

Session 2

Setting the scene

The new trade environment and the plight of smallholder farmers

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This paper focuses on the position of typical, small-scale ACP farmers from the global point of view, and aims to highlight how global influences have altered the farmer's position over time. I want to outline the main changes that have affected smallholders, and the various strategies being proposed for improving the position of small-scale farmers in the light of these changes. This paper refers to changes that have occurred since 1980.

Why 1980? Because 1980 marks the beginning of the latest wave of economic and trade liberalisation, which has heralded most of these changes, and the beginning of an escalation of innovation in ICT. Let us talk first about the effects of changes in economic thinking.

The list is long, but the major changes include the application of economic structural adjustment programmes, the ending of price-stabilising functions of international commodity agreements, the dismantling of most state-controlled marketing boards, the cutting of taxes, the acceptance of export-led and trade-led development, the partial reduction in the tariff barriers and farm subsidies of developed countries, and the pursuit of income-generation strategies for many subsistence farmers.

Then there have also been major changes in the commercial links between the farmer and the consumer. Throughout this period, the number of trading companies dealing in agricultural goods, processors and retailing chains has been reduced significantly through a process of acquisitions and mergers.

There have also been significant technical changes during this time, many advances in farming technology affecting even the smallest farms, including better varieties, better ways of storing products, better protection of livestock from diseases, etc.

Communication systems are incomparably better. FM radio stations, mobile phones, e-mail and the Internet have made it possible to transfer huge amounts of information between any two points on the planet instantaneously and at very low cost. Let us look at these changes in order.

What benefits were ACP countries supposed to derive from the liberalisation of markets?

- Because developing countries were deemed to have a 'competitive advantage' in agriculture (because of climate and cheap labour), they were capable of increasing exports (especially if tariff barriers to consuming countries were lowered).
- Exposing industries in developing countries to outside competition would make them more efficient.
- Reducing government's role in marketing would allow private-sector people to compete with each other and become more efficient than equivalent government institutions.

- Cutting government taxes would lift a burden from the private sector and therefore make it more profitable, giving a better opportunity for increased investment.

The strategy has been successful for some farmers and not for others.

Supermarkets in London are full of Kenyan fruit and vegetables. I can buy flowers from Ethiopia, dried fruit from Uganda and ornamental plants from Jamaica. This would not have been possible 25 years ago – so some ACP farmers are clearly benefiting. From my observations in British supermarkets, countries such as Brazil, India, Israel, Argentina, Colombia and Thailand have also massively increased agricultural exports, especially in more sophisticated semi- and fully processed goods.

The success record of this strategy from the smallholder's point of view is decidedly patchy, however. Since international commodity agreements ceased their price-stability function, prices have collapsed to a fraction of what they were in 1980, in real terms.

Marketing boards have gone, so governments cannot tax farmers on exported goods in that way any more, but now farmers have to negotiate with traders from a position of weakness and market ignorance. Local prices are now much more volatile than when marketing boards controlled prices.

Farm credit (which might once have been available, in kind, from marketing boards) is unavailable for small-scale farmers in most ACP countries.

Heavily subsidised agricultural products from wealthy countries are being dumped on ACP markets, thus undermining local producers.

There is very little inward investment (and very little local investment) in facilities to add value to agricultural goods, because developed countries have already perfected processing techniques.

Government interference has been reduced, but so have government services in such things as extension services for poor farmers.

The requirement to concentrate on cash crops for exports means that many countries have to import more food.

In short, most small-scale farmers have been unable to take advantage of the liberalisation of markets because they:

- do not have the economies of scale to compete internationally
- cannot meet quality standards
- have no access to investment to improve their production
- suffer from very low prices
- have no access to appropriate market information
- are in a weak bargaining position.

Market concentration

The most important change in the chain of commercialisation has been the reduction in the number of trading, processing and retailing companies. In 1980, for instance, there were more than 30 large-scale traders in cocoa in London alone. Today, just four companies, Archer Daniel

Midland, Barry Callebaut, Cargill and Hosta, account for 40% of global cocoa processing. Around nine companies account for 70% of total capacity.

This means there is less competition between the major buyers of the products produced by small-scale farmers. The local trading companies, which now undertake the function of the dismantled marketing boards, not only lack the market power of the marketing boards, but also have as much interest in buying at cheap prices from farmers as they have in selling at high prices to the massive international trading companies.

On domestic markets, the picture is different for each country and each commodity, but there has been a much slower rate of market concentration among local traders. The almost instant change-over from a centrally controlled agricultural market to one run by the private sector has meant that, in many countries, a fully efficient, competitive market has not yet evolved. In addition, the traditional method of small-scale farming means that rural populations are thinly dispersed, with each farm producing only a tiny surplus of products for sale.

This often means that, in some locations, there is only enough business for one trader. There may be thousands of small-scale traders, instead of a few very large ones, as in developed countries. This means that there are often as many as five or six intermediaries between the producer and consumer. Each has to take a profit and each incurs handling costs. The net result of these changes is that in many ACP countries, farmers are paid too little and consumers pay too much.

Income-generation strategies

Another important feature of recent agricultural development strategy has been to encourage subsistence farmers to produce a surplus for sale. The impact on the rural economy varies between countries, but when these surpluses are of cash crops, the result has often been to contribute to global overproduction and collapsing prices. With increasing populations and more frequent shortages of food in developing countries, however, this strategy can have very positive benefits, not only for farmers but, through a multiplier effect, also for the general economy.

A less successful strategy has been to encourage farmers to diversify: to grow a new product when the market price of their traditional crop has fallen. In too many cases, as with diversification into vanilla, the result has been to spread the problem of overproduction in one commodity into overproduction into many more.

In order to take advantage of the opportunities that have occurred through the adoption of export-led development policies, ACP countries now have to produce more agricultural goods that meet high international quality and safety standards. Although many larger-scale producers have risen to this challenge, most typical, small-scale producers do not have the know-how or resources to compete in this area. Even if they could, local testing laboratories and certification authorities are scarce and expensive.

So – how do we proceed from here to where we want to be? What are likely to be the most useful strategies for increasing the welfare of most ACP farmers?

International issues

Let us review the international arena first. At the WTO meeting in Hong Kong later this year, the central debate will concern a reduction of import tariffs on agricultural products by the wealthiest countries in return for developing countries opening up their markets further to services and manufactured items from developed countries.

Such changes will give the greatest benefits to large, comparatively wealthy, temperate countries that have large agricultural sectors – Australia, Argentina, Brazil and Canada. These countries do not subsidise their agricultural sector very heavily and rely on modern agricultural technology and enormous farms to retain competitiveness. They want to supply the USA, EU and Japan with more grains, oilseeds and meat.

Some ACP countries might benefit from wealthy countries lowering their tariffs on sugar and cotton, but those ACP countries that presently enjoy EU Lomé/Cotonou trade concessions on sugar and beef could be seriously disadvantaged by these changes, especially if they also lose the protection they now have for their embryonic services and manufacturing industries. The WTO has already curbed the advantages that ACP banana producers had on access to the European market.

The WTO has taken up the problem of market access for sugar into Europe and cotton export subsidies in the USA, and some ACP countries are likely to benefit from increased market access to these goods.

Six African countries have submitted a proposal for the clarification of WTO rules covering measures that developing countries might take to reinstate international commodity agreements to end over-supply of tropical commodities and thus to increase prices. Their proposals also ask for clarification of measures that might be taken to combat the negative effects of market concentration and to end the dumping of cheap, subsidised agricultural commodities from wealthy countries on the markets of developing countries. If such measures were introduced, they could greatly benefit ACP countries and would be worth many times the total aid receipts of ACP countries.

ACP/EU trade relations

Many ACP countries are small, in terms of population, and as they have a small domestic market, they do not attract a great deal of inward investment. In order to comply with WTO rules, the EU is obliged to end its trading concessions with ACP countries as a block, but may retain concessions with all least-developed and developing countries. The mechanisms preferred by the EU for doing this are regional economic partnership agreements. Although this is a highly contentious issue, the formation of ACP countries into regional ‘common markets’ might encourage inward investment and stimulate regional trade between those countries.

Marketing boards

Although marketing boards were used as a tax-gathering mechanism by some governments and were often over-bureaucratic, they did fulfil some useful functions. Many acted as an arbiter for setting quality standards, some distributed credit in the form of inputs and, more importantly, they were able to bargain with large trading companies from a position of strength and thus gain fair market prices for the country’s output. Some consideration is now being given to the idea of reconstructing a new form of institution that could re-establish some of these useful functions in a way that would benefit ordinary farmers.

Farmers’ associations

Almost all experts now agree that much more effort needs to be made to encourage farmers to form associations and to give them the necessary support to allow them to do so. While it is true that modern farming methods can increase the productivity of a given area of farmland by

improving economies of scale, it would be impossible to clear the land now being worked by small-scale farmers in order to introduce large, modern farms. Economies of scale can also be improved if farmers harmonise their activities to grow a similar variety of crop and harvest it simultaneously. They can then market it collectively and obtain higher prices by selling it in bulk. Such associations can also purchase inputs in bulk more cheaply. In addition, it is far easier to deliver services to farmers, such as extension, training, credit and communication systems, if they form themselves into larger groups.

Market information

European farmers have access to over 2,000 sources of market information, yet agriculture represents only 2% of Europe's economy. Many farmers in ACP countries, where agriculture represents over half the economy, have no access to market information. We now have a strategy that encourages farmers to maximise sales of their goods, without telling them what price they should expect to sell them for. There are some examples of successful MIS in ACP countries, but there are also many examples where no services exist for farmers. This is partly because funding for MIS seems to be a low priority. It is also impossible to evaluate quantitatively the benefits of MIS, because such benefits cannot be disaggregated from the many other factors affecting agriculture, such as weather, prices, availability of credit, and transport conditions. Nevertheless, asking farmers to make their living by selling their goods, then asking them to do this without market information, is like asking them to farm without land or water. An efficient and appropriate MIS for all ACP farmers is essential if their welfare is to be improved.

Commodity exchanges and warehouse receipt systems

Several ACP countries have established commodity exchanges to trade some of their staple commodities. In a typical commodity exchange, buyers and sellers of a particular commodity use the service of brokers to transact sales and purchases. Several brokers work permanently at the exchange, and each may represent many buyers and sellers. By combining buying and selling orders they can then trade these with each other so that their clients who wish to sell can be linked to clients who wish to buy. The transactions between these brokers are carried out in a public arena, and the price of each transaction can be recorded and made public without the identity of the original client being disclosed.

This mechanism not only facilitates the marketing of agricultural goods, but also allows all the actors involved in the traded commodities to discover the latest market price for the commodity. In other words, it acts as a kind of MIS, and has the advantage over some conventional MIS in that the true market price is easier to discover than it would be, for instance, by asking individual traders for their estimate of the price.

However, commodity exchanges are much more costly to set up than conventional MIS, and take up limited donor funding. In addition, commodity exchanges can only be used effectively, in the ACP context, to trade bulk commodities such as grains and pulses.

The warehouse receipt system is usually linked to commodity exchanges. No-one would be willing to buy a product unless they have examined it, or have a guarantee from an impartial body that the quality of the product is as described. If such a guarantee can be supplied, buyers can trade not only in the physical commodity, but also in documents that give title of ownership to a particular quantity of that commodity, which is at a known, safe location and of guaranteed quality. Such documents could also be used as collateral to help the owner borrow money from a bank.

In many ACP countries there is a lack of trust in the viability and probity of banks, and in the mechanisms used to enforce legal contracts. For a warehouse receipt system to be successful, a huge and costly effort needs to be made to ensure the legal and business institutions that guarantee the existence and quality of traded commodities are not in doubt.

Quality standards

Consumers in developed countries now demand very high quality for the goods they buy. They will not buy food products unless there is a guarantee that they are safe to eat. They want good and attractive packaging, and they want goods that are uniform in appearance.

Most small-scale farmers are not equipped to produce such goods and, even if they could, the companies that test the products for safety charge fees that are beyond the farmer's means. This means that only large or extremely well organised farms can benefit from this opportunity by adopting strict quality control measures and obtaining the necessary certification for their goods.

Medium-sized farmers and groups of farmers working together could, perhaps, improve the quality of their products to international standards, but they are likely to lack the marketing skills and trade contacts to identify customers and to negotiate successfully with them.

Such farmers should be encouraged to 'test-market' their goods on outlets such as tourist hotels, conference centres and upmarket supermarkets. Once they are confident they can produce a high-quality product reliably and consistently, they are more likely to gain the confidence to market their products to other countries.

Added value

Over the past 20 years the prices of primary agricultural products have fallen steeply, but retail prices for the same products, processed and packed for the supermarket shelf in industrial countries, has been climbing steadily. These factors suggest that producing countries could gain a lot more income for their goods if they added value to primary products by processing them. Farmers, too, could earn more money for their crops if they could achieve higher quality, sort and grade them properly, weigh and pack them in standard measures and, where appropriate, clean them.

Agricultural extension services and agricultural development agencies place high priority on helping farmers to increase productivity and reduce wastage. This strategy may help individual groups of farmers, but the overall effect may be to add to the problem of overproduction and decreasing prices. In order to meet some of the challenges of the modern agricultural markets, these agencies should now seriously consider helping farmers to add value to their goods.

Strategies for consideration

This workshop is concerned with discussing a number of strategies that could be of assistance to people in ACP country agricultural sectors. These strategies include:

- improving MIS and market intelligence systems
- improving the provision of credit
- expanding the role of auctions, ACEs and warehouse receipt systems
- improving the legal framework for agricultural markets

- improving grades and standards
- improving government policy to improve marketing systems.

Food marketing systems, market institutions and co-ordination roles

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In recent years, food marketing systems (FMS) have attracted a great deal of interest in studies on regional development, supply-chain management and (international) marketing channels. This is, among other reasons, due to renewed interest in food quality, food security, food safety, sustainability of resources and seasonality in food supply. Another reason is that non-processed food items tend to be very vulnerable and, due to their limited shelf life, cannot be stored for a long period. This suggests, especially for fresh products such as vegetables, fruit, meat, fish and dairy products, that actors in the supply channel need to co-ordinate their activities to be able to deliver fresh, tasty and safe products of desired quality to their customer segments.

Food marketing systems play a key role in regional development. The initiatives and risks taken by entrepreneurs, whether farmers, traders, processors or transporters, will affect the pace of regional development. Investment by public authorities in the physical and informational infrastructure will reduce transaction costs. Initiatives taken by private or public authorities to facilitate the improvement of marketing functions, such as standardisation of measures, product grades, standard contracts and MIS, can further reduce the transaction costs (e.g. search and inspection costs of traders).

The aim of this paper is to discuss factors that influence the performance of FMS: the structure, co-ordination and performance of FMS and their institutions. Operations in an FMS are influenced by its (cultural, political, socio-economic and technological) environment, as well as by competition in input and output markets.

Analysis of food marketing systems

Food marketing systems are defined as ‘Sets of interdependent organisations involved in the process of making a food product available for consumption’ (Kotler, 2000). An FMS includes participants, functions and institutions. Examples of participants are producers, traders, processors and transporters. Marketing functions are usually categorised into exchange functions, physical functions, and facilitating functions (Kohls and Uhl, 2001).

Exchange functions include negotiating, buying and selling, and arbitrage. Physical functions include transport (place utility), storage (time utility) and processing (form utility). Facilitating functions include standardisation, financial services (e.g. credit), risk management (insurance, futures), market information and marketing research.

Examples of marketing institutions are auctions, assembly markets, wholesale markets and MIS.

An FMS in a country or region can be considered to consist of three subsystems: a number of spot markets; horizontal networks of assembly or wholesale markets; and vertical marketing channels.

Insights into the structure, co-ordination and performance of FMS can be obtained from theories in economics and marketing. These theories include:

- industrial organisation theory (Marion and Mueller, 1983; Baumol *et al.*, 1988; Scherer and Ross, 1990; Carlton and Perloff, 1994)
- marketing channel theory (Bucklin, 1970; Coughlan *et al.*, 2001)
- institutional economics (Nably and Nugent, 1989; Eggertsson, 1990; North, 1990)
- transaction cost economics (Williamson, 1985; Douma and Schreuder, 2002).

Building blocks for the framework to assess the performance of marketing systems

Building block 1: Industrial organisation theory

A central hypothesis in industrial organisation theory is that ‘sufficient competition in markets solves economic co-ordination problems’. To this end, the actual degree of competition in a particular market is compared with a standard derived from theory.

Examples of such standards are:

- ‘Perfect’ competition, in which competition is optimal because of:
 - homogeneous products
 - many buyers and many sellers
 - market transparency (= complete market information)
 - freedom of entry and exit.

Spot markets that approximate the level of perfect competition are auctions and commodity exchanges.

- ‘Workable’ competition, in which competition has an acceptable level. For example, an oligopoly is preferred above a duopoly.
- ‘Contestable’ competition (condition: free and costless entry and exit of a market), in which the threat of competition by potential newcomers (entrants) is sufficient to keep the prices of the existing (incumbent) traders low. For example, traders operating in an oligopsony (a market in which the number of buyers is small while the number of sellers in theory could be large) are buying in an assembly market. They may collude to fix a (low) buying price, but (expected) market entry of other buyers is supposed to break this collusive action.

Building block 2: Marketing channel theory

Marketing channel theory deals, among other issues, with the degree of cooperation and co-ordination in the channel.

Three basic modes of co-ordination can be observed in marketing channels:

- spot markets through price competition (conventional marketing channels)

- hierarchies through lines of command, contract or joint planning (vertical marketing system)
- networks through mutual trust among buyers and sellers.

Market

Co-ordination of economic activities is governed by the price mechanism (price discovery). Market prices embody a crucial signalling device for market participants. Different levels exist of supplier or buyer control over market prices, dependent on the degree of competition at the supply and demand side in the market. Often the degree of competition for homogeneous products is represented by a matrix with the number of suppliers (one, few, many) as axis 1 and the number of buyers (one, few, many) as axis 2. In this matrix, one can find perfect competition (many, many); oligopoly (few, many); oligopsony (many, few); monopoly (one, many); monopsony (many, one), etc.

Hierarchy

Co-ordination of economic activities can be obtained through an authority or a hierarchy (e.g. a channel leader) by means of contract (e.g. franchising) or planning (e.g. a common marketing plan).

Network

A network consists of informal relationships between agents, and is assumed to lubricate economic relations. cooperation, loyalty and trust among agents are major characteristics of networks.

A summary of these forms of economic co-ordination is represented in Table 1.

Table 1 Key features in co-ordination mechanisms			
	Market	Hierarchy	Network
Normative basis	Contract	Employment	Complementarity
Communication	Prices	Routines	Relational
Flexibility	High	Low	Medium
Commitment	Low	Higher	Higher
Climate	Suspicion	Formal	Mutual benefits
Choices	Independent	Dependent	Interdependent
<i>Source: Powell (1991).</i>			

Main types of co-ordination that can be found in marketing channels are:

- conventional marketing channels: competition through spot markets

- vertical marketing system: co-ordination by channel participants or a channel leader in which co-ordination can be voluntary, contractual or based on ownership
- Mixed forms.

Building block 3: Institutional economics

The main question in institutional economics is: what is the optimal mix of rules and economic organisation to facilitate exchange processes?

Definitions of 'institutions' found in the literature are:

- 'any behavioural regularity'
- 'rules of the game' in a society.

Examples of the first category are trade habits or informal codes of conduct. Examples of the second category are rules or regulations about grading and sorting, standardised contracts and rules about conduct in a market set by market authorities.

Building block 4: Transaction cost economics

Transaction costs can be related to the three classes of marketing function: exchange functions, physical functions and facilitating functions (Kohls and Uhl, 2001).

The broad definition of transaction costs includes all costs related to these three classes of marketing function. The narrow definition of transaction costs usually regards only the exchange functions:

- information collection and interpretation
- negotiation / bargaining
- enforcing contract.

The costs of these facilitating functions are dependent on the availability of proper marketing institutions. These costs are related to the degree of:

- standardisation of measures and product grades
- availability of financial services, e.g. credit
- risk management (insurance, futures market)
- availability of MIS and marketing research services.

The costs of the physical functions (transport, storage and processing) tend to be high, especially in developing countries where the physical infrastructure is underdeveloped.

Framework to evaluate the performance of a food marketing system

What criteria can be used to judge that one FMS is functioning better than another? Performance assessment includes factors such as:

- **effectiveness**: is the system doing what it is supposed to do? For example, are the level and quality of the chain's 'service outputs' satisfactory to its customers?
- **efficiency**: are the resources to produce a product or service used in an optimal way? For example, is it better to 'make' or 'buy' a product or service?
- **equity**: are there 'equal' opportunities for all participants to enter (or exit) a market, or to obtain a fair share of the value added in the chain?

(Coughlan *et al.*, 2001).

The level and quality of the service outputs of a marketing channel may include:

- price in relation to quality
- delivery time or (customer) waiting time
- lot size or package size (discrete, continuous)
- access to, or density of, retail outlets
- degree of product differentiation or product variety.

In developing the framework, we need to know which factors may influence the performance of an FMS. A popular framework is the (supposed) relationship between market structure, market conduct and market performance (Cubbin, 1988; Scherer and Ross, 1990). For example, are market structure variables affecting market conduct and market performance? Or is interdependency between structure and conduct affecting market performance?

The assessment of an FMS is decomposed into the assessment of three subsystems: spot markets; horizontal networks of (assembly or wholesale) markets; and one or more marketing channels.

Spot market level

For example, an assembly market, an auction, a commodity exchange, a wholesale or a retail market.

At this subsystem level, structure, conduct and performance can be defined as follows.

Market structure characteristics:

- degree of concentration of supply and demand
- degree of market transparency (market information)
- entry or exit barriers
- level of transaction costs
- availability of institutional support services.

Market conduct characteristics:

- people's market(-ing) strategies
- degree of competition (e.g. oligopolistic behaviour)
- degree of (tacit) collusion.

Market performance indicators:

- effectivity (process of price discovery)
- efficiency (profitability) – benefits in relation to transaction costs
- equity (market access).

The conclusion of this type of analysis may be that the actual market is close to one of the described models of perfect or imperfect (workable, contestable) competition. What conclusion can be drawn from this analysis? What measures need to be taken to improve market performance?

Spatial 'network' level

For example, at the level of horizontal networks of markets such as assembly markets, auctions, commodity exchanges, distributing wholesale markets.

At this subsystem level, structure, conduct and performance can be defined as follows:

Structural aspects of the network:

- are markets linked through arbitrage activities by traders (or are they autarchies)?
- institutional set-up.

Conduct characteristics of the network:

- does arbitrage by traders between markets reduce price differences and, finally, result in price differences that are equal to transaction or the costs of the three marketing functions?

Performance indicators of the network:

- effectivity – what is the degree of spatial price integration?
- efficiency – benefits in relation to transaction costs
- equity – are there entry barriers?

The conclusion of this type of analysis may be: what is the degree of market or price integration between the selected markets? What measures need to be taken to improve arbitrage between markets?

Marketing channel level

At this subsystem level, structure, conduct and performance can be defined as follows.

Structure:

- what type of governance system? (conventional marketing channels, vertical marketing system?)
- what vertical marketing system?

Conduct of people:

- for example, in the case of a vertical marketing system, who is co-ordinating the marketing channel (channel leader)?

Channel performance indicators:

- effectivity – level of service outputs
- efficiency – compare costs of ‘make’ or ‘buy’ decisions
- equity – what is the added value in relation to the costs?

The conclusion of the analysis is related to the question: Has the best governance structure been chosen for the marketing channel? What measures may improve vertical co-ordination?

Integrating the results of the three subsystems

The results of the performance assessment of each subsystem need to be integrated into an analysis for the total FMS.

Application of the framework

I selected FMS in two case-study countries to demonstrate the application of this framework: Benin and Costa Rica.

The research in Benin was a joint project between three universities in The Netherlands (Amsterdam, Utrecht and Wageningen) and the Faculty of Agriculture of the University of Benin (Cotonou). Many MSc students of these four universities and several faculty members cooperated in collecting primary data on structure, conduct and performance in the maize-marketing system of Benin. This included market prices, marketing costs, levels of competition, collusion practices and entry barriers.

The research in Costa Rica was part of a joint research project in which the Tropical Agricultural Research and Higher Education Center (CATIE), Wageningen University, the Universidad Nacional and the Universidad de Costa Rica cooperated. The study set-up was an integrated approach in which, among others, soil scientists, agronomists and economists cooperated in developing new research tools.

In Benin, all data required were collected by trained enumerators. In Costa Rica, primary data were collected by enumerators and secondary data were obtained from several ministries and the Central Bureau of Statistics.

The depth of analysis in the two studies was related to the availability and quality of the primary and secondary data. Consequently, the statistical methods used to test hypotheses or simulate policy scenarios also varied accordingly.

Study results

The following conclusions were drawn from each of the three country studies.

Benin

The research activities were concentrated in the southern part of Benin, with two rainy seasons and, consequently, two crops and harvests. The physical infrastructure was quite good, and was improved during the research period, resulting in lower transport costs.

Markets

The rural assembly and wholesale–retail markets for maize were characterised as ‘contestable’, which means that other traders could easily enter the market in cases of price differences that were substantially higher than transaction costs. Traders, who were normally dealing in products other than maize, entered the maize market during times when trade profits were increasing, and left the maize market in periods when trade profits were decreasing. This suggests that these traders knew how to deal with entry barriers such as trade customs or practices (e.g. non-standardised volume measures and product grades), lack of market information and working capital.

Spatial networks

The initial assumption was that one or two large-scale wholesale markets in the south (Bohicon and Cotonou) were the price-leading markets, in the sense that wholesalers were able to set prices based on their estimates about the ruling supply and demand conditions. However, this appeared not to be the case when the results of a co-integration analysis became available: Traders in five of six wholesale markets in the south of Benin appeared to interact in such a way that the ruling price level was the result of their joint activities.

Marketing channels

Here the hypothesis was that maize wholesalers were influencing the price level more than maize retailers. This was only partly true. Wholesalers appeared to affect the price level more than retailers in rural markets, whereas retailers influenced the price level more than wholesalers in urban markets.

Recommendations for stakeholders

Relevant price information is difficult to obtain without proper standardisation of measures and product grades (Shepherd *et al.*, 1997). Adequate price information about the quality of the underlying lot of products is necessary to assess its value. One may wonder why these basic requirements in the marketing of agricultural products have not yet been fulfilled in Benin. In the 1950s and 1960s, the Food and Agriculture Organization of the UN (FAO) published documents about this marketing problem (Abbott, 1961). One suggested answer is that these aspects are related to culture and habits, and tend to be hard to change in cases where there is not a clear incentive, as the history of Europe and the USA shows. A strong set of marketing institutions, backed by the government, may be able to enforce the required changes (Abbott, 1961).

Costa Rica

Research activities were mainly concentrated in the Atlantic Zone of Costa Rica.

Markets

Assembly markets were especially relevant for products to be sold in domestic (wholesale or retail) markets. Farmers in the Atlantic Zone complained about the fact that they often could not sell their products because traders did not pass to buy them (for example, in the case of roots and tubers). However, both rural and national cattle auctions were operating in a transparent way.

Spatial networks

There was not much arbitrage between spatially separated wholesale markets at the same level in the channel, e.g. wholesale markets, mainly because of thin markets (caused by a low population density in parts of Costa Rica), large distances and a high mountain ridge (sierra) between markets.

Marketing channels

The marketing of export crops such as bananas (by multinationals), coffee (by a marketing board), fruit (by multinationals) and tubers (by export companies) was well organised as a corporate or contractual vertical marketing system. For non-export crops, the marketing channel had all characteristics of a conventional marketing channel.

Sector analysis

An agricultural sector analysis for Costa Rica demonstrated that the sector has been highly dependent on world prices for export commodities, and on transport costs for non-export commodities.

Recommendations for stakeholders

A spatial equilibrium analysis was used to simulate relevant future market scenarios, e.g. to reduce trade barriers (WTO), to increase price levels for farmers, to shift demand functions upward (because of an expected rise in income), or to shift supply functions downward (because of expected technological improvements in agriculture). For example, the effect of reduced import tariffs or road construction was simulated. The profitability of the country's important export sector depends strongly on world market prices.

Conclusions

The above framework helps us to understand the contributions of people, markets and institutions to better functioning of FMS. This will, in turn, contribute to regional development. Investment to improve the physical, facilitating and exchange infrastructure is essential.

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The growing power of supermarkets

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Many contributors to this conference have provided evidence that market power in agricultural products is shifting away from the producers in favour of participants and further towards the consumer end of the market chain. The concentration of international trading companies, through a process of acquisitions and mergers, has enabled the small number of very large, international trading companies that remain in business to purchase goods from atomised and disorganised producers on terms that are increasingly more advantageous to them. A similar process of market concentration has taken place simultaneously in the processing and retailing sectors of the market chain, and companies in these sectors are increasingly able to dictate sales terms to the trading companies that supply them.

In the UK, just four supermarket chains, Tesco, Asda, Sainsbury's and Morrisons, now account for about 70% of all grocery sales. Market concentration in this sector has occurred in most other major consuming countries, and is now also a feature in many developing countries. Many supermarket chains operate in more than one country and in more than one continent. Individual stores may cover an area of 50,000 square feet (1500 m²) and may stock several thousand different grocery lines from hundreds of different suppliers. These four UK chains have reinforced their attraction to consumers of their traditional grocery and fresh food range by also offering non-food items including clothing, kitchenware, cosmetics, petrol, electronic equipment and services such as banking and insurance. In a relatively new strategy, they are now opening smaller local outlets, such as Tesco Express, displacing the traditional, family-owned corner shop. If a new supplier is unable to sell to one of these chains, they have little hope of penetrating the mainstream market.

Many agricultural development agencies now advocate a strategy for developing country producers to add value to the goods they produce in order to capture some of the large profits of companies that occupy sectors nearer to the consuming end of the market chain. Ultimately, this means they should have their products sold through the giant supermarket chains.

Supermarkets, however, need to be assured that all their suppliers can produce safe, high-quality products that are properly and attractively packaged, branded and labelled; that the supplier can deliver the product on time to the supermarket's warehouses; and that they have the means to compensate the store in the event of quality, performance or safety claims.

Supermarket chains are powerful and highly sophisticated organisations designed to maximise profits and minimise risk. The functions of the organisation are divided between various departments and between the head office and the local supermarket branch. And, as the market power of the supermarket grows, the internal decision-making mechanisms are also evolving.

The following section of this paper outlines many of the concepts and procedures used by supermarkets in their relationship with suppliers.

Procedures and concepts

Opportunities for the successful launch of new products and for new suppliers are becoming increasingly limited through UK supermarkets. Although suppliers of all products are affected to some extent, it is perhaps in the grocery sector where the effects are seen most clearly.

Major supermarket chains are now actively engaged in reducing the number of suppliers they deal with. This is a corporately directed process, driven by various departments and individuals in the organisation, including accounts and logistics departments, store managers and area directors. Buyers (individuals employed at the head office of the supermarket to purchase various categories of goods such as fruit, canned goods and confectionery) are becoming less influential in the decisions taken about the choice and number of suppliers.

Buyers are being encouraged to source more and more products from fewer and fewer suppliers – usually suppliers with a minimum turnover of £500,000. This has often been at the expense of some customer choice. Existing, large, reliable suppliers are even being required to supply grocery items that they have no previous experience of producing, in order to avoid supermarkets having to buy from small or less reliable suppliers of the product.

Given the very large range of items offered in supermarkets, and the limited space available to stock them, individual stores are frequently changing shelf space per category of grocery item, and often inappropriately combining the shelf space given to previously separate categories.

Many smaller suppliers are finding it necessary to match their products, and the way they market their products, exclusively to a single supermarket chain. Those who attempt to sell to all the large chains are considered less reliable – perhaps less trustworthy – no matter how good their products are or will become. Supermarket buyers work specifically with designated suppliers with whom they will spend a great deal of time harmonising the supplier's practices with their own requirements. Suppliers are becoming 'tagged', as the expression goes. They can either be a Tesco supplier or an Asda supplier. Only the most powerful brands can operate successfully across all the major retail chains.

Supermarkets attempt to attract a larger share of customers with 'loss leaders'. These are usually limited offers of very inexpensive prices for products such as bananas or sugar. The marketing logic behind this tactic is that customers will go to a store, in which they would not normally do their shopping, in order to buy the very inexpensively priced item, and then develop a habit of visiting that store even after the loss-leader offer has elapsed.

But what is a loss leader? Is it an item that makes a negative gross profit or a negative 'net net' profit (profit after fixed and variable costs have been subtracted)? The supermarket can make anything a loss leader, depending on whether they choose to add in retrospective rebates (see below). Suppliers, generally, are opposed to their products being treated in this way. It often means that the other outlets to which they sell (smaller grocery stores) suffer a fall in sales of the product. Of course, the supplier always has the option of withdrawing sales to the supermarket in protest, but any such retaliatory action would make any future attempt to sell to the supermarket very difficult to achieve.

When supermarkets offer loss leaders, they are reluctant to take that loss themselves. Their market power is such that they can often drive the loss down the supply chain. They can squeeze their suppliers to offer at a lower price. The supplier can then use the excuse of the loss leader to press their ultimate supplier, the farmer, to cut the price.

Supermarkets have two golden rules: maximise profit and minimise risk. The second is almost as important as the first. The risk factor is substantially reduced if all suppliers are large, experienced, familiar with the supermarket's buying arrangements, and based within the same legal system (usually in the same country). These suppliers may buy the products that they sell to the supermarket from other countries, including developing countries, but the supermarket does not want to take this risk.

Supermarkets are very willing to send their employees or agents to foreign countries to observe the production process and test quality control systems, etc., but they are often reluctant to purchase directly from foreign suppliers, even though this would be easy for them to accomplish.

Supermarket buyers, who once had the greatest amount of control over buying policy within the organisation, are becoming more subservient to other departments of the organisation. Buyers are usually responsible for only one category of product – jams and honeys, or biscuits and nuts, for example. Senior management calculated that buyers can only see the success of the business from the narrow interests of their sector. It has become increasingly clear that the accounts department is likely to be better equipped to assess risk, the marketing department can more effectively attract customers, the logistics department is more likely to arrange efficient delivery, and time-and-motion experts are better at working out the costs of restacking supermarket shelves.

The thinking in these organisations has moved away from the central requirement of the individual buyer, which is to source cheap, good-quality products. Although the buyer still has to fulfil this function, the organisation has shown that attention to quality control, product surveys, customer surveys, marketing strategies, stock loss, delivery optimisation and efficient management can make more significant contributions to profitability.

The way suppliers deliver their goods to the supermarket is also changing in a way that benefits the supermarket. Palletised parcels of boxes or cartons of the product must be delivered at a rate dictated by the supermarket to all its UK depots. The supermarket is able to change this rate of delivery with only a week's notice. The supplier is also required to be very flexible over the minimum and maximum quantities delivered. Some stores sell some products at a slow rate and, as they do not wish to finance large stocks, the head office may require suppliers to be capable of delivering in very small quantities.

Suppliers are also expected to provide, free of charge to the supermarket, in-store advertising material such as leaflets, window posters and shelf displays. In addition, they may be asked to provide special offers, recipes for food products and their own customer complaints service. Those suppliers who spend large sums on advertising their goods are, naturally, preferred by supermarkets.

Although suppliers need an accurate estimate of the overall quantity of their product that the supermarket expects to sell, supermarket buyers are reluctant to commit themselves, even if they have their own accurate estimates. Despite this reluctance, they will nevertheless expect suppliers to maintain sufficient levels of stock, at their own expense, to cope with unexpected surges of demand.

Each supermarket chain also expects suppliers to offer their organisation some special feature, unique point of difference or exclusive offer on the goods they supply, which is not offered to rival supermarket chains. Such offers could include competitions where customers can win prizes, superior packaging or free gifts in return for package labels.

All these obligations, written or unwritten, in the supplier–supermarket relationship demonstrate the growing dependence of the supplier on the supermarket.

Some of the benefits expected in this changing relationship are not willingly acknowledged in the trade. The supermarket is always in a position to benefit individual suppliers. This could take the form of stocking the product at a greater number of its stores or helping the supplier to launch a new product. Some compensation for this benefit might be expected. This could take the form of an increased discount for the product or a ‘listing fee’ (where the supplier pays for a new listing) or a ‘marketing allowance’ for an existing product.

The most complicated and obscure incentive offered by suppliers is the ‘retrospective payment’, known in the trade as a ‘retro’. The use and extent of this form of price discounting varies from country to country, but in the UK it often takes the form of a lump-sum payment to the supermarket from the supplier at the end of some agreed period of continuous sales. The lump sum is calculated as a percentage of the value of those sales over the set period, say 1% for the first £100,000 of sales, 1.5% for the second £100,000, and so on.

The most interesting aspect of the retrospective payment is that the supermarket has the discretion to allocate the payment to any part of its activities, not necessarily to the account of the product in question. This allows the store to have considerable flexibility to, for instance, subsidise a new product in which it has high hopes of gaining future sales or to fund loss leaders. The practice also makes it nearly impossible for outside researchers or competitors to estimate the profit made by supermarkets on any individual product.

Calculating the benefit, in terms of profit, for any individual product line can take several forms. In the past, supermarkets mainly calculated the profit on each item using a simple gross margin calculation – the difference between what was paid for the item and what it sold for. More recently the emphasis has been on using a ‘net net’ cost calculation where all external costs, such as shelf-filling, cooling or freezing, wastage, theft, cleaning and unpacking, are included. Even this net net calculation can vary, often depending on whether sales taxes are included or not.

Although most consideration is given to the percentage margin on any product, the cash margin on high-value goods is sometimes considered to be more important.

The question of what is enough gross margin is complex, and can be the subject of much discussion. It is ironic that, while the UK Government is investigating the major grocers for what is seen to be overcharging, other sectors (non-food retailers) think that grocery margins are low. While it is true, from time to time, that the profit margin on certain high-turnover, low-priced products, such as beans and bread, can be very low, the gross margin on most grocery product areas is higher than commonly believed. The gross margin on biscuits, snacks, nuts and crisps seldom falls below 35%. The gross margin on certain raw product areas, such as coffee and tea, can be considerably higher, especially when the high retrospective payments, traditionally paid for these items, are taken into account.

Assessment of the activities of rival supermarket chains is an important aspect of marketing policy. Much intelligence can be gained by simple observation of the rival stores and their advertising output. An important source of scarcer, internal information from the rival camp is the so-called account managers employed by suppliers. The larger suppliers employ a manager (the account manager) with the specific function of dealing with an individual supermarket chain. These account managers are in constant communication with their fellow account managers, whose job is to liaise with the other supermarket chains. It is not in any supplier’s interest, for instance, to have all major supermarkets promoting their product at the same time. It

is therefore part of the account manager's job to see that these promotions happen on a stepped basis. Part of this process will be a discussion of current and promotional retail prices.

Advice to potential suppliers to major supermarket chains

It must be clear by now that supermarkets represent a very powerful market force within the commercial chain of agricultural products. If producers in developing countries wish to capture some of the enormous profits within the chain, they need to add value to their products. Adding value can take the form of simple steps, such as grading, sorting and packing in parcels of standard weights and measures. Fruits and vegetables can be canned or frozen, biscuits can be made from simpler ingredients, and chocolate can be manufactured from cocoa beans.

These more sophisticated steps can only be taken with considerable investment and know-how. The problem is that, even if such investment could be obtained, how can such goods be marketed in the high-priced consumer markets of the world?

Clearly, very few developing countries could establish or acquire a supplying entity with the capital base and experience to satisfy the exacting conditions demanded by the major supermarkets in every major consuming country. It may be possible, however, to make some progress in this endeavour.

There are some large, specialist companies that source products from all over the world. They take on the burden of supplying supermarkets. It may be that they might often want to brand the product in their own name.

The identity of these companies could be ascertained by visiting one of the many trade fairs specialising in the types of product in question. But the first requirement must be for the producer to have a good product, at a competitive price.