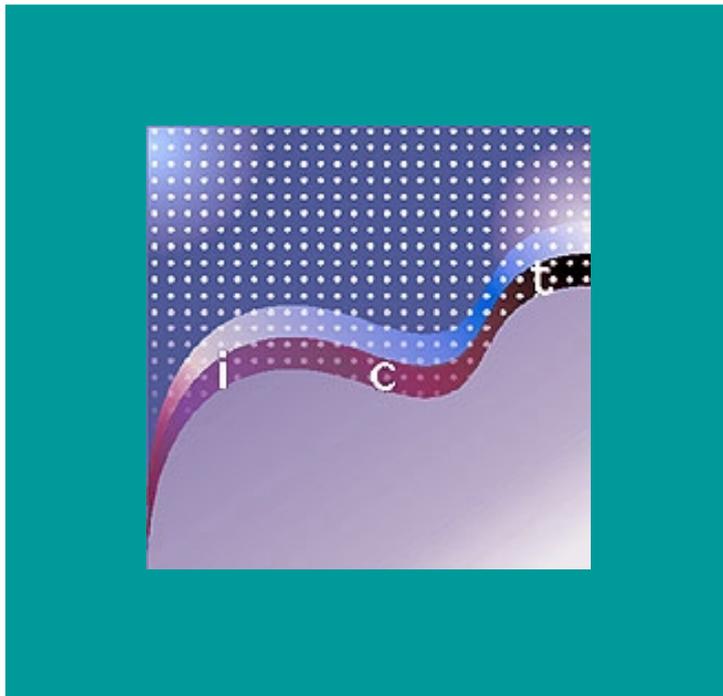


**United Nations Conference on Trade and Development**

# **E-COMMERCE AND DEVELOPMENT REPORT 2003**

**Internet edition prepared by the UNCTAD secretariat**

Chapter 6: Marketing developing-country agricultural products via the Internet



**UNITED NATIONS**  
**New York and Geneva, 2003**

UNCTAD/SIDTE/ECB/2003/1

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UNCTAD/SDTE/ECB/2003/1
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UNITED NATIONS PUBLICATION
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Sales No. E.03.II.D.30
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ISBN 92-1-112602-9
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## Chapter 6

# Marketing Developing-Country Agricultural Exports via the Internet

### A. Introduction

This chapter examines the possibilities for using information and communication technologies (ICT) and e-commerce in the marketing<sup>1</sup> of agricultural commodities exported by developing countries. In particular, it attempts to assess the extent to which prices and income accruing to commodity producers can be improved through the use of ICT and the Internet. In a wider sense, it strives to show possible applications of ICT and e-commerce to an economic activity that is fundamental to the economies of many developing countries. The study is motivated largely by the fact that a number of initiatives are already underway to use online marketing of agricultural commodities in developing countries – for example, coffee in Brazil and Kenya and tea in India and Sri Lanka. The study also responds to the ongoing crisis of declining commodity prices, which in many cases has been blamed on the prevailing market structures. While the problems of agricultural commodity markets in developing countries are complex and multidimensional and need to be addressed by a range of policies and strategies, online marketing may make an important contribution to those policies and strategies, taking into account the growth of Internet-based supply chain management functions.

The discussion is limited to Business-to-Business trade and uses coffee and tea as case studies. The two commodities are considered to be sufficiently representative, although variations exist in the importance of different commodities in different countries, and in the marketing systems used. Coffee and tea are major commodities produced by a large number of countries in all developing regions. Both commodities have seen prices fall drastically in the past two decades. The price crisis has directly adversely affected millions of people in developing countries, especially since the production of coffee and tea is labour-intensive; the planting and processing of both commodities involves substantial rural employment in producing countries. Both commodities have received a great

deal of attention in debates concerning the economic problems of developing countries, and both are listed as Fair Trade commodities.<sup>2</sup>

To put the application of the Internet in perspective, the chapter describes the structure of the marketing/supply chains of coffee and tea, where a large number of intermediaries and a system of market relationships give greater market power to the import side than the export side. Such a disparity in market power results in prices that are largely determined by importers, and the share of total export earnings is disproportionately in favour of importing companies. As chart 6.1 shows, in recent years the coffee prices paid to producers (Brazilian/Naturals Group and Composite Indicator Price) declined, while retail prices in importing countries (Germany, Japan, UK and USA) have remained unchanged or have increased.

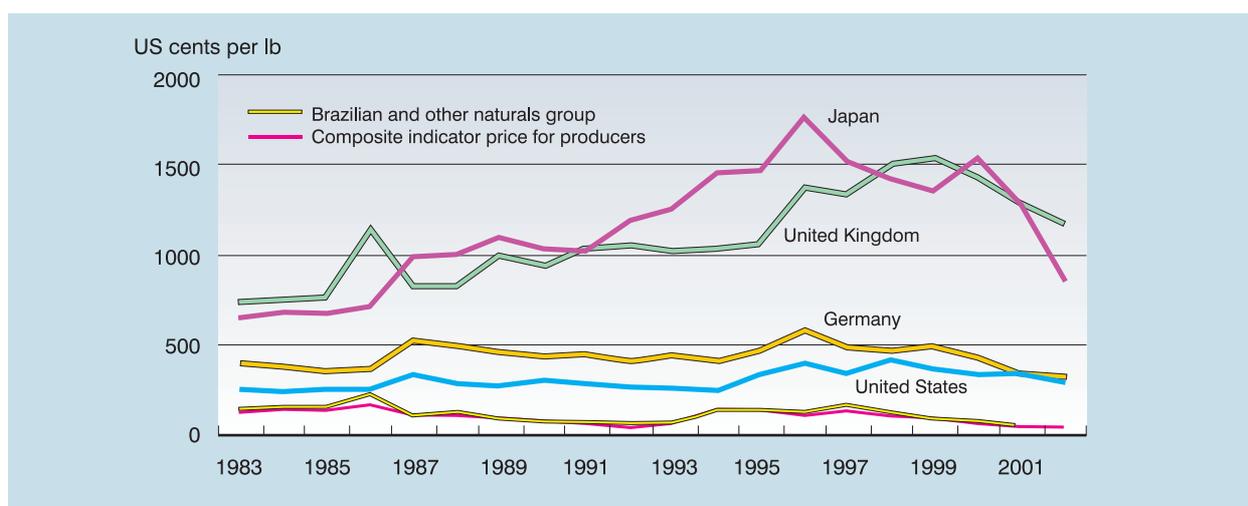
To date, most of the measures that have been proposed or implemented to address problems involving the export prices of developing-country agricultural commodities have focused on commodity supply management, improving quality, and liberalizing marketing. Little or no attention has been paid to measures to deal with the distribution of export earnings between small producers on the one hand and large importing firms on the other. The chapter considers whether the Internet can facilitate more direct marketing and bypass some intermediaries, thereby allowing producers to retain a larger share of the export price.

### B. The importance of agricultural exports in developing countries

The production and export of agricultural commodities from developing countries deserve attention because of the central role that these commodities play in the economies of those countries. UNCTAD

Chart 6.1

## Comparison of producer prices with retail prices



Source: International Coffee Organization

research (1994, 1995, 1999 and 2000) has highlighted the problems and policy issues of the international agricultural trade, using coffee and/or tea as examples.

In many developing countries, agricultural exports represent a considerable share of total export earnings and also of the total gross domestic product (GDP). Table 6.1 illustrates this heavy dependence on

agricultural commodities for selected countries. Equally significant is the fact that in many of those countries only a few commodities play a key role in the national economy. For example, in 2001 in Sri Lanka tea accounted for 13 per cent of the country's merchandise exports. In Burundi, Ethiopia, Rwanda and Uganda, the share of coffee in the value of total exports exceeded 56 per cent over the period 1996 to 2003.<sup>3</sup>

Table 6.1

## Agriculture products as percentage of total GDP

	1996-99	1991-95	1986-90	1981-85	1976-80	1970-75
<b>Developed countries</b>	2.00	2.20	3	4	5	6.00
<b>Developing countries</b>	13.75	14.00	17.6	17.6	19.4	24.33
<b>Developing countries: America</b>	7.75	7.80	9.8	10	11.4	12.67
<b>Developing countries: Africa</b>	22.75	22.80	23.8	22	22.2	25.50
<b>North Africa</b>	16.25	15.00	16.2	13.2	14.2	18.50
Algeria	11.25	12.40	13.2	9.8	10.6	10.17
Egypt	17.25	17.20	19.8	20	23.8	29.83
Morocco	16.50	16.80	17.2	15	18	20.50
Sudan	39.67		34.5	34.4	37.4	43.83
Tunisia	13.25	14.40	14	13.8	15.4	19.00
<b>Other Africa</b>	29.75	29.60	30.8	31.2	29	30.50
Angola	9.00	12.00	16	14	..	..
Benin	38.25	34.60	35	32.8	34	33.50
Botswana	4.00	4.40	5	7.6	15.8	27.67
Burkina Faso	32.50	34.40	32.4	34	34.4	35.67

Table 6.1 (continued)

	1996-99	1991-95	1986-90	1981-85	1976-80	1970-75
Burundi	53.75	50.60	55.6	59.4	62.6	67.50
Cameroon	42.25	32.00	24.6	25.6	31	30.67
Cape Verde	12.25	13.20	16.2	..	..	..
Central African Republic	52.25	45.60	47.8	42.4	39.8	37.67
Chad	36.75	35.40	32.8	38	38.8	39.17
Comoros	39.00	39.20	39.2	34.6	34	..
Congo	10.00	10.60	12.8	7.6	14	16.00
Côte d'Ivoire	27.25	31.80	30.8	24.8	25.2	29.50
Dem. Rep. of the Congo	58.00	51.00	29.6	29.6	24.8	14.83
Djibouti	4.00	3.00	3	..	..	..
Equatorial Guinea	24.25	51.80	64.4	69	..	..
Eritrea	13.00	17.25	..	..	..	..
Ethiopia	52.00	57.00	49.8	53.6	..	..
Gabon	7.25	8.20	9.2	6.4	6.2	12.00
Gambia	30.00	27.40	32.2	35.4	33	35.00
Ghana	36.50	41.00	48.6	52.8	57.2	47.67
Guinea	23.25	22.60	24	..	..	..
Guinea-Bissau	59.25	53.80	54.4	45	48.4	45.83
Kenya	26.50	30.00	31.2	33.4	37	33.83
Lesotho	17.67	17.80	23.4	24.2	30	36.17
Madagascar	31.25	34.40	34.2	34.6	31.6	28.00
Malawi	36.75	37.40	47	41.6	44	42.33
Mali	47.50	46.20	45.2	43	57.8	60.67
Mauritania	24.75	27.40	30.8	30.2	29.2	31.67
Mauritius	8.50	10.20	13.2	14.4	18.4	20.50
Mozambique	34.50	32.60	42.4	36.8	37	..
Namibia	12.25	11.60	11.4	10.6	12	..
Niger	40.50	39.40	34.8	41	48.8	61.00
Nigeria	34.67	27.80	36.2	33.2	27.8	36.33
Rwanda	47.50	40.40	40.4	43.6	51	62.50
Sao Tome and Principe	23.00	26.80	28	28	28	..
Senegal	18.75	19.20	21	19.4	24.2	24.17
Seychelles	4.00	4.20	5	6.8	8.2	..
Sierra Leone	44.00	41.20	50.4	40.6	35.4	32.50
Swaziland	17.50	14.20	16.6	20.6	28.8	34.33
Togo	40.75	37.00	33.6	31.2	28.6	30.17
Uganda	44.00	51.00	57	55.6	72	..
United Republic of Tanzania	46.25	47.20	46	..	..	..
Zambia	20.75	21.60	17	16.2	16.6	13.00
Zimbabwe	20.75	14.20	15.8	16.6	16.2	18.67
<b>Developing countries: Asia</b>	16.00	16.20	20.6	21.6	23.4	32.50
<b>Developing countries: Oceania</b>	23.25	18.60	26	30	30.6	30.33
<b>Developing countries: Europe</b>	8.25	9.00	3.8	4.4	5	6.83
High-income countries	6.25	6.60	7.8	7.6	8.8	10.83

Table 6.1 (continued)

	1996-99	1991-95	1986-90	1981-85	1976-80	1970-75
Middle-income countries	12.50	13.00	16.4	15.8	17.8	20.83
Low-income countries	23.50	26.40	29.8	33	33	36.50
Least developed countries	31.50	33.60	34.4	36	35.4	35.17
Heavily indebted poor countries	31.25	33.20	33.8	33.4	32.6	30.17
Land locked countries	27.25	30.60	35.8	35.6	34	35.00

Source: World Bank and FAO sources and UNCTAD calculation

Chart 6.2 shows the share of coffee in the total export receipts of selected major coffee-producing countries. In other countries, while the total share of export earnings accounted for by given commodities may be small, they nevertheless play a critical role in the economy in other ways, especially in creating employment opportunities in rural communities.

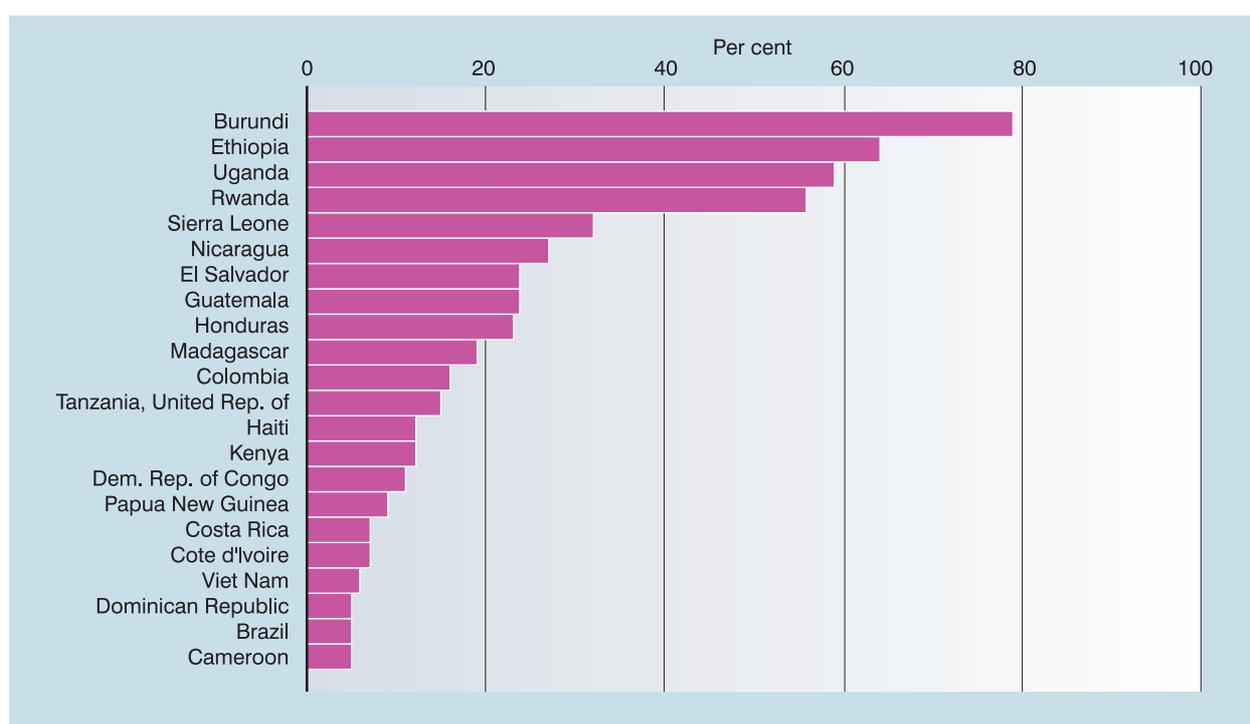
While over the past few decades many developing countries have diversified their economies by moving from exports of agricultural raw materials to commodity-based manufacturing, in many cases this has involved the processing of domestically produced raw materials, and thus agricultural production has continued to play a central role in the economy.

Over the years, a number of policies and strategies have been adopted at the national and international levels to help producers receive higher export prices so as to sustain production and promote overall economic development. These initiatives have included, for example, the UNCTAD Common Fund for Commodities as well as the work of the International Coffee Organization (ICO) and the Association of Coffee Producing Countries.

Developing-country agricultural exports, particularly coffee and tea, have tended to represent an important development issue because of their overall economic impact on the exporting countries and also they mirror the North/South divide in that the bulk of the

Chart 6.2

## Share of coffee in total exports by value. Average 1996–2000



Source: International Coffee Organization

production takes place in developing countries while most of the consumption is in developed countries. For example, practically all of the world's coffee is grown in developing countries, while 80 per cent is sold to Western Europe, the United States and Japan. As for tea, 92.7 per cent of world exports come from 10 of the largest exporters, all of them developing countries: Argentina, China, India, Indonesia, Kenya, Malawi, Sri Lanka, Tanzania, Uganda and Viet Nam (International Tea Committee 2002a).

### C. The marketing of developing-country agricultural exports

To assess the possible role of the Internet in contributing to improvements in commodity marketing, this section reviews the prevailing commodity marketing chains and structures. The discussion focuses on the selected sample commodities, coffee and tea. While the marketing of developing-country agricultural commodities has a number of important common features, there are equally important differences in so far as each commodity's marketing involves different players and marketing arrangements. Nevertheless, examining the marketing of coffee and tea can highlight key features that may apply to the marketing of other agricultural commodities from developing countries.

To better understand the current markets for coffee and tea, it is important to compare the structure of the marketing chains that existed in the early 1980s with those that emerged in the 1990s.<sup>4</sup> These two periods are characterized by distinctly different marketing arrangements for most developing-country agricultural exports.

#### 1. The marketing of coffee

A typical pre-1980s marketing chain for coffee is represented in chart 6.3. It shows the key players in the commodity chain from the point of production to the consumer. A distinguishing feature of this period was the extensive involvement of statutory bodies, mainly marketing boards, in the marketing of agricultural commodities and influencing export prices. State involvement included the control of production and quality, combined with horizontal coordination between countries aimed at regulating international coffee prices. The horizontal coordination included the establishment of commodity agreements and international commodity organizations such as the

ICO.<sup>5</sup> During the early 1980s, agricultural commodity chains were largely producer-driven in terms of price setting and quality maintenance (Ponte 2001). Also during this period, vertical coordination within the marketing chain was minimal, largely limited to informal and temporary agreements between individual buyers and sellers.

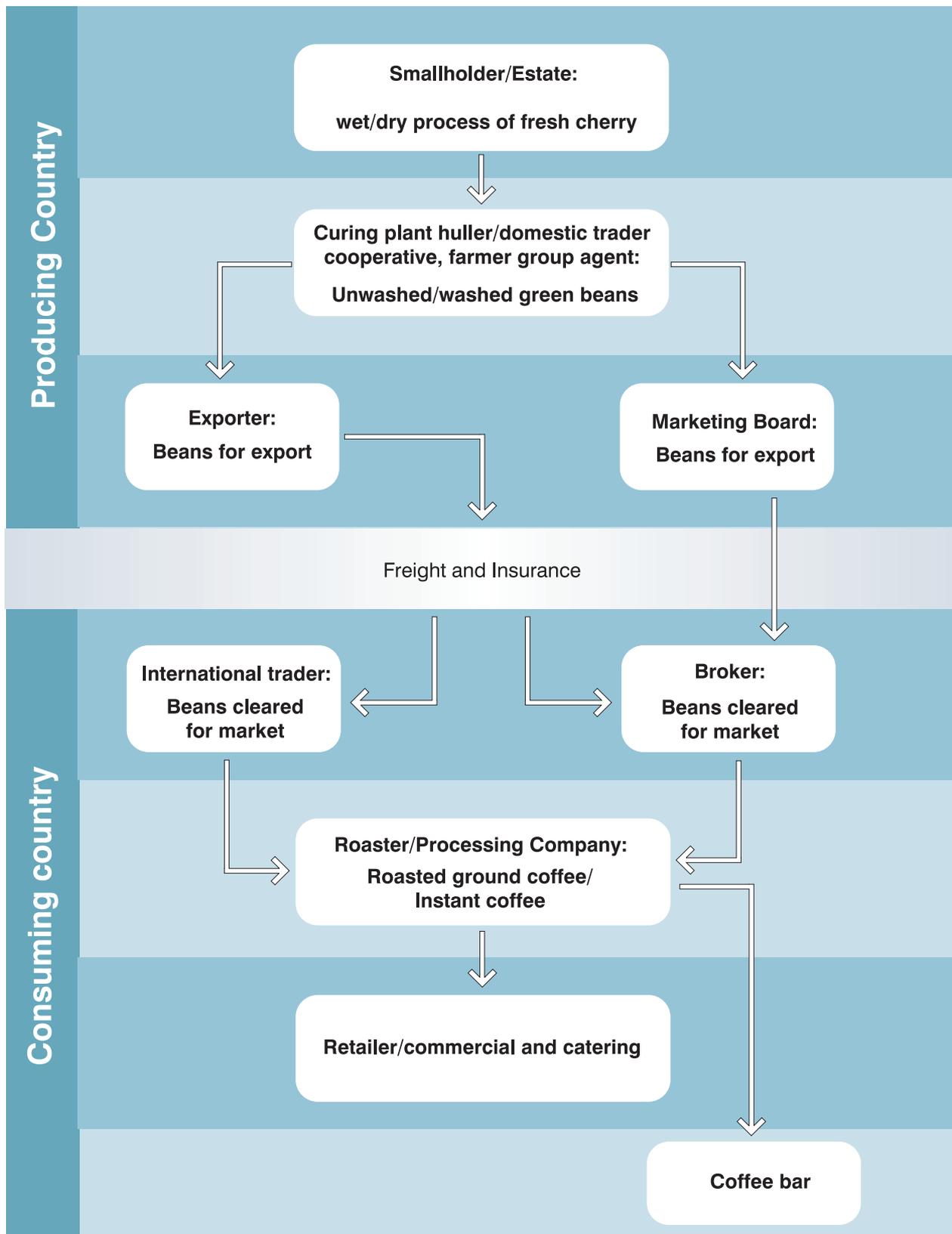
During the late 1980s and 1990s, major structural changes took place in agricultural commodity chains. This resulted from a number of factors. Structural adjustment policies meant that markets in producer countries had to be liberalized and, as a result, public intervention and regulation of commodity production and marketing at the national level almost disappeared. The state marketing institutions were commercialized, privatized or entirely eliminated. Most countries abandoned price support mechanisms such as stabilization funds and fixed producer prices. Competition increased with the entry of a large number of private exporters and traders.

Similarly, horizontal coordination in the form of collective regulation of supply and prices by commodity-producing countries diminished, and producers lost control over the markets. Apart from the general liberalization of the global economy, the 1990s also saw the emergence of new producers, mainly from Asia, with a resulting increase in total world production. On the other hand consumption did not increase at a similar rate. This led coffee prices to decline to levels at which profitability for many small producers was not assured.<sup>6</sup> Yet retail prices in importing countries have remained largely unchanged. This has led to a widely held belief that coffee-importing multinational companies are making large profits while farmers' incomes in developing countries are declining.<sup>7</sup>

Other important changes also occurred on the commodity chain. The emergence of a large number of exporters led to intense competition that resulted in the failure of some exporters and the increased importance of large traders and importers. Oversupply and the competition led to a decline in prices and margins accruing to international coffee traders, reduced the predictability of supplies and increased the bargaining power of upstream coffee processors.

In the late 1990s, many small and medium-sized coffee traders suffered losses and were unable to compete with larger traders. As a result, the market continued to be concentrated. For example, the two largest international coffee traders, Neumann and Volcafe, controlled 29 per cent of the total market share in 1998, while the largest six traders controlled

**Chart 6.3**  
**Coffee supply chain**



Source: based on Kaplinsky and Fitter (2001) and Ponte (2001b)

around 50 per cent (Coffee Price Crisis Response 2002). Similarly, along the chain, market concentration in the coffee roasting business has increased to even higher levels than that in international trading. For example, Nestle and Philip Morris are reported to control close to 50 per cent of the world market share for roasted and instant coffees. The top five holding companies affiliated with brands of roasted and instant coffees (Nestle, Philip Morris, Sara Lee, Procter & Gamble, and Tchibo) control around 70 per cent of the business (Coffee Price Crisis Response 2002).

Roasters tend to concentrate on controlling marketing and branding while relying on supplies from a network of traders. Also, some roasters obtain their coffee from a mixture of sources, including a variety of international traders and local exporters in producer countries, thus enhancing competition in producer countries between the major international traders and the local exporters. Furthermore, roasters increasingly prefer using coffee from suppliers in countries that can guarantee a reliable minimum amount of supply. They have also developed vertical cooperation with international traders and exporters for particular coffee origins or estates so as to ensure reliable supplies of specialty coffee. An additional element of the roasters' market power is the availability of roasting technology that gives them more flexibility in creating blends to achieve a particular flavour (Coffee Price Crisis Response 2002). As a result, they have greater freedom and control in determining the types and sources of coffee they buy.

While the level of vertical coordination in the coffee marketing chain has generally remained low, increasingly international coffee traders have been diversifying by entering into direct production, especially of

premium coffee. International traders have also become more involved in direct procurement from producers, and in some cases they have become involved in local secondary processing as well. Another form of vertical coordination has been the establishment of links between coffee processors/roasters based in developed countries and dedicated suppliers in developing countries. Such links are usually initiated by large producers in developing countries, as these producers can support long-term partnerships with coffee roasters, particularly specialized mini-roasters.

The structure of the coffee commodity chain in the post-1990s period can be summarized as one characterized by widespread liberalization; movement of market power from exporting countries to large buyers; decline and instability in coffee prices; oversupply in export markets; and increased differentiation of coffee in terms of brands and sources of supply.

## 2. The marketing of tea

The world tea trade has been undergoing a process similar to that in the coffee market. Export prices have decreased over the last decade, in part owing to oversupply, while production has increased faster than demand and tea has continued to face competition from other beverages. There is a growing gap between the prices paid to tea growers and those paid by consumers in importing countries. The Three-Auction Average<sup>8</sup> indicates a 25 per cent decrease in tea prices; global prices declined 19 to 42 per cent from 1998 to mid-2002 (World Tea Markets Monthly 2002), as is shown in table 6.2. In 2002 alone, Indian auction prices fell by around 20 per cent (World Tea Markets Monthly 2003). Global tea exports have

**Table 6.2**  
**Tea prices in selected auctions (US cents)**

Location	2002 Jan/ May	2001	Changes %01/02	2000	1998	Change % 98/02
Three auction average	147.1	159.8	-8	187.6	196.4	-29
Mombasa	147.4	151.7	-3	202.9	189	-22
Calcutta	134.5	166.1	-19	180.6	206	-35
Colombo	159.5	161.7	-1	179.3	197.2	-19
Jakarta	99.42	96.68	3	119.5	170	-42
Chittagong	98	105.34	-7	109.26	144.23	-32
Limbe	86.24	87.45	-1	102.01	119.21	-28

Source: F.O. Licht's World Tea Markets Monthly, August 2002

grown by 3.7 per cent annually in the past five years, in contrast to static demand, and exports are expected to increase in the future owing to expanded production (World Tea Markets Monthly 2003). The decline in prices is also attributed to the loss of control by statutory bodies over marketing activities.

Like that of coffee, the tea export chain consists of a large number of intermediaries (see chart 6.4). Tea growers are either large tea estates or smallholder farmers. All tea growers need to access a tea factory, since brokers and the tea auctions do not deal in green tea leaves. The large estates own factories that process the green leaves before selling the tea to agents or through brokers. The small farmers typically sell the unprocessed tea either to large estates or to factories that specialize in tea processing. In some cases, they sell the leaves to private companies that

then resell them to the tea factories. The small farmers are generally in the weakest bargaining position, given their small production and their inability to influence prices and to add value through downstream activities such as processing, blending and packaging. They also lack market information that can allow them to bargain effectively over prices and other marketing conditions.

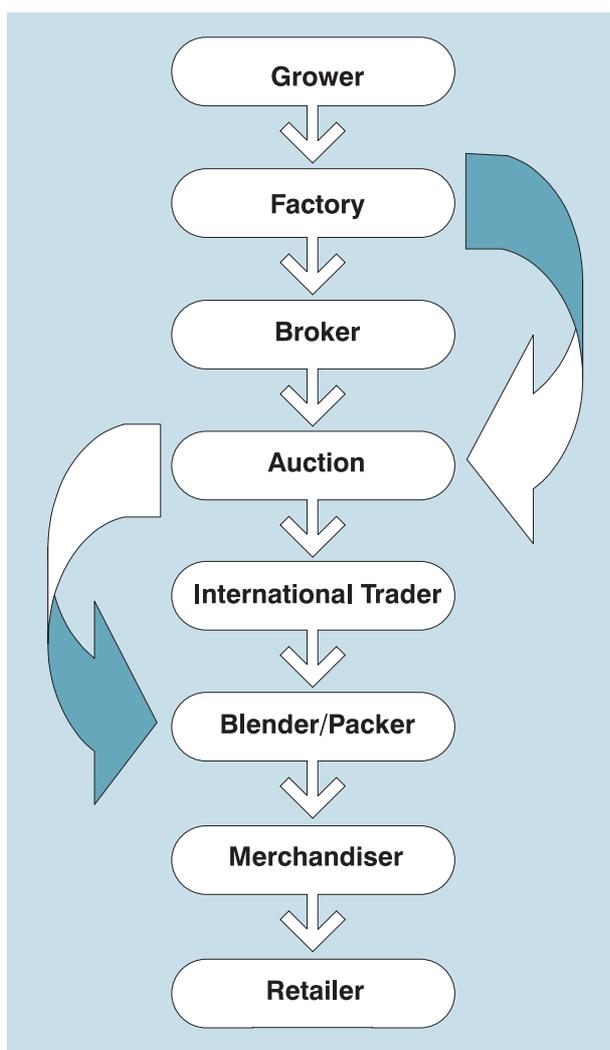
The processed tea is sold to brokers or auctioned directly for international sale. Brokers are internationally well-established firms with contacts in many consuming countries. Their role is to collect and disseminate tea data such as prices, yield, quality and export volumes. They also provide other services including grading; information on buyers' creditworthiness and reliability in making payments; and monitoring of such things as warehousing conditions, pests, damage and pilferage, and government regulations on tea trade. The tea brokerage business is highly concentrated; there are only a few major brokers in the tea-producing regions, although their market power is limited to some degree by the fact that large producers sell their produce directly without using brokers.

Tea auctions bring together major tea sellers and buyers who make open bids through brokers to reach a sale agreement. There are no reliable figures on the distribution of exports between those being channelled through the auctions and those going directly from garden (bypassing the auction). As an estimate, for example in the Indian trade in 1999, non-auction exports were 23.5 per cent of the total (ITC 2000).

Further processing or value addition takes place in importing countries by tea blenders and packers who purchase the tea either from the auctions in the producing countries or from international traders. A large share of the traded tea is imported directly by large tea packers and processors, some of which own the estates from which the tea is imported. As in the tea brokerage business, there is a high degree of concentration as regards international traders and final processing/blending and packaging. On the buying side, the auctions tend to be dominated by big buyers, who ensure that most of the tea is auctioned in large lots. Multinational companies, on the other hand, dominate the blending and packaging processes and they often seek to impose entry barriers on packaged and branded tea from producer countries (Ponte 2001).<sup>9</sup> The final stages of the tea marketing chain are handled by independent wholesalers and retailers, although some packers and processors undertake tea distribution as well. Box 6.1 provides an example of the marketing of tea using the Indian case.

**Chart 6.4**

**The tea value chain**



Source: UK Department for International Development, Report on Africa Beverages Project, No. 3 London.

## Box 6.1

### Tea production and marketing in India

India is the largest producer and consumer of tea in the world, with a production of 853.7 million kilograms in 2001, roughly twice the combined production of its next two largest black tea competitors, Kenya and Sri Lanka. Its output roughly accounts for 30 per cent of world production, and over 20 per cent of the output was exported.

The Indian Tea Board, which is under the control of the Ministry of Commerce, is the umbrella organization that regulates tea trading. The Tea Marketing Control Order passed by the Government provides the regulatory framework for processors and exporters of tea in the country.

In India, tea is sold primarily through the auction system, and, according to the Tea Marketing Control Order, until two years ago 75 per cent of the total produce of plantations had to be sold through the auction process. However, in 2002, approximately 55 per cent of the tea produced was sold through auction and the remaining 45 per cent was sold directly.

In the tea marketing system there are three distinct communities: tea producers, registered buyers and tea brokers. Tea brokers are established by organizations that organize the auction system by acting as middlemen and assuring returns to the producer within a stipulated time.

Generally there are two types of tea exporters: producer exporters and merchant exporters. Producer exporters are those producers that export tea directly to their agents based in importing countries. Many of these exporters are transnational companies such as Brooke Bond, Tetley and Unilever that deal in tea in various countries. Merchant exporters are intermediaries that do not grow tea; they are export houses that buy tea from producers or from auctions and sell it to their agents based in the markets abroad. Merchant exporters are involved in exports of tea and, in some cases, of other products/commodities as well; they also participate in the auctions.

*Sources:* Tea Board of India and International Tea Committee (2002a).

## D. Using the Internet to market agricultural exports

The possible use of the Internet in the marketing of agricultural exports of developing countries can be considered along similar lines as the use of the Internet in the rest of the economy. While there are various types of online marketing models, the more commonly used ones (and those discussed in this chapter) are e-markets and online auctions. Online marketing can lead to reduced transaction costs, disintermediation or the emergence of new types of Internet-based intermediaries, price transparency, and the possible re-distribution of earnings along the supply chain.

Like many other areas of economic activity, the marketing of agricultural commodities has witnessed widespread adoption of the Internet. There are many business-to-business (B2B) e-markets dealing with agricultural and related commodities. Many of them engage in domestic trade in the United States, but there are also a number in international exchanges. The available information shows that the Internet is

used widely by farmers to sell and advertise farm products, exchange information and buy farming inputs. According to Forrester, by 2004 the food and agricultural industry in the United States will conduct \$211 billion in online B2B trade in the US food and agricultural industry, which will represent 12 per cent of total B2B online trade for all industrial sectors (Forrester 2000a, 2000b). Annex I of this chapter describes a sample of agricultural e-markets and online auctions in the United States, a country for which information was available. The sample provides information documented at the time it was published by the various sources; it does not indicate the performance or actual operational success of the e-market or auction in question. The sample is presented here to illustrate the commercial and technical possibilities that exist in the use of the Internet for marketing agricultural products.

### 1. E-markets

A general examination of B2B e-markets is contained in UNCTAD (2001), with an overview of their main

characteristics and an assessment of their overall potential for developing countries. The report gives a few examples of e-markets for commodities of interest to developing countries, but no detailed investigation was made, and at the time of publication such markets were in very early stages of their development.<sup>10</sup>

E-markets have been used as marketing channels for agricultural commodities in such countries as Australia, Canada and the United States, where markets have been established for a wide range of commodities such as cotton, grain, soybeans, wood products, cattle, dairy products and a variety of other food products.<sup>11</sup> In the various forms of online markets, transactions can be conducted in different ways, including the following:

- offer/request e-market models where many sellers trade with many buyers: the buyers request quotes and the sellers provide price information;
- one seller deals with multiple buyers and pricing is dynamic through a bidding process;
- sellers compete for the market of one buyer with dynamic pricing through bidding;
- single buyers negotiate with single sellers, usually involving long-term contractual sales; and
- many-to-many transactions where prices are determined instantaneously through auction-type bidding.

While e-markets largely focus on online trading or intermediating transactions, some tend to concentrate their functions on offering information and other value-added services.

E-markets in general have undergone ups and downs over the last few years, and there is no reliable assessment of the performance of those involved in trading agricultural commodities. Overall, the critical determinants of the success of e-markets include the following:<sup>12</sup>

If an industry is fragmented in the sense that there are many buyers and sellers, the e-market has better prospects of success, since the market creates value by aggregating the volume of trade in one trading platform, allowing buyers and sellers to discover each other more readily and to facilitate decisions on selling and buying. The agricultural industry, especially in developing countries, is highly fragmented, particu-

larly on the sellers' side, and thus well suited to e-markets.

Where a product is fairly standard, as many agricultural commodities are, online marketing is feasible since such products do not require customization for particular buyers' needs. However, where producers sell a commodity that has unique characteristics or is highly differentiated as regards quality or other attributes, sellers may use e-markets but may prefer seller-driven marketplaces to open markets.

The volume of the commodity traded on the marketplace should be large enough to ensure that the marketplace is viable. This means that there must be a minimum number of buyers and sellers participating in order to provide a critical mass that can sustain the viability and operations of the marketplace.

## 2. Online auctions

Online auctions differ from e-markets in that they are one-off events and the participants do not retain an ongoing membership, as in e-markets. However, e-markets can use online auctions as one of the methods for organizing transactions between members. Quite a number of agricultural commodities, including many exported by developing countries, have traditionally been sold through floor-based offline auctions. Online auctions follow the same basic procedures as floor-based offline ones, although they provide benefits over traditional auctions.

During an online auction, lot numbers are displayed on a website and buyers present bids that are shown to all participants. Buyers can see their bids on the screen or can check later via e-mail how their bids compare with those of other bidders. After the winning bid is determined, the auction manager facilitates the arrangements for payment and delivery.<sup>13</sup> However, in some auctions such arrangements are left entirely to the buyers and sellers, after the auction site has collected its fees from the participants. Some online auctions maintain strict confidentiality so that bidding, sales, payment and delivery are effected without revealing the identity of the seller or the buyer. Online auctions may last from several hours to several days, depending on the volume of goods being auctioned.

Like e-markets, online auctions take different forms such as independent auctions, where buyers and sellers use third-party auction sites, and private auctions, where sellers auction their own goods to invited buy-

ers on their own auction sites. Some auction sites aggregate databases of a large number of other auction sites, thus enabling buyers to obtain information from many auctions through a single source.

### 3. The benefits of e-markets and online auctions

#### *Reduced costs*

Use of the Internet for marketing can reduce transaction costs in a number of ways. The first is the reduction of search costs. Agricultural marketing chains are characterized by multiple intermediaries, and buyers spend much time searching for information about suppliers, products and prices. The Internet may reduce search costs in terms of effort, time and money, because information can be exchanged more efficiently via the Internet than through traditional channels.

In e-markets, for example, a large number of agricultural commodity producers and buyers are brought together into a single trading community, which reduces search costs even further. In this connection, the Internet can play a vital role in the development and marketing of what are popularly known as specialty agricultural products.<sup>14</sup> There is a growing demand for differentiated food products in major food-importing countries in Europe and North America. On the demand side, specialty products cover a given consumer population whose size is growing but is not fully established. On the supply side, there are a variety of producers and traders who may be widely distributed in several countries. Because buyers and producers lack information about each other, it is difficult to match supply and demand. Use of the Internet can allow producers to match their products or planned production to the relevant “specialty” characteristics of the demand. It also allows prospective buyers to seek and exchange information with producers. Buyers can inform producers about the product characteristics that are most attractive to consumers, thus providing the producers with an indication of the demand.

#### *Reduced or transformed use of intermediaries*

The Internet can reduce the use of intermediaries in the traditional supply chain by enabling producers to interact and transact directly with buyers. This is

largely because producers and buyers can obtain trade information from each other and can carry out transactions at a much lower cost than in an offline supply chain with multiple intermediaries.

Use of the Internet can also increase the efficiency of existing intermediaries to the extent that they adopt the new information technologies. Also, e-markets can be viewed as new intermediaries that can replace traditional offline intermediaries. Independent, third-party agricultural e-marketplaces are themselves intermediaries by definition, as they are situated between producers and buyers. On the other hand, many large farmers and producers tend to establish their own private exchanges to link up directly with the food traders and processor, with whom they have long-established trading relationships, thus effectively reducing the role of intermediaries (Forrester 2000a).

#### *Price transparency and formation*

By bringing together large numbers of producers and buyers, e-markets reveal market prices and other transaction information to all parties. By contrast, accessing information in offline markets is costly, and channelling it through various intermediaries may distort information on prices and other trade data. Increased price transparency reduces price differences prevailing in the marketplace. It also allows buyers to compare prices and make more informed purchasing decisions.

Online auctions provide bidders the convenience of bidding from their home or office without necessarily being on an auction floor. Also, while offline auctions oblige all bidders to participate at the same time and require them to be present for the duration of the auction, online auctions are more flexible as they allow bidders to submit bids at different times. This flexibility increases the market for the auctioned goods. Furthermore, online auctions can be organized at short notice and yet reach a large number of buyers. Also, buyers can readily search databases containing large numbers of goods being auctioned instead of going through the printed listings of traditional auctions. Finally, online auctions are much cheaper to run than traditional ones, thus making it feasible for more goods, including very low-value goods, to be auctioned.

The main disadvantage of online auctions is the difficulty faced by bidders in inspecting goods they want to buy. While this problem is being partly solved by sellers making available electronic images of the

goods being auctioned, for some agricultural commodities, such as coffee and tea, tasting is an essential factor in the buyer's decision. However, in some instances samples can be shipped in advance and tasting conducted offline. The results are then made available to prospective bidders in the auction.

## E. Experiences in online marketing of coffee and tea

Section B outlined the importance of coffee and tea for developing countries' exports, while section D described the possibilities and benefits of using the Internet to market agricultural commodities. This section examines experiences gained in online coffee and tea marketing, focusing on B2B transactions in e-markets and online auctions. Examples of coffee marketing in Brazil, Guatemala, Kenya and Nicaragua and tea marketing in India are presented. By focusing on coffee and tea, the discussion strives to provide insights for those contemplating the online marketing of other developing-country agricultural commodities.

### 1. B2B e-markets for coffee

The 2000–2001 period saw a number of initiatives to create B2B e-markets for coffee trading (UNCTAD 2001). Examples of such initiatives included eGreenCoffee.com, InterCommercial Markets, CoffeeExchange.com and CoffeeX.com. A number of other e-markets have since been formed, including Comdaq.com, RawMart.com and ExImWare.com. Some of these operate as independent buying and selling platforms with no ownership affiliation with participating buyers and sellers. Others are funded and owned by buyers. For example, ExImWare is owned by major coffee concerns, including Louis Dreyfus, Volcafe, Mercon, the Colombian Coffee Federation and Brown Brothers Harriman.

While many coffee e-markets have been established since the Internet first began to be widely used, many have ceased to exist, while a few have been acquired by trading companies. For example, eGreenCoffee.com was acquired by Tradamax Group a year after it was established.

Currently, only a few coffee e-markets, such as the United States-based ExImWare, appear to be fully operational on a permanent basis in the green coffee

trade. The case of ExImWare illustrates the interplay of issues in coffee e-markets. ExImWare merged with InterCommercial in early 2002, and its clients are mostly US companies. Some companies, for example Kraft and its suppliers use this marketplace for their green coffee purchases. A few other coffee-roasting companies use ExImWare mainly for obtaining price information, while a few small coffee-trading houses also use it on a regular basis. Box 6.2 provides more information about ExImWare.com.

### 2. The performance of coffee e-markets

E-markets in general have had variable performance. This also applies to coffee e-markets, whose lack of liquidity is a major cause of their slow growth. That is, the e-marketplaces have not been able to attract enough buyers and sellers to attain the critical mass needed for them to be viable. This is partly a result of security issues and of traders' aversion to risk. Also, the complexity and diversity of the marketing systems for coffee in producing countries have prevented sellers in developing countries from playing a direct role in transacting through e-markets.

Another factor that has limited the use of e-markets is the lack of information regarding the market efficiency generated through e-markets. Buyers and sellers need to see actual examples of efficiency gains arising from online transactions, specifically for coffee, before they will participate in e-markets.

Yet another issue is the importance attached by traders to traditional commercial relationships. Buyers and sellers prefer to maintain their long-established personal contacts in order to ensure repeat transactions on the basis of agreed quality and conditions of sale. Thus, while e-markets may promise considerable benefits, buyers and sellers tend to retain their traditional offline commercial links. In many cases, therefore, trading interests make use of the Internet for obtaining product and price information while the actual transactions are concluded through traditional channels such as fax, telephone and personal visits (IDS 2003).

In today's world coffee market, the dominance of buyers' market power reduces incentive for buyers to transacting online, unless a move to Internet-based transactions can generate higher returns. At the same time, the relative weakness of sellers does not provide them the resources needed to set up e-markets. Their weak position also means that they have limited scope

## Box 6.2

### ExImWare

ExImWare was founded in March 2000. It initially provided back-office solutions that enabled electronic processing of coffee and cocoa contracts. In August 2001, delivery information service was added to its functions. A year later, ExImWare merged with InterCommercial Markets, which had developed a coffee procurement platform. With this merger, the scope of ExImWare services was enlarged to cover everything from pre-transaction solutions through product delivery.

Registered members currently include over 20 buyers and sellers, who pay a small monthly fee in order to buy or sell coffee on ExImWare's InterCommercial Markets platform. They are mostly US roasters or multinational trading companies ranging from suppliers and roasters to coffee trading houses.

Although some of the participating trading companies are based in developing countries, they often sell coffee via their US- or Europe-based sales offices using the InterCommercial Markets platform. ExImWare's operational revenues come primarily from four sources: subscription revenue from InterCommercial Markets; subscription revenue from ExImWare Trade Management Lifecycle (TML) platform; custom development of applications; and professional services that link trading companies/roasters to their counterparts or provide other integration services.

President and chief executive officer Girish Minocha believes that the key factors determining the success of an e-market for coffee are its compatibility with industry-specific processes and the commitment of its user base. The main advantages of ExImWare include its strong industry knowledge and the functionality of its platforms. It benefits both buyers and sellers by providing quick and global communication capability, efficient back-office management and enhanced ability to track transaction information.

*Source:* Based on an interview with Girish Minocha, founder of ExImWare.

to influence marketing arrangements, including the use of the Internet. Overall, while e-markets represent potential benefits for the marketing of exports, so far they have not developed into a major model for marketing coffee, largely owing to the factors outlined above. However, it is important to realise that Internet-based e-markets have been in existence for a relatively short time and in time their use, including on line coffee marketing, may expand.

### 3. Online B2B coffee auctions

Another form of online marketing is online coffee auctions which are to be distinguished from B2B coffee e-markets as was described in section D.

#### *Brazilian online coffee auctions*

Online coffee auctions have been organized in Brazil since 1999. While relatively new, they provide an example of the successful integration of ICT and traditional marketing to achieve improvements in export marketing of coffee. The first online auction is described in Box 6.3.

By the end of 2002, Brazil's Cup of Excellence auction had been held annually four times, and it is con-

sidered a great success by participants. These yearly auctions, which began in 1999, involve the sale of price premium and specialty quality coffee (Brazil Specialty Coffee Association 2003). Box 6.4 provides a detailed description of specialty coffee. A distinguishing feature in these auctions is the high levels of prices achieved. For example, the winning coffee in 2002 attained a record price of \$12.85 per pound, more than 10 times the New York Board of Trade's Coffee "C" Futures Contract price,<sup>15</sup> which is a common price benchmark. The results of the Brazilian auctions have created high expectations among gourmet coffee growers, who have been suffering from a continuing worldwide slump in green coffee prices, and also among roasters and traders, who are seeking exclusive, high-quality coffee. Their success proves that new technology, when properly designed and thoroughly implemented, can influence the structure of a commodity market, including its price formation.

To encourage wide participation in the first Cup of Excellence competition in 1999, the Gourmet Coffee Project<sup>18</sup> established a guaranteed price of \$0.30 per pound over the local market price as a premium for exemplary-quality coffee so as to ensure the entry of a large number of sample coffees. The premium encouraged participation in the auction by farmers

## Box 6.3

### First Internet auction of Brazilian coffees

The first Internet auction of Brazilian coffees took place in December 1999. It was supervised by the ICO and financed mainly by the Common Fund for Commodities. The ITC was the executing agency within the framework of the Gourmet Coffee Project. Other institutions involved in its organization were the Specialty Coffee Association of America (SCAA), the Brazilian Specialty Coffee Association (BSCA) and the Cooperativa Regional de Cafeicultores em Guaxupé (Cooxupé).<sup>16</sup>

The auction had two parts: the Cup of Excellence competition and the Internet coffee auction. The competition, which involved tasting the coffees, was a prelude to the auction and attracted numerous competing coffee growers nation-wide. An authoritative international jury was responsible for assessing participating coffees and selected 24 winners. The rigorous rules of cupping<sup>17</sup> guaranteed the transparency, impartiality and credibility of the evaluation process, which in turn had a decisive effect on final prices. The jury consisted of more than 10 “cuppers” (coffee experts) from Brazil, the United States, Europe and Japan. The winning samples were shipped to potential bidders for recognition before the online auction begins. Finally, 10 out of 24 samples were recognized as candidates for bidding in the auction.

The purpose of organizing a cupping competition before the actual auction was to encourage competition among farmers as well as among the buyers, who were willing to bid for exceptional-quality coffee. The whole event was rather like an international marketing campaign, and the use of the Internet evidently enhanced its transparency, efficiency and visibility.

*Source:* Based on an interview with Morten Scholer, ITC Senior Marketing Development Adviser.

who were otherwise hesitant to risk their earnings in the auction, given the rising futures contract at the time. The premium was paid by the buyers soon after the auction, effectively minimizing the price risks faced by the farmers.

An unprecedented number of 315 coffees, from six regions of Brazil, and from farms ranging from very large to small, participated in the first round of the contest. Twenty-four were selected as finalists to compete to be among the 10 coffees to be auctioned. As its prestige has expanded in international coffee circles, the Cup of Excellence has attracted more participants each year, so that in the 2001 and 2002 competitions over 800 coffees entered the first round.

#### *The results of the auction*

The price premiums resulting from the online auctions have been exceptionally high. For example, in the 1999 auction, the champion coffee was sold for \$2.60 a pound. The average price for all auctioned coffees was \$1.73 a pound, whereas the comparable New York Futures Market price was in the range of \$1.32 to \$1.34 a pound at the time. Based on each auction price, the net profit was distributed among farmers, the BSCA and exporters on a 40 per cent, 40 per cent and 20 per cent basis respectively. The 2002

auction set a new price record of \$12.85 a pound, and the winning farms received as much as 85 per cent of the auction's proceeds. To date, Brazil's Cup of Excellence programme has auctioned nearly 6,000 bags of coffee worth at an average price of more than three times the commodity market price per bag.<sup>19</sup>

#### *The role of intermediaries*

Intermediaries do not play a role in the online auction. Cooxupé, a large, well-respected Brazilian company that already has close trade relationships with many of the bidders, is the sole exporter for all auctioned coffee. Bidders who are regular customers of the exporter are not required to submit letters of credit to the appointed exporter, a procedure that is normally quite complex and costly. As a result, a number of the supply chain's functional links, such as transportation, letters of credit, payments, documentation and shipping, which in conventional trading are normally operated by multiple intermediaries, are taken over by a single exporter. The supply chain therefore becomes simplified; the number of intermediaries between growers and roasters is reduced as potential risks are transferred immediately from producers to the exporter and importer. Producers are guaranteed minimum prices that are at least as high as internal Brazilian market prices. The established trust

## Box 6.4

### Specialty coffee: quality and price

Green coffees are generally categorized as arabica or robusta, either wet or dry processed. They account for 60 and 40 per cent of world production respectively, although the ratio may vary, particularly in poor harvest years, when the less hardy Arabica plant may fail disproportionately, bringing the share of Robusta to 70 per cent. The quality of coffee is broadly classified into exemplary quality, high quality, mainstream quality and under-grades. Exemplary and high-quality coffees represent less than 15 per cent of world consumption.

A major problem in specialty markets is the lack of an independently guaranteed quality standard. Coffee, especially specialty and gourmet coffee, is a very heterogeneous product in that its quality and characteristics differ from lot to lot because of botanical variety, topographical and weather conditions and the care given during growing and after harvesting. For this reason, the cost of quality evaluation and market investigation, which require extensive expertise and regular access to farms, is high even for large buying companies. Small buyers can hardly afford to identify top-quality products. Ironically, in international commodity markets, coffee is priced almost uniformly despite the heterogeneity of its quality.

In recent years, specialty coffee markets have taken off in major consuming countries such as the United States, the United Kingdom and other European countries. In 1999, 3 million out of 18 million bags of US imports went to specialty and gourmet markets.

Source: ITC (2002).

between the bidders and the exporter substantially mitigates the commercial risks that in a traditional distribution chain are usually shared among a number of intermediaries.

#### *Other online coffee auctions based on the Brazilian model*

The success of the Brazilian Internet auction has attracted the attention of other coffee-exporting countries, and the model has been followed by other coffee-producing countries such as Guatemala, Nicaragua and Kenya (see table 6.3).

The annual Guatemala Cup of Excellence contest, sponsored by the Guatemalan National Coffee Association, is considered to have been successful in both 2001 and 2002 competitions and auctions in terms of price increases. The 2001 Best Coffee was sold for \$11 a pound, 20 times the New York Futures Market price. The average price for 2002 winning coffees rose by \$3 a pound. The contest attracted much attention in the international coffee industry. The jury in 2002 included 23 cuppers from Australia, Brazil, Canada, Europe, Guatemala, Japan and the United States. The bidders were from many of the major coffee importing-countries.

The Nicaragua Cup of Excellence contest began in 2002 and is also considered a success. An interna-

tional jury of 26 coffee experts selected 23 winners, which included many small-scale growers and cooperatives.

#### *Africanlion cupping competitions*

The Brazilian model has also been emulated in the export of Kenyan coffee mainly at the initiative of Kenya-based Africanlion.com (see Box 6.5). In the CUP-COM 2002 competition that was followed by the Internet auction organized by the Eastern African Fine Coffees Association and Kenyan Africanlion.com, a Japanese buyer offered \$4.12 a pound for the champion coffee, nearly \$1 higher than the price at Kenya's weekly physical auction. Exporters had to pay the farmers 50 per cent auction proceeds that exceeded the reserve price. However, only two of the 17 winning lots were sold in the first auction.

In February 2002 the EAFCA organized an Internet auction along the lines of the Brazilian model, in which Africanlion selected the finest coffees from various coffee-growing areas in the east African region. These were submitted to national competitions to select the best coffees at the national level. The top one or two coffees from each country were then forwarded to a regional competition in Kampala (Uganda). The competition involved regional and international cuppers from as far as Japan and the United Kingdom. Prospective buyers then received

**Table 6.3**  
**Details of coffee Internet auctions conducted in different countries**

**1. Brazil Cup of Excellence Internet Auction**

	<i>No. of Participants</i>	<i>No. of Winners</i>	<i>Champion Price (USD/lb)</i>	<i>Average Price (USD/lb)</i>	<i>C contract (USD/lb) December</i>
1999	315	24	2.6	1.73	1.32-1.34
2000	--	18	3.04	1.38	--
2001	849	18	5.56	2.94	0.5-0.55
2002	826	28	12.85		

Source: BSCA, ITC

**2. Guatemala Cup of Excellence Internet Auction**

	<i>No. of Participants</i>	<i>No. of Winners</i>	<i>Champion Price (USD/lb)</i>	<i>Average Price (USD/lb)</i>	<i>C contract (USD/lb) December</i>
2001	--	30	11	--	0.5-0.55
2002	390	33	8.45	3	--

Source: [www.guatemalancoffees.com](http://www.guatemalancoffees.com)

**3. Nicaragua Cup of Excellence Internet Auction**

	<i>No. of Participants</i>	<i>No. of Winners</i>	<i>Champion Price (USD/lb)</i>
2002	285	23	11.75

Source: [www.nicaraguancoffees.com](http://www.nicaraguancoffees.com)

**4. EAFCA CUP-COM 2002 Internet Auction April**

	<i>No. of Winners</i>	<i>Champion Price (USD/lb)</i>	<i>Nairobi's weekly physical auction price</i>	<i>Time</i>
2002	17	4.12	3.15	April

Source: EAFCA

Source: (1) BSCA, ITC; (2) [www.guatemalancoffees.com](http://www.guatemalancoffees.com); (3) [www.nicaraguancoffees.com](http://www.nicaraguancoffees.com); (4) EAFCA

500-gram samples from winning lots. Instructions on how to bid and the auction date were e-mailed to buyers well in advance of the auction, giving them ample time to prepare. In addition to prospective buyers, Africanlion also registered many participants who were not able to trade (i.e. offer or bid).

The auction ended with only a small quantity of coffee being transacted, although a high price of \$453 per 50-kilogram bag was achieved. According to the

organizers, the small quantity of coffee traded resulted from the auction not being adequately marketed owing to budget constraints. They pointed out that the first Brazilian auction had registered more buyers largely because its funding had been adequate for financing the auction site and covering the costs of hiring panels of eminent experts. Despite the limited turnover, however, the organizers felt that there were adequate skilled human resources in Kenya to support an online auction.

## Box 6.5

### Africanlion.com

Africanlion.com was established in June 1999 by two Kenyan entrepreneurs, Titus Gitau and Stephen Njuria, who believed that Kenyan coffee had a niche market among coffee consumers in North America. Considering the large difference between retail prices in consuming countries and the prices local farmers were receiving, they set up an electronic B2B exchange that would enable local exporters to offer their coffees to the world. In 1999, Gitau and Njuria developed www.africanlion.com with technology support from SawaSawa.com, a Kenyan-owned Web development company.

Soon after establishing the platform, the founders made great effort to establish links with major players in the coffee industry, including specialty coffee associations in the United States and Europe and the SCAA. As part of the cooperation strategy, Africanlion.com helped set up the East Africa Fine Coffee Association (EAFCA), and later EAFCA appointed Africanlion.com as its IT and exchange partner for Internet auctions.

The exchange system was designed to facilitate the trading of coffee from East African countries. The database includes various categories of coffee such as Kenyan AA, Uganda Bugisus and Ethiopian Yirgacheffes. The exchange has two categories of subscribers: traders and observers. Observers merely watch the auction proceedings, while traders (buyers and sellers) participate through offers and bids. The exchange includes a trading floor where producers/exporters can post their offers on the Internet. The sellers post offers and can also reserve a price, which is the lowest price that a seller is willing to accept.

*Source.* Based on an interview with Titus Gitau, co-founder of Africanlion.com.

Africanlion has succeeded in developing its auction platform and has leveraged its contacts in the coffee community. Its pioneering trial proved that online marketing could be achieved using fairly inexpensive technology, which is a feature critically important for developing countries. After some legal battles involving issues such as the introduction of a law banning the sale of Kenyan coffee on secondary markets, Africanlion finally obtained a license permitting it to source coffee from marketing agents and post their offers on the Internet. Africanlion plans to hold three to four online auctions a year, showcasing specialty or gourmet coffees from different parts of Africa. In addition to coffee, it expects to trade online other soft commodities such as tea, flowers and pyrethrum, commodities for which East Africa possesses a competitive advantage.

The Brazilian and Kenyan experiences point to the following major conclusions:

The use of technology has to go hand in hand with quality controls, which are organized offline. For an auction to work, physical samples of the commodity must be sent beforehand, because buyers are unlikely to conclude a deal without physical inspection.

Sufficient support and funding must be available to provide confidence and price guarantees to farmers, at least for the initial auction. Such assistance may

come from trusted entities such as international organizations, government, coffee associations and other private-sector interests. However, once established, online coffee auctions can expand by relying on private resources.

#### 4. Online marketing of tea in India

The structure of the marketing chain for Indian tea was described in section C. Internet use by producers in India to market tea is still in its infancy, although some plantations have established websites linked to search engines and other commercial sites. Industry observers in India consider that more plantations might make use of the Internet for direct marketing if they were aware of the potential benefits.

Major tea exporters are planning to use the Internet to make deals and find business opportunities in external markets. For the time being, most of their existing business is conducted through stipulated agents. Also, the majority of exports are in bulk; value addition in terms of blending, packaging and branding is undertaken mostly by importers in the consuming countries. Producers are largely dependent on auctions, and exporters are dependent on agents, partly as a way of managing risk. The auction system ensures payment to the producer within a stipulated time frame, while use of an agent ensures timely pay-

ment to the exporter. For exporters, their risk of return through export is taken care of by letters of credit and by export certifying agencies.

In an interview conducted by UNCTAD with some major exporters in the Coimbatore region in India, the following challenges involved in the use of the Internet to market Indian tea were identified:<sup>20</sup>

In the present system, the letter of credit is used to cover the risk of non-payment by an importer. Exporters want to be assured that this facility can be available in online transactions. Also, the risks involved in handling payments and bank accounts via the Internet need to be addressed.

Exporters need to be assured that online transactions are supported by documentation that fulfils requirements as fully as offline documentation systems do.

In the same interview, the following developments were identified regarding the use of the Internet to market tea in India:

A growing number of exporters have their own websites that are listed with various search engines. However, many exporters also use traditional offline channels for tea exports, dealing with individuals or agents with whom they have long-established relationships.

While exporters receive some inquiries from importers through their websites, the objective of many of the inquiries is only to seek commercial information, not to effect transactions. Exporters have greater confidence in dealings conducted by telephone or by mail. While they acknowledge that the Internet has expanded market opportunities, they expect inquiries through the Internet to help them increase the value of their product to a much greater degree than has been the case so far. While exporters recognize that the use of the Internet can provide many benefits, the glut in the Indian tea industry of the last four years has tended to discourage exporters from trying new marketing methods, although they might do so when market conditions improve.

Factors that exporters consider essential for expanding the use of the Internet include raising exporters' awareness of the benefits of Internet marketing and the processes involved; overcoming inertia and resistance to change; and improving trade facilitation procedures and services along the export chain.

There are expectations that the use of the Internet will develop in the Indian tea trade. Because of the

severe competition that Indian tea exports face from other producing countries and as a result of oversupply in the domestic market, the Government has undertaken a series of measures to address the situation. Strategic studies on tea exports have been conducted that have led to various plans to boost tea exports through marketing improvements, cost reduction and upgrading of activities. The implementation of some of these plans may rely to some degree on the increased use of the Internet and e-commerce. In particular, new information technologies and e-commerce are expected to be instrumental in increasing transparency in trading and reducing overall transaction costs.

### *Online tea auctions in India*

While a large share of Indian tea exports are traded through traditional auctions, in recent years some exports have been auctioned online. This has been achieved through the country's main online tea auction site, Teauction.com, which was launched in 2000. According to the site's operators their auctions have led to savings in transaction costs amounting to Rs 1.60 per kilogram in comparison with conventional auctions. Also, the transaction time has been shortened from eight weeks to one week. From the beginning of 2002 to mid-2003 Teauction.com conducted 150 auctions, which accounted for 6 per cent of the total volume of tea auctioned in India. Overseas and local buyers such as Williamson Mago, Jayshree Tea, Nestle, Tata Tea and Tetley have participated in the auctions through their Indian agents.

According to observers, Teauction.com has maintained a steady market volume over the last three years, approximately \$1.94 million. An auction takes place every Friday, and the number of transactions per auction fluctuates considerably, from 10 to 100 lots per day. Encouraging is the fact that renowned teahouses like Tata Tea and Goodricke use the system. As this report was being written, the site's owner indicated that there were 318 buyers and 110 producers registered with the site.

### *Assessment of the auction's performance*

The system used by Teauction.com is also being used, with considerable success, to auction tea online in Sri Lanka. Observers believe that the Indian online auction could expand, given the various benefits of online auctions already observed in Sri Lanka. For buyers an online auction provides better service with-

out their needing to be physically present at the auction, and the time from crop production to receipt of cash is reduced from eight weeks to four weeks. Also, the size of the sample required for auction purposes is reduced from 11 kilograms in a conventional auction to around 3 kilograms in an online auction. This is due to the fact that online auctions involve a predictable number of buyers, while in offline auctions provision needs to be made for unexpected number of buyers.

### *Price comparison with conventional auctions*

Up to now, the differences in prices between online and conventional auctions have been small, owing to the fact that the buyers involved in online auctions are also regular users of conventional auctions and have extensive knowledge of the prevailing prices for teas of various qualities.

Many traders expect that online auctions will succeed once the constraints outlined above have been overcome. At the same time, they consider that producers must have a guarantee that their produce will be sold within a given time and that prices are not being unduly influenced by major cartels or big buyers. Also, the tea community's awareness of online auctions needs to be enhanced in a way that will reduce their concerns regarding the potential risks of online trading.

## **F. Conclusions**

Agricultural exports play a key role in the economies of many developing countries, but the prices of these exports have in the last two decades experienced considerable declines that have negatively affected the incomes and well being of producers. An examination of the coffee and tea trades shows that the price declines result largely from an oversupply and the existence of market structures that are buyer-driven, as producer countries have been losing their market power.

The Internet provides a window of opportunity for improving the marketing of agricultural exports in developing countries, as exemplified by the experience in some developed countries. Such use can generate significant benefits for producers in terms of reduced transaction costs and expanded market reach. Commodities such as coffee and tea are increasingly

becoming differentiated as a result of changes in consumer demand. The growth of markets for specialty foods depends heavily on the availability of information about what the producers can and do grow, and what product characteristics are being demanded by consumers. The collection and dissemination of such information are complex and costly but can be greatly facilitated by the Internet.

The use of the Internet for marketing of coffee and tea is a relatively new business model. A sizeable number of coffee e-markets were established between the late 1990s and 2001, but many of them were not successful. A few e-markets are now well established, although the scale of their use will continue to be evolutionary as traders gradually realize their benefits and as confidence in online trading improves.

Online coffee auctions have attracted much interest, and their considerable success in Brazil and elsewhere is expected to encourage other developing countries to adopt such auctions. While online coffee auctions currently concentrate on specialty coffees, other segments of the coffee trade are also expected benefit from online auctions. The Brazilian case indicates that, in order for online auctions to take off, the private sector may need initial support from other stakeholders and donors.

Internet auctions in the Indian tea trade are at their initial stages, but India's tea industry is optimistic that such auctions will become well established, especially after the current glut in tea markets comes to an end. There is consensus that a number of supportive measures, such as awareness building and suitable trade facilitation systems, are required for online trading to develop and grow.

Since the production of coffee and tea is dominated by small farmers, and given the existing buyer-driven coffee and tea marketing structure, producers need to take measures that will give them the necessary capacity and critical mass to influence marketing arrangements, including the use of the Internet. The market concentration that exists at various stages of the coffee and tea supply chains may be a major impediment to producers' adoption of the Internet as a means of trading directly with consumers. In some cases, multinational companies engaged in food processing, labelling and packaging impose barriers to entry into such activities by producers in developing countries. The international community and Governments should address such forms of anti-competitive behaviour in their trade policies. Also, awareness of the scope and benefits of online marketing needs to

be increased among government officials and producers.

Support from Governments, international organizations and donors may play an essential role in providing the initial resources and trust needed to establish online marketing ventures, although in the long run such ventures are the domain of the private sector. Also, various stakeholders should support initiatives such as Fair Trade that are aimed at finding solutions to the agricultural commodity crisis faced by develop-

ing countries, a crisis that results partly from the marketing structures of the existing agricultural commodity supply chains. However, some of the underlying problems are caused by farmers' lack of access to market information and their resulting inability to bargain effectively. The development of commodity market information systems and the use of the Internet by producers themselves and by the appropriate government departments can enhance market intelligence to the benefit of agricultural producers.

## Notes

1. The term marketing is used here to mean the process of buying and selling in a market, including the commercial functions involved in transferring goods from producer to consumer. Within this broad definition, this chapter focuses on the institutions involved in the supply chain in organizing sales and setting prices and the structure of market power in the supply chain.
2. Fair Trade is a movement aimed at compensating agricultural producers in developing countries more fairly by bypassing some of the intermediaries in the commodity chain. The scheme involves the formation of farmers' cooperatives that sell their produce directly to fair trade organizations in Asia, Europe and North America. Buyers and sellers establish long-term contracts in which they agree on prices and quantities for the commodities concerned, thus providing more stability for small farmers.
3. International Coffee Organization data.
4. For an extended discussion, see Gibbon (2001) and Ponte (2001a).
5. For example, up to 1989, under an export quota system established under the International Coffee Agreement, prices were regulated by setting a price band and allocating export quotas in relation to indicator prices issued by the ICO as a benchmark.
6. See, for example, Oxfam Great Britain (2002).
7. See Mitra (2002).
8. The Three-Auction Average consists of the weighted average auction prices of Calcutta, Colombo and Mombasa.
9. By and large in producer countries tea is sold as a generic and shipped in bulk without branding and packaging, although some exporting countries such as Sri Lanka are now increasing value of exports through blending and packaging.
10. As used in this report, the term e-market is to be distinguished from traditional commodity exchanges even where the traditional exchanges use electronic platforms. In the industry e-markets are understood to mean online markets that have come into existence primarily with the introduction of the Internet. These are usually not listed in directories of traditional commodity exchanges. On the other hand, a restricted definition of commodity exchanges relates to centers that provide markets for trading standardized futures and options contracts. For reference on commodity exchanges, see, for example, UNCTAD (2002).
11. See, for example, Chambers et al. (2001); Pitis and Vlosky (1999); Ingwesen (2000); Market Watcher (2001); Babcock (2000); and Richardson (1997).
12. For a detailed discussion, see UNCTAD (2001).
13. For a detailed description of online auctions, see, for example, Fickel (1999) and Lucking-Reiley (2000).
14. Specialty products are a growing segment of the food industry. A given product such as coffee or tea can become differentiated into categories or brands according to differences in quality, flavour, crop breeding methods used, geographical origin or the climatic conditions under which a crop is grown, processing procedures and other characteristics. For a detailed discussion see, for example, Ponte (2002).
15. The New York Board of Trade Coffee Futures Contract is used by members of the world coffee trade to price and hedge price risk for arabica coffees (which make up over 60 per cent of global coffee production), and by speculative investors wishing to trade in coffee price movements. The contract allows for delivery of coffees from 19 African, Asian, Central American and South American countries. See [www.houstoncoffeeassn.com](http://www.houstoncoffeeassn.com).
16. [www.cooxupe.com.br](http://www.cooxupe.com.br).
17. The art and science of tasting coffee or tea.
18. The project was sponsored by the ICO and managed by UNCTAD/WTO International Trade Center and financed mainly by the Common Fund for Commodities. Its aim is to assist a number of coffee exporting countries to produce and market high-quality coffees in order to improve their export earnings.
19. BSCA data.
20. Interview conducted by UNCTAD consultant.

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## Annex

### Selected examples of agricultural commodity e-markets

**www.theseam.com** is a US e-marketplace for cotton founded in December 2000 and owned by cotton merchants, marketing cooperatives and textile mills. It provides tools that facilitate price discovery, online negotiation and transaction. The marketplace has two sections, for domestic and international exchanges respectively.

**www.cattlesale.com** is a United States-based cattle-trading marketplace that provides both market exchange during trading hours and auction platforms. In addition to providing industry information, CattleSale.com gathers biographical information and photos of cattle, collects payment and coordinates delivery.

**www.dairy.com** was founded in 2000 by a group of US food and dairy firms. By 2003 it had expanded to include a wide range of dairy products including cream, milk, condensed skim milk, cheese and butter. Besides a spot market, the platform has also opened a transportation market that calls in carriers to facilitate shipment and delivery, thereby reducing transportation costs by up to 50 per cent.

**www.iTradeNetwork.com** is an online venue for perishable procurement based in the United States. It deals with online exchanges for produce, meat, seafood, deli/bakery goods, dry goods and floral products. Its services include price information, contract and rebate management, transportation and management solutions.

**www.farms.com** is a B2B exchange for the agriculture and food industry that primarily focuses on the beef cattle, swine, crop and feedstuffs markets in North America. The site offers a variety of services ranging from industry information and risk management to online transactions. Its wireless services has been integrated into the platform, enabling farmers to access its e-commerce solutions right from the farm. The site was voted “Best of the Web” for B2B marketplaces by Forbes Magazine in 2000.