for contact between buyers and sellers. These systems do not offer a specific service to provide current market information on agricultural commodities from an independent source.

In addition to these existing information networks, certain other development agencies collect, analyse and disseminate specialist market information for the use of producers, traders, processors and decision-makers in developing countries. Some also offer training and technical advice in the area of information gathering.

The ITC's Market News Service publishes international market information on fruit and vegetables, cut flowers, spices and rice on a weekly basis, and on animal skins and timber on a fortnightly basis. These are distributed in hard copy form or by fax or e-mail to government agencies, research establishments, some NGOs and some traders in developing countries and consuming countries. Such information was found useful to export promotion agencies in the African countries studied here, but those European traders contacted in this study did not think particularly highly of the value of these reports.

The Europe-Africa-Caribbean-Pacific Liaison Committee for the promotion of ACP horticultural exports (COLEACP) is a French NGO supported by the EU which provides information on horticultural markets to certain ACP countries. This information takes the form of quarterly bulletins on horticultural markets, including prices. This information is supplied to Ethiopian Fruit and Vegetable Enterprise, the Ghana Export Promotion Council, the Horticulturist Association of Ghana, the Zimbabwe Horticultural Promotion Council, and Zimtrade in Zimbabwe.

The Centre for the Promotion of Imports from Developing Countries (CBI) is a Dutch parastatal operating within a policy framework set by the Netherlands Minister of Foreign Affairs and the Minister of Development Cooperation. Its overall aim is to assist medium-sized enterprises in developing countries (directly and through trade promotion organizations) to find markets for their goods in the Netherlands and other European countries. Support is offered in several forms including:

- the provision of information on markets for agricultural products, industrial raw materials and manufactured items
- environmental standards information
- international trade fair participation
- product testing
- training in export planning and marketing.

The organization maintains a website offering access to its general market information material (www.cbisite.eu.org/index.htm). It does not provide current market prices for agricultural commodities.

The World Trade Organisation (WTO) and World Bank's Information Technology for Development Initiative has been established to provide trade policy information and data generated by the WTO to trade policy decision-makers - specifically to trade and commerce ministry officials who make decisions on trade policy or advise on such matters. It also develops electronic information and training tools, and offers access to the Internet for trade officials in developing countries. This ranges from online databases of WTO working documents to CD and diskette applications.

The Economic Commission for Africa - Development Information Services Division (UN) has established, under the African Information Society Initiative, a programme to promote information and communications technologies for African social and economic development, offering access to UN databases and African statistics.

The Commodities Division of the World Bank publishes *Commodity Markets and Developing Countries*, a quarterly bulletin of reports on specific commodities in specific countries. The Bank also publishes historical statistics and market forecasts on some major commodities. Otherwise, the World Bank does not offer a commodity market information service.

Most international development agencies and development NGOs concern themselves with agriculture. The Export Development Department of the Commonwealth Secretariat, the Natural Resources Institute based in the UK and the FAO of the UN publish extremely useful and well researched market studies. These and many other organizations also research markets for the products produced in their income-generating development projects.

A strong case could be made to coordinate this work, and to use the combined efforts of these organizations to focus on the establishment of a dedicated resource centre to provide comprehensive market information on agricultural commodities for ACP countries.

Note: 10 trading companies based in developed countries and specializing in trade with Africa were interviewed for this study. Of these, seven did not use the Internet at all to identify new suppliers, two were planning to do so at some time in the future, and only one had transacted a deal through a subsidiary company using the Internet. All 10 companies commented that they preferred their traditional methods of contacting potential suppliers through recommendations from known intermediaries.

ANNEXE 1

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ANNEXE 2

Terms of Reference - Consultancy to coordinate the review of market information systems in Botswana, Ethiopia, Ghana and Zimbabwe

Background, problem and objectives

Background

CTA organized two international seminars in 1995 on 'The role of information for rural development in ACP countries' and 'Farmer strategies for market orientation in ACP agriculture'. The conclusions of these two seminars reflected a shift in ACP national and regional priorities, from efforts aimed mainly at increasing agricultural productivity towards improving welfare in rural areas and increasing farmers' wealth. This shift in priority was confirmed by national and regional ACP representatives at a seminar organized by CTA in October 1996, entitled 'Priority information themes for ACP agriculture'. One of the recommendations of this seminar was that CTA should devote more resources to work in support of the promotion of market-led development.

The shift in ACP agricultural development priorities in support of market-led development can be explained, in part, by the expectation that world trade in agricultural products will grow under the stimulus of continuing economic liberalization. A sustained move towards market deregulation and increasing competitiveness in ACP economies will create the need for market information systems which can provide appropriate support for decision-making. The emergence of new information and communications technologies in recent years is expected to contribute to the development of effective market information systems in ACP countries.

In January 1997, CTA organized a consultative meeting at its Headquarters in Wageningen, The Netherlands, to review 'Information and communication channels for promoting market-led development in African agriculture'. The specific aim of the meeting was to define the key steps to be considered in establishing effective market information systems.

The workshop's conclusions and recommendations underlined the need for country case studies aimed at obtaining an in-depth knowledge of existing market information systems in individual countries of Africa. The principal emphasis is on national and regional markets rather than on international markets and cash crops. The increased interest shown in this subject is demonstrated by the recent establishment of the ACP Chambers of Commerce and related agro-industry network.

Problem

The proposed case studies will define and propose ways of alleviating the following constraints:

- limited knowledge of market information channels
- limited availability of data on markets
- lack of emphasis on market-led development and inefficient market systems.

Objectives

The overall aim is to identify effective channels and alternative strategies which will facilitate the availability, dissemination and use of information in support of market-led development.

The specific aims of the study are:

- to provide an accurate description of existing market information systems and assess their effectiveness in supporting both private- and public-sector decision-making
- to identify the common factors for the success and effectiveness of market information systems, in particular with respect to the potential role of new information and communications technologies.

Issues to be addressed and expected output

Issues

This section presents a list of categories of questions which provide a context for the study.

Description and analysis of the types of market:

- What are the existing market types in the target countries (e.g. national and regional markets for traditional crops and high value non-traditional crops)?
- What is the relative importance of the different markets?
- How is each market structured/organized?
- What are the constraints and opportunities?

Identification of the key players:

- What are the relative roles of the different socio-professional groups in each market type? The players may be grouped into farmers, farmers' associations and cooperatives, traders, processors, transporters, bankers, planners, policy-makers,

researchers, extension workers.
- To what extent does each group influence agricultural production, processing and marketing?
- What are the relationships between the different groups?
- In what ways can communication between the groups be improved?

Analysis of information needs:

- What type of market information is needed by the different user groups and how is it used? Market information includes quantitative and qualitative data on production costs, farm prices, urban prices and price indices, profitability, market margins, farm credit, trade statistics, trade regulations and phytosanitary requirements, and can be found in a diverse range of public- and independent-sector organizations.
- What are the critical information requirements?
- Are the users aware of the different sources of information?
- Do users consider the available information to be relevant, reliable and up-to-date?

Description of existing market information systems and channels of communication:

- What are the local and external sources of market information?
- Which organizations provide market information?
- Which organizations specialize in collecting, processing and disseminating market information? Potential local sources of information to be contacted include: ministries, the central bank, planning and statistics offices, development banks, commercial banks, research and experimental stations, NGOs, FAO or World Bank offices, foreign embassies, university libraries.
- To what extent is market information disseminated through the following channels? Radio, TV, video, radio augmented by other appropriate media, direct consultation/counselling, word-of-mouth, exchange visit, subject-specific and interprofessional meetings, trade fairs, leaflets, brochures, newsletters, journals, newspapers, posters and telecommunications (also e-mail/Internet, fax, telex, telephone).
- What type of information is disseminated through the different channels?
- Is market information provided at a fee or free of charge?
- Are the information providers service-oriented?
- What is the level of networking among information providers and users?

Overview of suggestions for developing a sustainable market information system:

- What will be the benefits of establishing/strengthening market information services or systems?
- Which institutions/organizations should be involved from the public and private sectors?

- What should be the public sector/private sector balance?
- What are the inputs and outputs?
- Which channels of communication should be used and what are the criteria for effectiveness?
- What are the realistic options for developing sustainable market information systems?
- Which regional/global systems could serve as inputs into the national market information systems?
- What are the indicators for monitoring and evaluating the systems?

Expected output

Reports of the study produced in accordance with the agreed terms of reference and budget and completed in the agreed time frame. The Coordinator will propose a table of contents for the case study reports for CTA's approval.

Methodology and expertise required

Methodology

The study will be divided into three phases - a Preparatory phase, a Field phase and a Synthesis and reporting phase.

Preparatory phase:

Local researchers will be appointed by the Coordinator in the four countries and an efficient communication link will be established with them. In addition to the review of all relevant documentation at CTA Headquarters, the Coordinator will seek appropriate data and information from a number of different sources. The archives, library and subscriber lists of *Public Ledger*, the international agricultural commodities news journal, will be available to the Coordinator. *Public Ledger* subscribers include producers, researchers and government agencies in the four countries, and local and international traders and importers of the commodities they produce. In the Preparatory phase, appropriate UK- and Netherlands-based subscribers will be contacted in order to obtain their experience of existing market information systems. Africa-based subscribers will be contacted for the same purpose during the course of the study.

In addition, sources of trade statistics will be used as well as sources of data at the Natural Resources Institute in the UK. Information will be sought from UK- and Netherlands-based NGOs and research organizations working in the four countries.

Europe-based market information suppliers to the four countries, broadcasters, wire services and news journals will also be consulted. Relevant departments of the

European Commission, FAO, UNCTAD, ITC, WTO, World Bank, International Agricultural Research Centres and the Organisation of African Unity will be contacted.

One objective of the Preparatory phase of the study will be to gather statistical data on each country:

- raw statistics of national production and trade, by commodity
- national distribution of production by location and type.

Another objective will be to break this into:

- subsistence crops grown for domestic consumption and local trade produced by small-scale producers
- staple crops for local, district, and national consumption, grown by small-, medium- and large-scale producers
- traditional crops for national, regional and international consumption
- non-traditional cash crops grown for national, regional and international markets and the local tourist industry
- products grown mainly for export.

Another objective will be to identify products subject to government control, e.g. produced or marketed by nationalized industries, parastatals, and those subject to quotas and export tax.

Based on the findings of the Preparatory phase, a study plan for the Field phase will be prepared. The study is based on the analysis of individual market types. Each market type will have its own characteristic market information system. For instance, the market information system employed to inform small-scale traders of the price and market conditions for local supply and consumption of sunflower seeds is likely to be very different from that employed in the export trade for intensive production of green beans grown by large-scale agricultural enterprises. During the Preparatory phase a method of defining each market type will be established, in order to create a comprehensive picture of each country's market information system within the time and budget constraints of the study.

A draft text of a questionnaire will be designed for use in the Field phase to elicit information from market players concerning their access to market information, how it is used by them, what it consists of, how much it costs, how useful it is to them and what further information systems are required.

Field phase:

The field phase will commence with a briefing of the locally appointed researchers in each of the four countries.

Their first objective will be to identify markets by type for each of the four countries. Market types will be categorized by:

- nature of the commodity, e.g. perishable or non-perishable, traditional or non-traditional cash crop, livestock, fish products, unprocessed or semi-processed, products gathered from the wild (e.g. game, gums, honey), etc.
- presumed destination of the commodity (local, district, national, regional, international)
- size (small, medium or large) of the production enterprise – a list of production enterprises, categorized by size and including state-controlled enterprises, will be prepared.

Such information will be gathered through a literature search and with the assistance of government agencies, academic institutions and market players.

The second objective of the Field phase will be to estimate each market type by size and importance, including its importance as a generator of export income and as import substitution.

The third objective of the Field phase will be to identify each market type with a single commodity. The permutation of each categorization will offer a large number of market types and, consequently, a significant number of individual commodity markets to be studied. A sample of commodities of this size will be representative of all agricultural markets within the country.

The fourth objective will be to identify market players and suppliers and users of market information systems for each of these commodities. These will be government officials, the local media, researchers, academic institutions, extension workers, local and national traders, representatives of international traders and importers, farmers, farmers' associations, processors, storers, transporters, bankers and NGOs.

The fifth objective will be to elicit information from these market players. This information will include:

- a description of the chain of commercialization of each commodity
- the apparatus of transactions for each identified commodity – local farmers' market, national commodity markets, international commodity exchanges, sale to parent company, sale to larger producer, sale by long-term contract based on benchmark pricing
- the market information system available and employed in the links of the chain of commercialization, i.e. word-of-mouth (trader to supplier, supplier to supplier), mail, newspapers, journals (local, regional, national), radio, wire services, posters, telephone, other and new electronic methods, extension services, conferences

or other meetings, through banks, credit unions, from commodity markets and from local or foreign parent companies – the use made of information dissemination through farmers' associations and women's groups will also be a subject of study
- the type of information received including data on production, current quality issues, trade, prices, price trends, margins, competition, regulations, packaging, transport, new and niche markets, potential customers, documentation and transport
- sources of information on currency fluctuations, interest rates, credit availability and other financial factors affecting the market will also be examined
- indicators of how efficiently the market information system works and of its usefulness
- the stated requirements for additional and better information systems
- the nature and degree of communication between each group influencing the efficiency of each market type
- the transaction price at stages of the chain of commercialization will be assessed and taken as an indication of the efficiency of the market, and of the efficiency of the market information system.

Such information will be gathered by interviews with market players where possible within the budget and time limits of the study, and by questionnaires refined into final form during the Field phase. The work in this phase of the study is to be mainly carried out by the local researcher with regular guidance being available from the Coordinator.

Synthesis and reporting phase:

An analysis of the data and evidence gathered during the Field phase will be conducted with the objectives of assessing:

- differences and similarities of the existing market information system for each market type
- accuracy, efficiency and usefulness of each market information system
- differences and similarities between market information systems in each of the four countries
- usefulness of existing market information systems in the process of private and public planning
- opportunities and constraints of the markets in relation to the availability or lack of efficient and accurate market information systems
- systems of communication between the various groups of market players.

The local researchers will draw up reports from all four countries with the assistance of the Coordinator. The Coordinator will ensure that this analysis is carried out in such a way that direct comparisons between each country can be made.

From this analysis it will be possible for the Coordinator to offer recommendations for better market information systems and to describe how they could be constructed. The scope for utilization of new information and communications technologies will be identified.

Suggestions of ways in which communication between market players can be improved will be made.

A Draft Final Report will be prepared by the Coordinator for comment by experts in the field of African agricultural markets, communications systems and appropriate commodity markets. Some of the local researchers' time will be reserved for collection of additional data for checking.

The Final Report will be submitted to CTA Headquarters at the conclusion of the study.

Expertise required/team composition

The Contractor/Coordinator should be:

- familiar with agricultural marketing in ACP countries
- familiar with rapid appraisal methods
- capable of managing a team of consultants operating from different locations in ACP states
- a national of an ACP state or EU state
- proficient in English.

Working experience in Botswana, Ethiopia, Ghana and Zimbabwe and a background in information management will be an advantage. A minimum of 15 years' professional experience is appropriate.

The case study consultants should be:

- familiar with agricultural marketing and rapid appraisal methods
- ACP nationals, preferably based in the country where the study is being carried out
- proficient in English.

A background in information management will be an advantage. A minimum of 10 years' professional experience is appropriate.

ANNEXE 3

Other organizations contacted during the coordination of the study

Action Aid
African Development Bank
African Farmers' Trade Associates (Netherlands)
British Council
British Department for International Development
British Department of Trade and Industry
Canadian Co-operative Association
Centre for the Promotion of Imports from Developing Countries (Netherlands)
Christian Aid
Commonwealth Radio Association
Commonwealth Secretariat
Economic Commission for Africa
Europe–Africa–Caribbean–Pacific Liaison Committee for the Promotion of ACP Horticultural Exports
Financial Times
Food and Agriculture Organisation of the UN
Gatsby Foundation
Institute for Development Studies (UK)
International Chamber of Commerce
International Cocoa Organisation
International Coffee Organisation
International Fund for Agricultural Development
International Telecommunication Union
International Trade Centre
Koninklijk Instituut voor de Tropen (Netherlands)
National Farmers' Union (UK)
Natural Resources Institute (UK)
Policy Studies Institute (UK)
Public Ledger
Reuters
Trade Information Centre - ACP–EU Trade Development Project
United Nations Conference on Trade and Development
United States Agency for International Development
World Bank
World Trade Organisation
Wren Media (UK)
Wye College (UK)
Zimbabwe National Chamber of Commerce

Trade sources

Abacus Trading Ltd
African Farmers' Trade Associates BV
Alan Ridge & Breminger Ltd
Decacia International Ltd
ED&F Man Ltd
John Kelly (UK) Ltd
Kimptons Brothers Ltd
Paines and Reid Ltd
Siber Hegner Ltd
Treatcorp Ltd

ANNEXE 4

Acronyms

ACP	African, Caribbean and Pacific countries
AFC	Agricultural Finance Corporation of Zimbabwe
BAMB	Botswana Agricultural Marketing Board
BMC	Botswana Meat Commission
CBI	Centre for the Promotion of Imports from Developing Countries (Netherlands)
CESA	Community of Eastern and Southern Africa
CFU	Commercial Farmers' Union (Zimbabwe)
CNIF	Conseil national interprofessionel d'horticulture (Senegal)
COCOBOD	Cocoa Marketing Board of Ghana
COLEACP	Europe-Africa-Caribbean-Pacific Liaison Committee for the Promotion of ACP Horticultural Exports
CPWE	Coffee Processing and Warehousing Enterprise (Ethiopia)
CTA	Technical Centre for Agricultural and Rural Cooperation
DFID	Department for International Development (UK) (formerly ODA)
ECOWAS	Economic Community of West African States
EU	European Union
FAO	Food and Agricultural Organisation of the United Nations
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (Germany)
ITC	International Trade Centre (UN)
MIS	market information system/service
MOLA	Ministry of Lands and Agriculture (Zimbabwe)
NGO	non-governmental organization
ODA	Overseas Development Administration (UK) (now DFID)
SADC	Southern African Development Community
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WTO	World Trade Organisation (UN)
ZFU	Zimbabwe Farmers' Union