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of the United Nations**

**Cocoa and Coffee Value Chains in West and Central Africa:
Constraints and Options for Revenue-Raising Diversification**

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Preface

This report is a background study conducted on 10 cocoa and coffee producing countries in West and Central Africa (WCA) - notably Cameroon, the Central African Republic (CAR), Congo, the Democratic Republic of (DRC), Côte d'Ivoire, Ghana, Liberia, Nigeria, Sao Tomé and Príncipe (STP), Sierra Leone, and Togo.

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ACRONYMS AND ABBREVIATIONS

ACP	Africa-Caribbean-Pacific countries that have signed the Cotonou agreement with the European Union
ACPC	Association of Coffee Producing Countries
BCEAO	Banque Centrale des Etats de l’Afrique de l’Ouest
BEAC	Banque des Etats de l’Afrique Central
CSSPPA	Caisse de Stabilisation et de Soutien des Prix des Produits Agricoles (Côte d’Ivoire)
EIU	Economist Intelligence Unit
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FO	Farmer Organization
FoB	Free on Board
LBA	Licensed Buying Agent
LBC	Licensed Buying Company
NCB	Nigerian Cocoa Board
GPCC	Groupements de Producteurs Caff -Cacao (Togo)
GST	Goods and Service Taxes
HYV	High Yielding Variety
ICA	International Cocoa/Coffee Agreement
ICCO	International Cocoa Organization
ICO	International Coffee Organization
ICRAF	International Centre for Research in Agroforestry
IITA	International Institute for Tropical Agriculture
IMF	International Monetary Fund
ONCC	Office National du Café et du Cacao (Cameroon)
ONCPB	Office National de Commercialisation des Produits de Base (Cameroon)
QC	Quality Control
QCD	Quality Control Division (Ghana)
OPAT	Office de Produits Agricoles Togolais
SAP	Structural Adjustment Programme
SODECAO	Société de Developpement du Cacao (Cameroon)
STCP	Sustainable Tree Crop Program
TNC	Transnational Cooperation
TRIPS	Trade Related Intellectual Property Rights
USAID	United States Agency for International Development
VAT	Value Added Tax
VCA	Value Chain Analysis
WCA	West and Central Africa
WTO	World Trade Organization

EXECUTIVE SUMMARY

In West and Central Africa (WCA), cocoa and coffee represent a large source of foreign exchange. Cocoa and coffee are agricultural commodities, which, because of their ecological requirements, can only be profitably grown in tropical and sub-tropical climates. The 10 countries represented in this paper together produce about 70 percent of world cocoa output and almost 2 percent of world coffee output. Since there is little local processing of these commodities, exports closely match production. Unlike the case in cocoa, the production of which has increased over time, coffee production has declined in WCA since the early 1980s both in terms of area harvested and total production and at a faster rate following the agricultural commodities price shocks in 2000.

Almost all cocoa plantations contain some coffee shrubs and the coffee plantations contain some cocoa shrubs. These commodities are dependent on natural resources, unskilled or semiskilled and low cost labour rather than technology as the dominant portion of their total costs. The industry is highly competitive at the production level.

High international price volatility causes high fluctuations in the earnings of the WCA producers and the states. The quota and the buffer stock programs of the International Coffee Agreement and the International Cocoa Agreement in the 1970s both failed at their objectives of stabilizing prices. The market liberalizations that resulted from the Structural Adjustment Programs (SAPs) in turn resulted in the increase in counterparty risk and the transfer of price and market risks from parastatal commodity boards to producers. Producers' prices also tend to diverge between countries and this leads to the illegal smuggling of the commodities; the smuggling has differed over time in terms of size and the direction of the flows. Cocoa and coffee farmers face other difficult challenges such as rising production costs, high marketing costs, pests and diseases, and occasional inclement weather.

Both crops need some sort of preliminary and basic processing soon after they are harvested. Cocoa processing consists in the conversion to intermediate products, cocoa butter and cocoa powder. The cocoa supply chain is more complicated than that of coffee because the final product, chocolate, exhibits greater variety than roast and soluble coffee, and because chocolate incorporates other raw material inputs such as sugar and milk. The post harvest treatment of the commodities - i.e. sorting, fermentation and drying process - defines the flavour quality of the final product. Other attributes matter as well; for instance, the demand for Cameroon cocoa is based on the high fat content and the reddish colour of their cocoa beans, which is highly desired for producing premium cocoa powder.

One of the most important evolutions impacting the cocoa and coffee markets has been the increased involvement of transnational corporations (TNCs) after the market liberalisations in WCA. Those entities, along with local private agents, have integrated into the marketing, distribution, export, and processing activities. The control over the consumption end of the commodity chain by TNCs represents a limiting factor to the benefits that can be derived from a successful forward integration strategy. Such large buyers are able to exercise market power on local smallholders and traders. Buying agents and traders are also able to exploit farmers especially the ones in remote areas; this is emphasized by the ineffectiveness of the market information diffusion systems, if any, at the village level. High marketing costs, such as the costs associated with poor rural infrastructure, reduce farmers' incentives; and few producer countries have policies that provide local actors with a level of playing field.

Diversification within the sectors is an essential component of a long-term solution to the high export dependence and the vulnerabilities from unfavourable terms of trade and to mitigate risks. Given the physical characteristics of the cocoa and coffee commodities and the important distance between producing and consuming countries - i.e. the green coffee beans preserve its unique characteristics more than the roasted bean; the lack of competitiveness in local processing due to high costs and low levels of sophistication; in addition, processed products are subject to escalating tariffs and higher quality requirements, upgrading to high cost processing activities may not be the best development strategy at this moment. The strategy lies in increasing the efforts at the production level in product differentiation (process, quality), certification with the aid of capacity building activities, stronger farmer organizations, and increased promotion and awareness in consuming countries.

Horizontal diversification involves the production of alternative crops that are not only either equally or more profitable, but that also serve to lower the variance in income between seasons, and that assure food security. Although diversification may have high transition costs and the WCA actors have poor access to credit, alternatives are still worth accounting for sustainability purposes. Products that already exist in the cocoa and coffee agroforestry systems are under-exploited. These include high value fruit and medicinal tree species that have the potential to be profitably domesticated, high value trees, and others that can be used for firewood and/or timber. For instance, rubber is documented to have not yet reached full exploitation in the region. Other opportunities exist in intensifying the production and marketing of staples and horticultural crops.

PART I: INTRODUCTION

1.1 Background and context

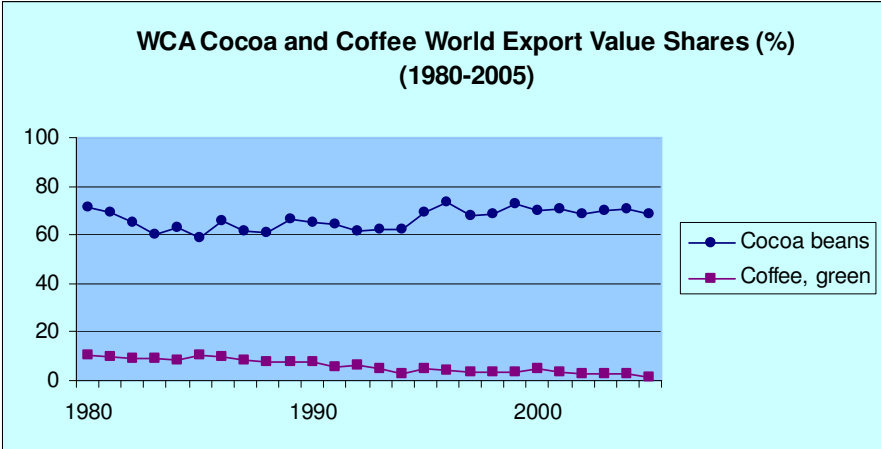
The European Union funded All ACP (Africa-Caribbean-Pacific) Agricultural commodities Programme (AAACP) became operational in September 2007. The objective of the Programme is to strengthen stakeholders' capacities to develop and implement sustainable commodity strategies, in view of improving incomes and livelihoods of producers of traditional or other agricultural commodities and reduce vulnerability at both producer and macro levels.

The intervention that will be undertaken by the FAO team were guided by the Kick Off Workshops (Douala and Dakar, May and June, 2008) outputs, follow up consultations with local stakeholders, discussions with International Organization (IO) partners on appropriate activities for collaboration, the mandate of FAO under the programme, and synergies with ongoing regional projects and budget parameters. On this basis, a range of priority areas of intervention with respect to specific sectors, countries and regional cross cutting issues have been identified. Priorities include capacity building of stakeholders along the commodity value chains in question, to conceive, implement and participate in sustainable commodity development and diversification strategies. The stakeholders comprise of national policy makers, private sector service providers, producer organisations and producers.

West and Central African (WCA) exports are dominated by just a few agricultural commodities. For some countries, the dependence on just a few commodities is tremendous, making them and the producers extremely vulnerable. Given the harshness of the world market at times of instabilities, the relatively heavy reliance on the export of cash crops creates economic insecurity at the national and local levels by affecting the trade balance of the state and the income level of smallholders.

In the WCA region, cocoa and coffee represent a large source of foreign exchange. In 2005, the value share of cocoa and coffee to total agricultural exports were about 52 and 3 percent, respectively; and the value share to total merchandise exports were 4.5 and .20 percent when accounting for Nigeria and almost 16 and 1 percent without Nigeria, for cocoa and coffee respectively (see Table 1 in Annex 2). In this report, 10 major WCA cocoa and coffee producing countries are the object of the analysis and they include Cameroon, the Central African Republic (CAR), Côte d'Ivoire, the Democratic Republic of Congo (DRC), Ghana, Liberia, Nigeria, Sao Tomé & Príncipe (STP), Sierra Leone, and Togo. Figure 1.1 shows the trend in WCA cocoa and coffee world export value shares (%) between 1980 and 2005. WCA has maintained a high market share for cocoa of close to 70 percent for over two decades; 98 percent of this share belongs to four West African countries: Cote d'Ivoire, Ghana, Nigeria, and Cameroon. On the other hand, coffee has seen a recent decline in market share down to 1.5 percent in 2005.

FIGURE 1.1

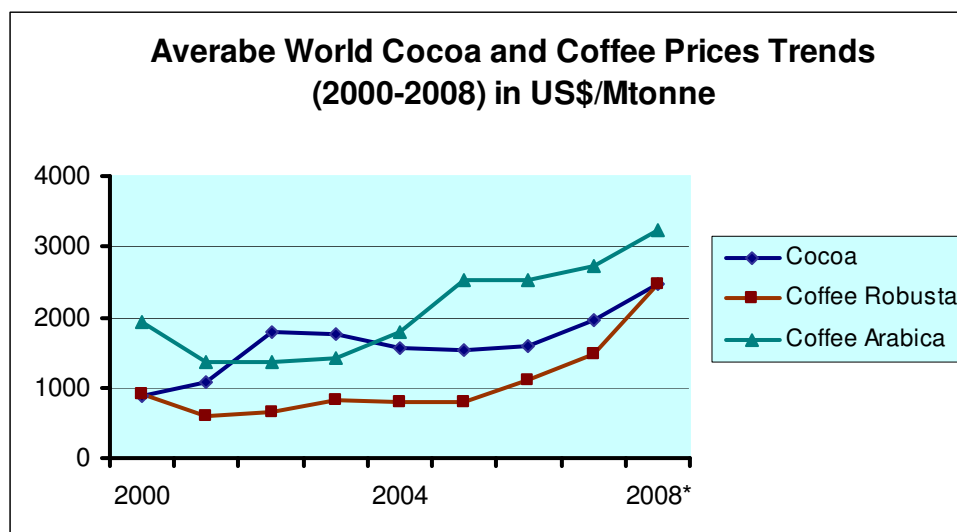


Source: Computed from FAOSTAT (2008).

The worth of the two commodities in relation to the other sources of foreign exchange varies greatly between countries. For instance, Sao Tomé and Príncipe’s dependence on cocoa exports is alarming; the country depends on cocoa for 94 percent of agricultural export values and 82 percent for all merchandise exports. Whereas, although Nigeria depends on cocoa exports for 65 percent of agricultural export values the low ratio in terms of total merchandise exports of only 0.88 percent shows that the country is active in other sectors (large oil industry). Each of the countries 10 WCA countries has particular idiosyncrasies which enables the study to present a wide range of issues and opportunities under different contexts.

World cocoa and coffee prices, the proportion of export price captured by smallholders, and the wages paid to labourers on cocoa and coffee farms, have a significant bearing on the economic ability of the actors implicated. In 2000, the price of coffee fell to a 30-year low and the price of cocoa to a 27-year old low (Oxfam, 2002a and b). Cocoa and coffee farmers, the majority of whom are smallholders, had to sell their beans at a price much lower than the cost of production. Although prices have risen since, as shown on Figure 1.2 below, the negative effects on the region were tremendous and strategies must be formulated to avoid such a recurrence and to address other factors and arising issues that have a potential to cause further vulnerabilities.

FIGURE 1.2



Sources: Computed from ICO, ICCO (2008).

* The 2008 prices are averages from the 1st 3 months for cocoa and the 1st 7 months for coffee.

The adverse market conditions faced by the cocoa and coffee producers such as the 2000 price shocks are the result of world supply mismanagement and the resulting high volatility of international prices. They also derive from a buyer-driven supply chain and poorly designed market liberalisation reforms in producer countries. Cocoa and coffee farmers face other difficult challenges such as rising production and high marketing costs, risks such as pests and diseases, and occasional inclement weather.

The present report sets out to analyse the cocoa and coffee production and marketing systems in WCA by explaining the farm and supply chain structures, underlying technologies and production patterns, and taking into account the policy and institutional environment. Diversification of existing cropping and marketing patterns are required to get away from one dominant farming enterprise system and the tendency toward oversupply and susceptibilities to international market conditions. The report provides a basis to identify technical, institutional and policy options toward better cocoa and coffee strategies and revenue-raising diversification opportunities. Diversification within the sectors is an essential component for a long-term solution to the market instabilities and vulnerabilities encountered such as that of unfavourable terms of trade and price risk.

1.2 Lay out of the study

The study aims to provide a review and an analysis of the cocoa and coffee value chains and to draw on opportunities for development and to propose alternatives for 10 WCA producing countries. The structure of the paper is as follows. Part II and Part III provide in depth studies the cocoa and coffee commodities, respectively. Part II and III are divided into sections that are laid out in the following respect. The first sections give a review of production requirements in terms land, labour and others. In addition, the first section examines the historical and current trends in production and yield. The second sections explain the value chains and marketing systems as well as provide a discussion on issues in concentration, distribution, organization, and other barriers to successful marketing. The third sections evaluate historical and current trade trends, prices, and the different international agreements

and their implications on price stability. The forth sections brief on the WCA policy environment and discuss the Structural Adjustment Programmes (SAP) of the late 1980s and early 1990s and the resulting new roles of the public and private sectors. Part IV of the report introduces the difficulties and opportunities for diversification within the cocoa and coffee production systems and along the value chains. Finally, Part V concludes the study and provides a series of recommendations and actions to be undertaken to ensure sustainable strategy implementations.

A brief description of the WCA cocoa and coffee farming systems is provided in Annex 1 at the end of the report and the production trade data consulted for the purpose of the report are displayed in Annex 3.

PART II: WCA COCOA STUDY

2.1 Production

2.1.1 Ecology, production, labor and land

Originally, cocoa was mainly cultivated in the tropical rainforests in South America. Once established in Ghana, cocoa production expanded rapidly in Africa and by the mid 1920s, WCA has become the main producer. Cocoa grows naturally in tropical rain forests. This habitat provides heavy shade and rainfall, uniform temperature and constant relative humidity and is typically only found within 10° of the equator. There are basically three group types of cocoa grown: Criollo, Forestaro and Trinitario (a cross between Criollo and Forestaro). Each type has its own characteristics of growth vigour, fermentation requirements, disease susceptibility and fat content. Forestaro is the most commonly grown comprising some 93% of world production.

WCA produces about 70 percent of world cocoa. About 90-95 percent of all cocoa is produced by smallholders with farm sizes of two to five hectares (Ha) (ICCO, 2007). Cocoa and coffee are both dependent on natural resources and unskilled or semiskilled low cost labour rather than technology as the dominant portion of their total costs. The most prominent issue receiving attention in the media now is the concern that child labour, under unsafe conditions and possibly as slaves, is used on the plantations (Abbott, 2002). Eliminating such practices remains a challenge.

With such relatively simple and widely available production technology, countries which have traditionally been heavily dependent on cocoa production are vulnerable to the entry of new competitors. Proper farm management and maintenance (sanitation, weeding and removing parasites) and technologies such as high yielding varieties (HYV) are important in maintaining and enhancing productivity.

Given the perennial nature of the crops, the two basic moments of choice for the farmer include the choice of planting given the already available stock of trees and the choice of maintenance and harvesting intensity. Once planted, the cocoa trees can have a productive life of more than 30 years, with yields per tree that rise gradually and eventually fall as the tree grows older (Kazianga and Masters, 2005). In WCA, the main crop harvest for cocoa starts in the September-October period and can extend into the January-March period. The clearing is done manually which together with the no-tillage method used when planting, causes minimum or no disturbance to the soils (Duguma et al., 1997). Mechanical fermentation and drying facilities in some cases have enabled economies of scale and a reduction in costs.

Farmers that adopt new technology when cultivating these crops are more interested in the long term objective and long term investment. The small-scale farming in WCA is an important characteristic in the cocoa and coffee sectors with respect to the performance, the financing of research, and the ability to target extension services and transfer developments in research. There has been an under-investment in agricultural research and development, as compared to Asia and Latin America. Likewise, there is little investment in increasing productivity though external inputs such as improved seeds and fertilizers. WCA use of inorganic and organic fertiliser, improved seed, irrigation and pesticides by farmers is among the lowest in the developing world (Gockowki and Ndoumbé, 2004). In Cameroon, the mean expenditure per hectare of fertiliser and pesticides in 2000 is estimated at 6.50 US\$/ha. The

bulk of these expenditures incur in coffee, cocoa and oil palm. Low levels of agricultural intensification have been linked to non-sustainability of agricultural lands, inappropriate agricultural policies, nonexistent agro-chemical production capacity, poor infrastructure, weak research and extension institutions, and the low prices of staple commodities (Reardon et al., 1999). In Ghana, on experimental plots in which shade was removed, some very high yields were attained, but shade removal, which requires fertilizer application, are not advised for the small farmers due to the greatly increased risk of capsid attack on unshaded cocoa as well as the very high cost of the fertilizer itself (Bloomfield and Lass, 1992).

Input credit has important effects on farmers' decisions on fertilizer demand and use, technology choice, and other observed and unobserved factors of production. The market structure for inputs in is typically monopolistic and prices rarely reflect actual scarcity because of subsidies and rationing. Input market integration is low and constant availability is problematic; therefore, the use of purchased production input is limited (Hatting et al., 1998). The time required to achieve a return in agriculture is a problem for loaning (Unruh and Turray, 2006). With the exception of annual crops, such as rice cultivation, banks are generally unwilling to make loans for agricultural improvements that may take long time to realize a return, due to the perceived excessive risk. Thus loans for irrigation, drainage facilities, levelling fields, tree crops, the construction of processing facilities, and farm equipment are not usually considered for loaning arrangements.

Choices for collateral can also be problematic. In Sierra Leone, bank personnel note that the problem with loaning and using a land lease as part of a "bankable project" for collateral is not that of tenure security (Unruh and Turray, 2006). Although there is little uniformity country-wide regarding customary practices, the banks trust the rural chiefs' indications of who owns the land. The problem instead, is that of not being able to use the land to access funds. Land outlives all owners and occupants and "keeps on giving"; the risk of losing land is too high for land to be seriously considered as collateral for a loan even if the necessary institutional structure were present. Additionally, customary landowners have low trust and knowledge level of banks. The manner in which banks operate is perceived of as unknown, unfair (i.e. interest rates can be as high as 20-30%), exploitive, and discriminatory. In these cases, strategies are to be developed for to sensitize farmers and to come up with alternative banking methods as land may not always be the best form of collateral.

Liquidity problems persist along the whole cocoa value chain of WCA. Domestic exporters and traders who buy cocoa from farmers and transport it to ports depended on their own resources or bank credit to finance their operations, but most domestic banks are unable to finance cocoa traders. A financing innovation that has evolved since the liberalization in Ghana is called the green clause letter of credit but was available only to traders that already had enough money to transport a truckload of cocoa beans to Douala and store them in a warehouse (Varangis and Schreiber, 2001). The trader then took the warehouse receipt to a bank, which issued a letter of credit against the stored beans. The buyer then advanced 70 percent of the value of the stored crop for the trader to purchase more cocoa.

In cocoa and coffee plantations, just like in most other farming systems in WCA, land tenure issues are complex and are thus addressed now. Most of these countries are in conflict or are recently post conflict. For this reason, according to Unruh and Turray (2006), administering rural return or access after or during a conflict is a complicated and time consuming function that requires much local knowledge, legitimacy and authority. The chieftaincy reintegration

function, as is the case in post war Sierra Leone, occurs as almost a free good to the long-term peace process. The present government is acting a facilitator of this process.

Another form of land tenure problem arises from migration. For instance, conflicts over the ownership of cocoa fields often involve disputes between migrants who come to plant cocoa and indigenous forest dwellers with pre-existing land use traditions (Kazianga and Masters, 2006). In Cameroon, for instance, new cocoa regions have traditionally been developed by migrants. Migration and investment lead to new rules for land tenure often distinguishing between the rights of migrants and those of indigenous people. Cocoa plantations are larger and less shaded in high-migration regions, which is likely to lead to more soil erosion and shorter-lived trees (Kazianga and Sanders, 2002). Migrants usually pursue land accumulation objective while indigenous farmers pursue current income. Kazianga and Masters (2006) evaluate the institutional and technical change effects using data from 2000 in Cameroon. They focus on property rights over the cocoa fields after they have been planted, which is of particular influence on farmers' decisions to maintain or replant those fields over time. The availability of new cocoa cultivars calls for stronger tenure security, to accommodate investment in the new technology without increasing deforestation. However, under the fixed number of farmers' assumption, the possibility that more secure land rights may attract more migrants, thus resulting into more new clearing is ruled out. Expansion of cocoa area has proceeded under unclear property rights, and as land becomes scarcer the frequency of conflicts has increased (Chauveau, 2000 in Kazianga and Masters, 2006).

Clashes over land ownership have become more frequent over the years in the cocoa region of Côte d'Ivoire, notably where cocoa workers of foreign origin have become landowners (EIU, 2008). To encourage both immigrants from Sahelian countries and internal migrants to settle the southern forest zone, a 1967 presidential decree stated that "land belongs to the person who brings it into production, provided that exploitation rights have been formally registered" (Koudou and Vlosky, 1998). The formal registration requirement has often been overlooked, as the states' power to implement and enforce formal registrations of any kind is limited. Government officials are still calling for improved land tenure in migration regions. Customary tenure rules remain dominant in part because of their effectiveness in dealing with inheritance and other frequently encountered land transactions (Degrande and Duguma, 2000).

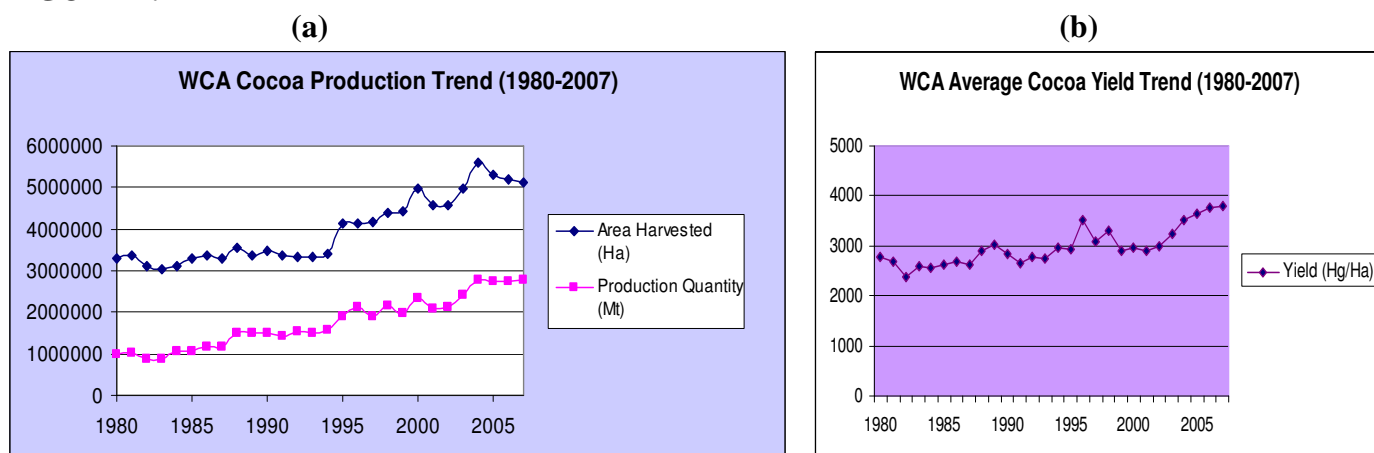
In the case of Nigeria, soon after coming to power, the president Umaru Musa Yar'Adua said his administration plans to liberalise land ownership in Nigeria to make it easier for people, especially farmers, to use their land to secure bank loans (EIU, 2008). Not much more has since been heard about this potentially important reform in a country where under existing law, land belongs to the government. The Land Use Decree of March 1978 stipulates that anyone who occupied land and developed it would continue to enjoy the right of occupancy, and could sell or transfer his interest in the development of the land.

2.1.2 Production trends and yields

The following figure shows the trend in WCA cocoa production in terms of area harvested in hectares (Ha) and production quantity in metric tonnes (Mt), as well as the yield trend (Hg/Ha), from 1980 to 2007. Production had a steady upward trend that got steeper in the early 1990s. There was a decline right after the 2000 international price shocks and then there was a gradual increase as prices regained their upward trend. Since 2004, the area harvested has declined with the production quantity has remained the same. On average, cocoa yield has

gradually increased throughout the 1980-2007 period; the yield has specifically accelerated upwards since 2002.

FIGURE 2.1



Source: Computed from FAOSTAT (2008).

Table 2.1 displays the latest production figures, area harvested (Ha) and quantity (Mt) for the individual countries in alphabetical order from 2000 to 2007.

TABLE 2.1: WCA Cocoa Production (2000-2007)

Country	Element	2000	2001	2002	2003	2004	2005	2006	2007
Cameroon	Area Harvested (ha)	370000	370000	370000	375000	375000	400000	370000	378000
	Production Quantity (Mt)	122600	122100	125000	154965	166754	178500	164553	179239
CAR	Area Harvested (ha)	1000	1000	1000	1000	1000	1000	1000	1000
	Production Quantity (Mt)	50	50	50	50	50	50	50	50
DRC	Area Harvested (ha)	21724	20752	19167	19033	18900	18767	18633	19000
	Production Quantity (Mt)	6582	6235	5750	5710	5670	5630	5590	5700
Côte d'Ivoire	Area Harvested (ha)	2000000	1777550	1880000	2000000	2050000	1800000	1700000	1700000
	Production Quantity (Mt)	1401101	1212428	1264708	1351546	1407213	1286330	1254500	1300000
Ghana	Area Harvested (ha)	1500000	1350000	1195000	1500000	2000000	1850000	1835000	1725000
	Production Quantity (Mt)	436600	389591	340562	497000	737000	740000	734000	690000
Liberia	Area Harvested (ha)	24000	10000	10000	15000	15000	17000	17000	17000
	Production Quantity (Mt)	3100	1000	1500	2500	2500	3000	3000	3000
Nigeria	Area Harvested (ha)	966000	966000	1030000	1002000	1062000	1062000	1104000	1110000
	Production Quantity (Mt)	338000	340000	362000	385000	412000	441000	485000	500000
STP	Area Harvested (ha)	24000	24000	24000	28000	21000	26000	22000	22000
	Production Quantity (Mt)	3418	3200	3200	3700	2800	3500	3000	3500
Sierra Leone	Area Harvested (ha)	30000	30000	30000	33000	33000	33000	38000	33000
	Production Quantity (Mt)	11000	11000	11000	12000	12000	12000	13940	12000
Togo	Area Harvested (ha)	21400	21400	18000	19000	35000	90000	104000	104000
	Production Quantity (Mt)	6600	6500	6000	7900	21700	59000	73000	70000

Source: FAOSTAT (2008).

Now I briefly discuss the production pattern in each of the major WCA cocoa producing countries in order of production quantity. The Central African Republic is omitted here for its production level in cocoa is negligible.

Côte d'Ivoire

Côte d'Ivoire is the world's largest producer of cocoa, accounting for around 40 percent of global supply with a recorded production of 1.3 million Mt in 2007. The country's economic growth tends to reflect fluctuations in revenue from this all-important crop (EIU, 2008). Together, cocoa and coffee account for 60 percent of the area under cultivation in Côte d'Ivoire. The cocoa and coffee region in the south-west is linked to the second major port, San-Pédro (Abidjan being the first). Cash crops are grown in the coastal region and the south of the country is also the site of most manufacturing activity. Cote d'Ivoire has been going through adverse conditions such as the depletion of the labour force in the cocoa-producing zone, the persistence of roadblocks and corruption on the transport routes, the failure to sustain agricultural extension services, and the instabilities of domestic farm gate prices. Another factor contributing to the decline of the sector is the deterioration in the quality of cocoa beans; the Ivorian cocoa is attracting a lower price on the world markets as a result of the lower use of pesticides and of problems with drying the crop and storing it. Ageing plantations, it is estimated that 50% of total plantations in Côte d'Ivoire are more than 30 years old, are also contributing to the trend.

Ghana

Cocoa is the main cash crop in Ghana with a production of 690,000 Mt in 2007 a drop from 734,000 Mt in 2006. Ghana has about 600,000-800,000 cocoa growers. Cocoa grows in all the regions south of Northern region: Eastern, Volta, Western, Central, Ashanti, and Brong Ahafo. In Ashanti and the Central regions, cocoa production is highest and infrastructure is relatively more enhanced (Hatting et al., 1998). The volatility of the commodity market, resulting in low and unstable farm-gate prices create a vicious circle of lower investments, lower productivity, lack of competitiveness and deteriorating incomes.

Cameroon

In 2007, 179,000 tonnes of cocoa was produced in Cameroon. Cocoa production is spread across the Southwest, Center, South, Littoral, East, and West regions. In the South and Centre Provinces of Cameroon, about 75 percent of rural households produce cocoa on small plots that are concentrated along roadsides (Leakey and Tchoundjeu, 2008). Many of the cocoa plots there are now relatively old coexist with indigenous timber and fruit trees. North of Yaoundé, where population pressure is higher, farmers have developed cocoa based mixed cropping systems. Staple food crops such as maize and cassava are integrated within the tree crops. The Cameroonian government plans to boost cocoa and coffee output by increasing the area under cultivation, introducing higher-yielding strains and providing more technical, financial and institutional support to farmers. In 2006 the state-run Cameroon Cocoa Development Authority (Sodecao) acquired 11,500 ha of land from traditional rulers in the Centre and East provinces for distribution to farmers to open new cocoa farms. Plans have also been developed to improve rural infrastructure and empower farmers to negotiate better prices with buyers. A cocoa and coffee development fund was created in March 2006 to fund these initiatives with proceeds from an export tax, the net effect of which need to be assessed.

Nigeria

Cocoa's contribution to Nigeria's total exports earnings during the past two decades dropped considerably due to the enormity of foreign exchange earning of crude petroleum. Even so, cocoa remains Nigeria's major agricultural export of which the country is the fifth largest exporter of in the world. Cocoa output ranges between 185,000 and 215,000 tonnes in recent years. Oyo is one of the five cocoa-producing states in the southwest cocoa belt, which accounts for about 70% of Nigeria's annual cocoa production (WABA, 2007). The increasing

demand for labour in the area of production and marketing in the cocoa belt area contributes to some rural migration (Folayan et al., 2007).

Sierra Leone

In Sierra Leone, since the civil war of 1991 to 2002, cocoa has been one of the most significant exports. The war lasted longest in the eastern borderlands, where both cocoa and coffee are grown (EIU, 2007). About 85 percent of Sierra Leone's cocoa is grown in the Kenema and Kailahun districts in the East (Bah, 2007). In 2007, 12,000 Mt of cocoa was produce on 33,000 ha compared to respectively, almost 14,000 Mt and 38,000 ha a year before. Typically, crop production is characterized by low yields and productivity and occurs in a setting severely deprived of institutional facilities. The typical farmer exhibits a very poor knowledge of agronomy and is inhibited by the absence of institutional credit as well as organized markets for farm produce. There seems to not be any adequate framework for sector policy as no official comprehensive and coherent agricultural and food security policies have ever been adopted.

Togo

Cocoa is one of Togo's main cash crops at a total production of 70,000 Mt in 2007. Togo has considerable agricultural potential because of its varied climate, but the sector is dominated by subsistence farming and is poorly integrated with the rest of the economy. Productivity is low because of a lack of irrigation and fertilizers. Just as the case in the rest of the WCA region, development is hampered by a shortage of rural credit institutions and the poor rural infrastructure.

DRC

The Democratic Republic of Congo produced 5,700 Mt of cocoa in 2007. The country has a more dynamic coffee sector which is discussed in Part III of the paper.

Sao Tomé and Príncipe

The agricultural exports for Sao Tomé and Príncipe are composed almost entirely of cocoa, which has been the dominant crop since the 1890s with an export value share of agricultural exports of 94 percent in 2005 (FAOSTAT, 2008). As a result of falling prices, the division of former estates into numerous small landholdings, ageing trees and other local supply-side constraints, cocoa production has fallen from a peak of 4,500 tonnes in 1994 to an estimated 3,500 tonnes in 2007. The eastern slopes and coastal flatlands of the country are covered by cocoa plantations within a dense and well watered jungle. The soils of this volcanic island are of basaltic origin and are thus relatively deep, permeable, and resistant to erosion, as well as highly suitable for cocoa (Eyzaguirre, 1986).

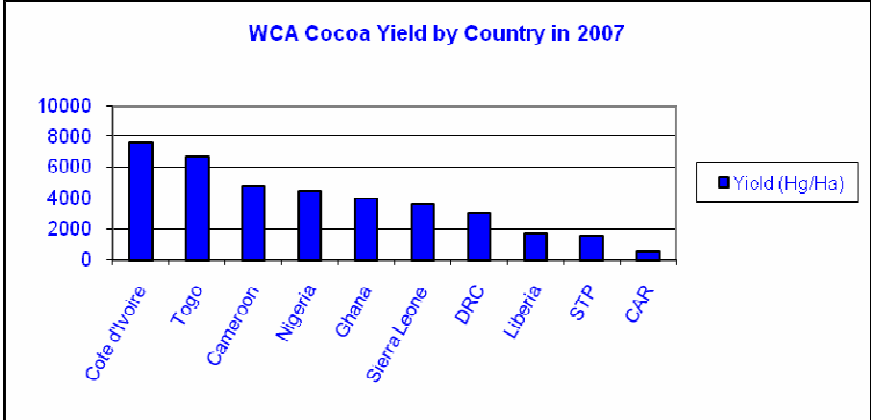
Liberia

Liberia is a tiny producer, with less than 5,000 tonnes of cocoa beans a year; the country is dwarfed by the 1.35 million Mt harvested in neighbouring top producer, Côte d'Ivoire. Throughout the 14 year civil war which ended in 2003, there was no replanting or maintenance, but the old trees were harvested, and sometimes not by the owner. The 2007 output was about 3,600 tonnes; put precise figures are hard to find for much of the cocoa is shipped out of neighbouring Guinea. The International Institute of Tropical Agriculture's (IITA) Sustainable Tree Crop Programme (STCP) with funding from the United States Agency for International Development (USAID) and the World Cocoa Foundation plans to

bring hybrid cocoa seeds from Cote d'Ivoire to cultivate and gradually replace old trees. The farmers are encouraged to plant at least a hectare of cocoa in existing growing areas, with each hectare accounting for around 1,000 trees. These are high yielding, disease resistant and early maturing varieties. Right now, farmers are getting a yield which is as low as 150 Kg/Ha, but it is believed that if farmers follow the recommended cultural practices the yield can get as high as 800 Kg/Ha; and harvesting can start as early as in three years. The quantities produced are not expected to have any impact on the international market price, but farmers are expected to be able to make a fairly good living from cocoa. Production is expected to provide income for some 30,000 families, or 150,000 of Liberia's 3.1 million inhabitants.

Production and export and other relevant statistics since 1980, for the purpose of this report, are displayed in the Statistical Annex at the end of the paper. Low farmgate prices can be a significant disincentive to good crop husbandry and to the adoption of improved technologies in WCA. For instance, Ghana's yields are only a little over half of those in Côte d'Ivoire. Productivity is low generally in WCA because of a lack of irrigation and fertilizers; development is hampered by a shortage of rural credit institutions and the poor rural infrastructure. Please, see the Figure 2.2 below for 2007 cocoa yields per country.

FIGURE 2.2



Source: Computed from FAOSTAT (2008).

In 2007, WCA per country cocoa yields ranged between a low of 50 Kg/ha (CAR) and a high of 765Kg/ha (Côte d'Ivoire). The average yield for the region was 380 Kg/Ha compared to a world average of 541 Kg/ha. Côte d'Ivoire, the number 1 producer also has the highest yield in the WCA region. Ghana is the second producer with 17 percent of WCA output and has a yield of 400 Kg/Ha. Togo produces only close to 2 percent of the WCA output but has the second highest yield of 673 Kg/Ha.

2.2 Marketing and value chain

2.2.1 The cocoa value chain

This section provides a description of the cocoa production processes along the value chain in order to provide an understanding of circumstances and the market environment faced by all the actors involved. The Value Chain Analysis (VCA) studies the sequence of processes of a good or service until the production of the final product (Talbot, 2002; Laven, 2005; Gilbert, 2006). The VCA framework examines the nature of the commodity flows to and from each stage and the geographic distribution of the flows; and is complemented by more traditional industrial organization models in which questions of strategic behaviour and market power

can be more satisfactorily addressed. Commodity chains can also be viewed as a series of transactions, beginning with the transfer of the raw product to a first stage processor, and ending with the sale of the finished product to the final consumer. These transactions can take place on a free market; they may be completely removed for the market, as is the case for a vertically integrated transnational corporation (TNC); or they may be structured by oligopolistic sellers and / or oligopsonistic buyers using contracts that are indirectly affected by spot market supply and demand conditions. The amount of value added to the product at each stage, are determined by the rules governing the transactions, and by their relations to transactions at the other stages.

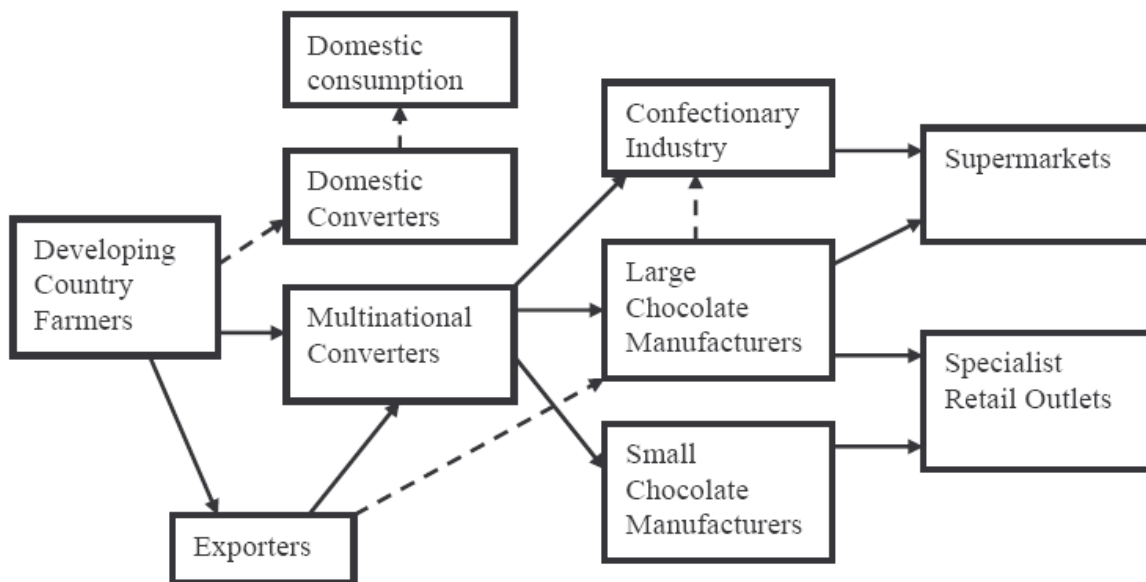
The cocoa supply chain is more complicated than that of coffee because the final product, chocolate, exhibits greater variety than roast and soluble coffee, and because chocolate incorporates other raw material inputs such as sugar and milk. Nevertheless, both crops need some kind of preliminary but rudimentary processing soon after they are harvested. Talbot (2002) mentions the implications of green coffee being much closer to its final consumption end, whereas there is another set of intermediate storable product in the cocoa chain. The existence of the intermediate storable products of cocoa butter and the powder opened the possibility for cocoa traders to integrate forward into cocoa processing without directly threatening the chocolate manufacturer's market. The movement of cocoa traders into processing was also facilitated by decisions of the chocolate manufacturers to focus on the marketing of chocolates and the design of new products, and to externalize the less profitable grinding operations.

Cocoa processing consists in the production of two intermediate products, cocoa butter and cocoa powder. This operation is known as converting or grinding. Cocoa butter and powder are recombined, in varying proportions, to make chocolate which also incorporates other inputs, most importantly milk and sugar. Cocoa powder is also used without the butter in confectionary products. Butter and powder are produced in fixed proportions, given the fat content of the beans, and powder is normally seen as a by-product.

Figure 2.3 illustrates a simple version of the cocoa supply chain. Producers sell their cocoa beans, via a cooperative and/or a local buyer or "traitant", to exporters. Some or all the major exporters are either multinational converters or local companies controlled by the converters. A small amount of generally low quality cocoa may be processed and sold locally. Both sets of domestic marketing agents sell to exporters, who are associated with importers and processor in Europe and North America, or who trade on the London or New York commodity exchanges. A few exporters operate out of one or two ports in each country. Processors grind cocoa into butter, powder and liquor, which they sell to chocolate manufacturers and other food processors, who ultimately sell their products to consumers. Both processors and chocolate manufacturers are concentrated TNCs.

The intent in this section is to describe the chain more in depth up to the level where the actors of the WCA producing countries get.

FIGURE 2.3
The Basic Cocoa Supply Chain



Source: Gilbert (2006).

The cocoa pods take about 5 months from flowering to ripeness and are exposed to a number of pests and diseases (capsids, swollen shoot virus, and phytophthora). Ripe fruits are harvested by farmers with long handled knives or machetes when the fruit has achieved a deep yellow colour (for most varieties). The harvested pods are collected together, broken open, usually with a wooden baton and the wet beans covered with sweet mucilage are removed by hand. Ripe fruits are sometimes left in the field for up to 10 days, a practice called pod storage which is supposed to enhance the flavour but is usually done to allow enough labour to be assembled to break the pods all on the same day, often a Saturday morning. The pod husk is discarded and the wet cocoa beans with their sweet mucilage are then fermented for a number of days; without this vital process, the chocolate flavour will not be fully developed on subsequent roasting in the factory.

For successful flavour development, a fermentation pile (of from 90 to 250 kg of wet beans) are built up on plantain leaves and then covered with more leaves; these piles should be constructed away from full sunlight and ideally should be turned after about 3 days to ensure even conditions throughout the pile. Plastic sheets are sometimes used. On larger holdings, this fermentation can conveniently be carried out in wooden boxes usually 1.2 m by 1.2 m and beans are to a depth of 0.9 m and again would be turned at the third day; this would be about 1 tonne of wet beans. On completion of fermentation, the cocoa is carried to the villages for drying on raised bamboo mats (in Ghana for example) or on concrete (Côte d'Ivoire). This can take from 7-10 days or even longer in cloudy/rainy conditions. Drying on concrete can lead to the beans drying quickly and can potentially introduce various sorts of externally imposed

contamination. On raised bamboo mats the drying beans can be conveniently sorted and debris moved and their use enables the beans to be rolled up in the mat in the event of rain during drying. Rushing the drying process stops some of the chemical reactions started during fermentation and prevents escape of the remaining acids in the beans resulting in acidic flavours in the cocoa. Very fast drying can leave the cotyledons wet and merely dries the exterior of the bean, giving the misleading appearance that the cocoa is dry. After a few days in this situation, the moisture will migrate out to the shell, allowing fungal development and growth. Artificial drying should mimic sun drying as far as possible, using low temperatures/ambient air for the initial drying and higher temperatures only for the final stage. Sun drying allows the sun and wind to take their effect, and combined with stirring ensures thorough drying; a process that also allows the removal of defective beans. When cocoa beans crackle in the hand if rubbed together, then they have achieved the desired level of about 7.5% moisture and after cooling for 24 hours are ready for sale.

The purchase of cocoa from farmers and its movement to port is in the hands of private operators. In Côte d'Ivoire, for instance, itinerant buyers (traitants) with small pick-up trucks regularly come to the villages to buy cocoa for cash, after a rapid quality and moisture check followed by crude weighing. The scales are rarely checked by the relevant authorities. The cocoa is delivered that same day to the collection centre in the nearest large town then moved to the exporters store in the port areas of Abidjan or San Pedro.

The only state intervention is in Ghana where the government controlled Quality Control Division (QCD) undertakes grading and sealing of cocoa into export sacks. Stating buying premises are required under the cocoa marketing legislation. The cocoa can be brought into the metal roofed shed by the farmer where it is weighed on certified scales. Quality and moisture content are thoroughly checked often in the presence of the farmer by the manager of the buying shed who usually provides a cheque to the farmer and keep a detailed payment record. The marketing system in Ghana and the resulting high quality has been founded on the principal that cocoa bags are officially graded and sealed by QCD as close to the farm as possible, in the village buying sheds. Cocoa may remain in villages for some weeks, both before and after sealing by QCD. Once an adequate quantity of sealed cocoa and transport is available, then the buyer will move to the 'hand over point' where the cocoa is sold to the government owned Cocoa Marketing Company (CMC) at a fixed price. The cocoa is purchased by CMC from the Licensed Buying Companies (LBCs) and placed into large piles in airy warehouses close to the port from which vessels can be loaded after fumigation.. Competition among LBCs exists but varies in degree across villages (Teal, Zeitlin, and Maamah, 2006).

In the Northern Hemisphere cocoa stocks can be stored for several years, as storage conditions tend to be good in cold climates. Storing cocoa at its point of origin in warmer climates can be difficult, but the degree of difficulty varies across countries. In Ghana properly prepared cocoa is reportedly very resilient and can be stored for some time despite the humidity and heat (Varangis and Schreiber, 2001). In general cocoa needs to be moved from its point of origin as soon as possible because of the effects of heat and moisture. Cocoa that is delivered to a port wet can rapidly develop mold and problems with free fatty acids and ochratoxin (fungal toxin). Much cocoa is dried at port in order to prevent mold from forming. This process is delicate: exporters want parcels to arrive at their final destination with no less than 5.5 percent moisture and no more than 7.5-8.0 percent. The fabric and the ventilation in many of the cocoa stores are poorer than desirable. In the case of Ghana, cocoa may remain in these stores for some weeks. Cocoa may also remain on lorries in the port area for some days

waiting to be unloaded. On unloading at the exporters' store, the cocoa would be checked again for quality, re-dried if necessary (in artificial driers), sieved and bagged into export sacks. The bagging stage would be omitted if cocoa is being shipped as bulk in containers or as megabulk (direct in the hold of the vessel). Cocoa may be ready for export within seven days of arrival at the exporters' store. For container shipments (either as bags or bulk in containers), the speed of loading of the container vessel requires that containers are stuffed well ahead of the estimated time of arrival of the vessel.

Along with farmers in neighbouring Côte d'Ivoire, Ghana's 600,000-800,000 cocoa growers are known to receive the lowest share of the export price in the world, roughly half (Varangis and Schreiber, 2001). At 30 percent, the export tax is the highest by far among all the major cocoa-producing countries. Marketing costs are also relatively high at 15 percent, and the costs of the Cocobod and its subsidiaries account for around 5 percent. Producer prices in Nigeria are determined by market conditions in both the internal and international cocoa markets. As a result of liberalization, cocoa farmers in Nigeria receive well above 80 percent of the FOB export price. The poor state of the WCA infrastructure hampers production and limits the marketing network.

Cocoa beans undergo many different stages of processing before they can be mixed with other ingredients to produce chocolate. Cocoa butter and liquor are used to make chocolate, while cocoa powder is used in beverages and other confectionery. Good quality chocolate will contain a relatively high percentage of cocoa (up to 70%); however, most of the popular bars in the UK and North America contain only 20% (Oxfam, 2002).

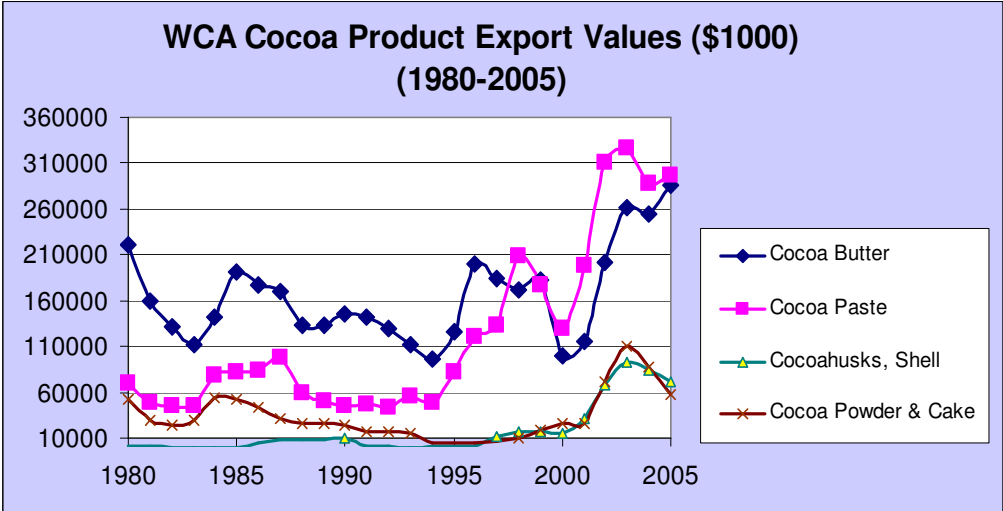
Since there has been little processing of cocoa historically in Africa, exports have closely matched production. In 2000, only 8 percent of beans were processed within Africa, and the remainder exported. Both tax incentives offered by African governments and the advantages under backward integration have encouraged the multinational processors to build or buy plants in WCA. In the past, local processing firms have used lower quality beans, while exporting the higher quality ones. Storage of cocoa has also been in Europe and North America because the logistics and the temperate and semi-arid climates are better suited to storage. Processors of beans into liquor or who manufacture chocolate are flavour conscious, and hence will pay more for well fermented cocoa (Bloomfield and Lass, 1992). The usual buyers of beans of irregular or unpleasant flavour are those companies who press beans to extract butter or cake. They buy the majority of cocoa from Cote d'Ivoire, Nigeria, Malaysia, and Indonesia.

Cocoa processing at origin has traditionally been an area of controversy (Bloomfield and Lass, 1992). The rationale for promoting local processing has been to generate employment, promote industrialisation, and add value to raw materials and to process sub-quality beans that would otherwise not be exportable or would pull down the average price of bean exports. Local processing lacked competitiveness compared with processing in consumer countries. Processing at origin suffers from a number of drawbacks, including sourcing of beans from only one origin, transport costs to end-users, shipment of cocoa liquor and butter in solid form as contrasted with shipment by processors in consumer countries in liquid and heated form, tariff escalation, and competition from industrialised-country processors who ship on a just-in-time basis, as contrasted with producers countries who have less control over the delivery date. Many origin processing companies have not met quality and hygiene standards demanded by end-users. Given these many marketing constraints, producer country

processors have had to compete primarily on a cost basis. This has been possible either through subsidised inputs or through the use of low quality beans and low cost of production.

Cocoa beans can be stored for about 6 months and can be therefore the form in which it is traded in the world market (Talbot, 2002). The roasting and cracking of the beans to extract the nibs is a much more capital-intensive process. However, cocoa powder, cocoa butter, and chocolate are also storable, so there is an international trade of these intermediate products as well. The following figure graphs the export values of intermediate cocoa products other than the raw cocoa beans between 1980 and 2005. It shows that at home processing of cocoa butter, cocoa paste, cocoahusks and shells, and cocoa powder for export has seen some growth since 2000. However, this is so only in the 4 major producing countries (Côte d’Ivoire, Ghana, Cameroon and Nigeria).

FIGURE 2.4: WCA Cocoa Product Export Values Trend (1980-2005)



Source: Computed from FAOSTAT (2008).

It has been shown in a number of cases that, when premium quality beans are used, the country concerned would most likely have received a higher return from exporting raw cocoa than cocoa products, once the costs of processing and the additional taxing are taken into account. Also, cocoa processing seems to not generate much employment as the method is more capital than labour intensive; the contribution to industrialisation is trivial.

The first processing factory in Ghana was built in 1947 by Gill and Duffus, then the world leading cocoa trader (now part of Archer Daniels Midland Company of the United States) (Talbot, 2002). After independence, the state nationalized the cocoa processing industry, so that by the mid-1980s, Ghana’s three cocoa processing factories were all state owned. Despite some management issues and diseases in cocoa trees, thanks to significant investment in processing capacities made in the country, Ghana is expected to record a strong increase in grinding activities, up by 29,000 to 150,000 tonnes in the current season (ICCO, 2008). US company, Cargill has begun construction of a US\$70 million factory at Tema to add value to Ghana's raw cocoa beans. The plan is to process 65,000 metric tonnes of cocoa annually into liquor, butter and powder. It will be the fifth cocoa-processing factory in Ghana. However, local processing companies have raised concerns over the lack of light crop cocoa beans, which are sold at a discount over the main crop. Light crop beans are found throughout the year but feature mainly in Ghana's June-September mid crop, rather than the October-May main crop. Local processors fear when there might not be enough light crop beans to match

processing capacity; less profitable plants may be forced to close down. In fact, a major local cocoa processing company, Wamco, has reduced activity in one of its location in the beginning of 2008.

Côte d’Ivoire has the leading position of cocoa processing among the producing countries. A processor based in France, provides marketing and technical assistance as well as an outlet to local ones (Bloomfield and Lass, 1992). The company also produces small quantities of chocolate for the domestic market. Barry Callebaut, the Swiss-Belgian chocolate group, is working on boosting its cocoa processing capacity since 2007 by more than 50% in the country within two years. This was in response to growing demand for cocoa liquor. The company will double the amount of beans it buys from farmers in order to secure its supply of raw materials. The planned increase will create round 60 new jobs in Barry Callebaut's existing cocoa processing facilities in Côte d’Ivoire.

In Nigeria, local processing companies, represented by the Cocoa Processors’ Association of Nigeria (COPAN), have criticized the new customs tariffs imposed by the EU countries to Nigerian exports of cocoa semi finished products (ICCO, 2008). This was the result of the failure of trade talks related to the Economic Partnership Agreement (EPA) between the EU and Nigeria. Hence, instead of entering duty free, Nigerian cocoa semi finished products have since been facing customs tariffs between 2.8 percent and 6.1 percent, depending on the product concerned. During the first four months of the current season, these exports have declined by 20 percent over the same period a year earlier.

Imports of cocoa beans and cocoa semi-finished products are usually subject to either an import tariff or an indirect tax such as Value Added Tax (VAT) also known as Goods and Services Taxes (GST), or both, as they enter the markets of cocoa consuming countries (ICCO, 2008). Major cocoa importing countries include the European Union, the United States, Malaysia, Canada, the Russian Federation, Japan, and Switzerland; together they import about 76 percent of world trade in cocoa beans and 50 percent of world trade in cocoa semi-finished products. The average (weighted) VAT rate was 6.7%, where weights are derived from imports of cocoa beans and cocoa semi-finished products. VAT is uniform for all forms of cocoa for each country.

Overall, it is estimated that imports of cocoa beans and cocoa semi-finished products face an average (weighted) import tariff of 1.2 percent, where trade values are used as weights. Tariff escalation is a taxation system in which tariffs vary according to the product, from no tariffs or low tariffs on raw materials to the highest tariffs on finished goods. Tariff escalation reduces the means of accumulating skills and capital and thus limits the scope for processing for exporting countries (Elamin and Khaira, 2003). This is so for exports of cocoa semi-finished products to Japan, Russia, and Malaysia as shown in Table 2.2 below. The impacts of escalating tariffs on processing and destination choices of WCA countries require further analysis.

Table 2.2: Import Tariffs Applied by Major Cocoa Consuming Countries to Imports of Cocoa and Cocoa Semi-Finished Products

	EU	Japan	Russia	Canada	USA	Switzerland	Malaysia
Cocoa beans	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cocoa liquor	0.00%	4.00%	5.00%	0.00%	0.00%	0.00%	5.00-25.00%
Cocoa paste	0.00%	7.00%	5.00%	0.00%	0.00%	0.00%	5.00-19.00%
Cocoa butter	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00-10.00%
Cocoa powder	0.00%	11.00%	5.00%	0.00%	0.00%	0.00%	5.00-10.00%

Source: Adapted from ICCO (2008)

2.2.2 Market structure and distributional issues

One of the most important evolutions impacting WCA cocoa and coffee markets has been the backward integration of transnational corporations (TNCs) into those markets after liberalisation. Those entities, along with local private agents, have integrated activities of marketing, distributions, export, and processing. Through this integration, they are able to capture much of the value added in marketing associated with both domestic and international markets. They are better able to exploit scale economies in marketing and transportation, a concept known for leading to concentration. The adoption of supplier managed inventory, corporate consolidation, the increased importance of branding, and the fragmentation and increased diversification of consumption have transformed power relations in commodity markets to the advantage of buyers rather than producers (Ponte, 2001). The high level concentration downstream in the supply chains is clearly not to the advantage of upstream producers, who are small and remote price takers. As Losch (2002) puts it, Côte d'Ivoire's share of world production (40%) only creates an illusion but not the reality of market power. The difference between the world price and the domestic price paid to farmers consists of marketing margins that are incurred along the marketing chain. The magnitude of these margins reflects costs related to purchase, processing, loading, transportation, taxes, insurance, quality premiums, risk premiums, and trade policy instruments (Wilcox and Abbott, 2006). These margins may also contain mark-ups/downs if any of the intermediaries has the ability to exert market power.

The control over the consumption end of the commodity chain by TNCs represents a limiting factor to the benefits that can be derived from forward integration strategies (Talbot, 2002). Big buyers can pick and choose, playing one producer country against the other. In Cote d'Ivoire just three years after liberalization there were forty registered exporters, but ten control over 90 percent of the market. Legislation prevents market shares of these exporters from increasing. Concentrated exporters can potentially exercise market power both on farmers and traders in the producing countries and on manufacturers in the consuming countries.

Three TNCs now dominate the processing and supply of the intermediate cocoa product (cocoa butter and powder, and 'industrial' chocolate), accounting for over 35 percent of total worldwide cocoa grinding capacity (Talbot, 2002). These three firms are Archer-Daniels-Midland (ADM), Gargill, and Barry Callebaut. In the 1990s, five traders: Neumann Gruppe; Volcafe, ED&F Man; Gargill; and Goldman Sachs, along with the largest japans trading companies, controlled the majority of imports into the major consuming markets. The extent of market power exercised by multinational processors is highly relevant. Wilcox and Abbott (2004) showed using a new empirical industrial organization approach that there is evidence that multinational exporters exercise market on farmers in Côte d'Ivoire.

It is believed that the link of the supply chain that is the closest to the farmgate may be the least competitive one; as cash trapped farmers in remote areas lack good market information and encounter relatively few buying agents (Wilcox and Abbott, 2006). Despite the apparent importance of government support, few producer countries have policies that provide small farmers with a level of playing field. Scale economies in processing, marketing, and distribution as well as market power may lie behind the larger observed margins. A lack of competition along the cocoa supply chain means that farmers capture as little as 0.5 percent of the retail price of cocoa. Small farmers, contrary to plantations, are rarely able to by-pass

intermediaries as they do not have basic processing or transportation facilities. In addition, small producers do not have good access to international price information, which enables local traders to take bigger margins. Finally, farmers cannot choose the timing of their sale as they lack access to credit or warehousing facilities, and often have to sell their harvest in advance to cover immediate expenses. High marketing costs such as in-country transportation reduces the share captured by farmers. Farmers living in producing regions far away from any export point, for instance in big and landlocked countries, are bound to receive a lower price than farmers close to a sea port.

The lack of competition at the intermediary level is often caused by inadequate market regulations (such as trading licenses, which limit entry of new players). The growing vertical integration of the cocoa supply chain limits the number of global market players. In many places, local traders and exporters are subsidiaries of the international traders who have extended their operations outside their traditional boundaries. Independent exporters find it difficult to compete with multinationals because they do not have access to cheap financing, contrary to international players. Ultimately, this threatens competition at country level.

The difficult conditions faced by producers are not the results of market power alone. A better local market environment can make sizeable difference in terms of improving farmers' income. Good access to technical assistance, input credit, better infrastructure, and marketing information are critical for ensuring that small farmers get the best possible price for their products. These are also other necessary conditions to improving yields, quality of production and processing capacities at the farm level.

2.2.2 Farmers' organizations

The concern about domestic market competitiveness gives rise to the promotion of farmers' organizations (FOs). Farmers are more likely to benefit more from acting cooperatively as they are often in the position where there are very few outlets for their products (Wilcox and Abbott, 2006). In WCA, FOs hold a small and declining share of cocoa and coffee markets. Existing FOs are often weak and discredited. They lack governance and financial transparency and are rarely held accountable by their members who largely distrust them. FOs in WCA range from operating solely at a level where farmers decide to market their produce together, to those that perform the same tasks as private middlemen who purchase cocoa at the farmgate or traders that sell directly to exporters. In some cases, farmer cooperatives even export but these cases remain relatively rare.

A well functioning FO is able to ensure quantity and quality, negotiate with agents downstream and transport cocoa to the buyer. If these tasks are performed efficiently, positive effects on members include a reduction in transaction costs through efficiency gains, a countervailing in the market power of buyers or competitors, or even an extraction of premiums that accrue from differentiation (product or service quality). FOs receive additional premiums associated with their capacity to aggregate production and control quality allowing buyers to gain from associated scale economies and low quality-related risks. By working together, farmers can realize the scale-economies of bulk acquisition and enter into more stable relationships with suppliers or traders; by pooling resources to invest in transport or processing operations they can become more active participants in the marketing systems, and add value to their production (Stringfellow et al, 1997).

Pooling production in a farmers' group up to a critical mass is practical in marketing products directly to the auction or even export. Farmers' groups are also more likely to obtain loans necessary to purchase equipment and tools for higher quality processing. Local producer associations could also help smaller farmers take advantage of the programmes and technical assistance from national producers' associations. Through stronger producers' associations, small farmers are able to have a voice in policy-making at local and national levels (reforms, regulations and taxation). See the following Box 1 and Box 2 for the illustration of two success FO cases: Kuapa Koko in Ghana and the establishment of Common Initiative Groups in Cameroon.

Box 2.1: Kuapa Koko and the Sustainable Tree Crop Project in Ghana.

Kuapa Kokoo is a producer organization that covered 468 village cooperatives and over 30,000 farmers in 2002 (Abbott, 2002). Farmers belonging to Kuapa Kokoo in principle received a guaranteed minimum price of \$1,600 per ton and a fair-trade premium of \$150 a ton. Since the parastatal Cocobod continues to manage Ghana's exports, and sets a fixed price for farmers, fair trade premiums are used mostly to fund community development projects. As an outcome, there has been substantial investment in communities, and market activities such as credit provision that are better performed, with less corruption, in cooperatives belonging to Kuapa kokoo. While under partial liberalization the government of Ghana has in principle agreed to allow private entities to export up to 30 percent of the cocoa they buy from farmers, no exports by private entities have yet occurred and Kuapa Kokoo continues to work through Cocobod as its exporter. About seven percent of Kuapa Kokoo's cocoa is fair traded, equaling about 1,000 tons or about half of the world's fair trade in cocoa.

The Sustainable Tree Crop Project Pilot (STCP) projects has the objective is to strengthen FOs in cocoa producing countries. To some extent this reflects an effort to replicate the success of Kuapa Kokoo. Socodevi (Société de Coopération pour le Développement International) in Cote d'Ivoire has also been successful in improving the functioning of a few FOs and so improving the welfare of farmers belonging to those organizations.

Source: Abbott (2002).

Box 2.2: Common Initiative Groups and the cooperative systems in Cameroon.

In Cameroon, Common Initiative Groups or *Groupe d'Initiative Commune* (GICs) were encouraged at a time that liberalization was sweeping the marketing side of the cocoa sector as a means to improve the standing of existing farmers' organizations and to enable producers to market their product in bulk lots. The process has been relatively successful and has helped to lower assembly and transaction costs and increased producer prices for group members. Traditional cooperatives in the Southwest have modified their structure in an effort to streamline complex and inefficient institutional hierarchies and conform to the requirements of the recent legislation. Cooperative members were also encountered in the Center province in Nkolondogo but it is uncertain whether this farmer group is actually a GIC, union, federation or coop.

The difference between the GIC and the cooperative system comes in their hierarchy and marketing practices. The cooperative typically has several salaried employees while the GICs, unions and federations are composed of representatives that receive token compensation for their administrative duties (except for the head of the federation). In theory, marketing cooperatives, such as the members of the Southwest Farmers Cooperative Union Limited (SOWEFCU), should sell their production directly to the cooperative, who in turn sells that cocoa through an exporter in Douala on behalf of its members. GICs on the other hand, simply census their members to determine how much cocoa is on hand and directly (or indirectly) negotiate a price with buyers in the buying centers. The GIC (union or federation) signs a contract with the buyer and identifies which members have cocoa for sale. The buyer deals directly with the GIC member. Otherwise, most of the other services offered by the cooperatives and GICs, such as inputs and savings, are quite similar. Currently there are wide varieties of GICs in various stages of operation. They range from unofficial, where several farmers sell some production through informal group sales, to GICs with a hundred or more members organized into successive levels with representative forms of governance. The typical arrangement in the Center and South involves GICs at the farmer-level, unions of GICs that are made up of representative contingents from each member GIC and federations which are the top organizations made up of representatives from the unions. In some instances, federations are condensed further into Confederations. There can be more than one GIC, union and federation represented in one village, but a farmer cannot be represented by more than one GIC (and therefore, no more than one union or one federation).

In the Southwest of the country, where cooperatives were more prominent relative to the Center and South, farmers have not embraced the idea of forming or joining GICs nor cooperatives. This is caused by the many failures in the past that soured farmers who lost revenue and received little benefit despite paying dues. The output handled by SOWEFCU has dwindled accordingly.

Wilcox and Abbott's (2006) Ordinary Least Squares (OLS) regression results from 2004/2005 data show significant price transmission elasticities of 0.87 and 0.86 for the Center and South provinces, respectively; while the Southwest's marketing chain appeared to be disconnected with insignificant price transmission and minimal price variation. The price transmission elasticity measures the effect institutional forces have on the marketing margins that exist between the buying centre price and the farmgate price.

Source: Wilcox and Abbott (2006).

2.2.3 Standards and traceability

Cocoa quality is evaluated base on three factors: bean quality and size, fat content, and flavour (Dada, 2006). Shipments containing a high proportion of defective or mouldy beans increase processing costs. High fat content increases butter production. Flavour is primarily contingent on the fermentation process and on the drying method as well. An overly high content of free fatty acids affects fermentation and therefore the flavour. In areas where beans are dried artificially, the use of low quality ovens can give rise to an undesirable smoky flavour to both liquor and powder. The Ghana farmer takes great care to produce well fermented and thoroughly dried cocoa beans, and does not allow poor quality cocoa or foreign matter in the bags. The distinctive feature of Ghana cocoa is its high and uniform quality, with over 90 percent of the crop Grade 1 (Bloomfield and Lass, 1992). On top of being a low cost producer, this has enabled Ghana cocoa to fetch the highest premium on the world market and sell out its crop even in times of a large world production surpluses. Ghana farmers are meticulous in their cultivation, fermentation, drying, and sorting practices (Varangis and Schreiber, 2001). They carefully check and sort their beans, removing any that are not top quality in order to ensure grade I rating at the buying centres. Substandard beans can be sold separately at a steep discount. Farmers tend to discard some of their main crop with represents a forgone source of income.

Demand for Cameroon cocoa is based on the high fat content and the reddish colour of their cocoa beans, which is highly desired for producing premium cocoa powder (Bloomfield and Lass, 1992). This colour is intrinsic to the variety of cocoa found in Cameroon, and does not depend on whether it is fair or good fermented. Cameroonian cocoa possesses a number of favourable characteristics that correspond with consumers' desired product qualities. It offers a good bean size, high butter content, a reddish-brown cocoa powder favoured by grinders due to its strong bitter and spicy flavour, and the degree of acidity. However, Cameroonian cocoa beans tend to have a low degree of thickness as a result of high polyunsaturated triglyceride content, thus farmers have to dry the beans artificially. Furthermore, the low butter thickness and the powder astringency results in the blending of Cameroonian beans with those from other origins. This is why Cameroonian beans are most prized in the cocoa powder sector rather than that of cocoa butter.

Some practices, if improved, could bring WCA cocoa producers more income. Some farmers fail to ferment their cocoa prior to selling it to buyers which is partly due to the overwhelming pressure to sell the cocoa (Dada, 2006). Also, due to the entrance of considerably inexperienced buyers, producers complain that they receive the same payment as inferior quality cocoa, although they produce higher grade cocoa. Quality control at the farmgate may be beneficial to all parties involved as quality will be ensured and producers will receive a fair price according to the quality of their beans. This could be achieved by having at least one trained QC (quality control) officer in each FO who can disseminate relevant grading information. Due to their small-scale, a number of smallholders are unable to afford modern drying ovens, opting instead for the traditional ones. However, traditional ovens can infuse the cocoa beans with an undesirable smoky flavour that serves to reduce its quality. Moreover, some smallholders don't take the time to properly dry the cocoa, particularly during the rainy season, thereby selling cocoa with high humidity levels (exceeding 8%), which affects the price they are paid. The deterioration of the rural road network has made the transportation of cocoa from the farms to the port of export increasingly challenging. This

difficulty is heightened during the rainy season, when it is extremely hard for trucks to pass. The result is that farmer wait for weeks for buyers to come, while their cocoa rots. Meanwhile, exporters are transporting cocoa in greater and greater bulk. Transport in bulk damages the quality of the beans and is leading to less demand for high quality beans (whose premium would be destroyed in transit). This constitutes a threat to Ghana's high quality beans.

In the case of Nigeria, cocoa grading has resumed in Oyo state after a month-long strike by the state's public-service workers over changes to the minimum wage. After the intervention of the officials of the Produce Department, cocoa grading is now back.

A variety of certification programmes in agriculture (quality, social and environmental) have seen great recent attention. Products labelled "organic" have captured the largest market shares in the markets for labelled products (Dankers, 2003). For tropical products, the market share of organic and fair trade labelled products is typically one to two percent of the total North American and European markets. Organic and shade grown cocoa and coffee alternative forms of 'conscious consumption'. Organics appeal to consumers who are concerned with health aspects of food consumption. The transition to organic farming would be very straightforward in WCA where minimal chemical inputs are used. Shade-grown cocoa and coffee could be targeted to environmentally conscious consumers. The premium paid for shade grown cocoa and coffee could be conceptualized, as Ponte (2001) puts it, as insurance paid by the consumer against alternative uses of land (i.e. forest preservation). Many producers are already growing in these manners but are paid the same price as the conventional product. Producers lack the information about certification processes and how to approach certification agencies. Technical and financial assistance are also required to facilitate the transition process.

Fair trade enables producers to receive a fair price for their product and helps to negotiate a fair price in the future; they are also involved in consumer education. Cocoa been targeted by Oxfam's Fair Trade initiative, and IITA's Sustainable Tree Crop Program (STCP) launched the nature of cocoa marketing to become more aligned with consumer's social preferences (Abbott, 2002). A channel which the Sustainable Tree Crop Project (STCP) has explored is creating infrastructure to electronically market unique attributes of cocoa from the producer organizations. This "infostructure" model sponsored by Sigley and Hogsboro (see Abbott, 2002) would seal electronically tagged bags of cocoa at the farm gate. Therefore, testing has to be performed close to the farm gate, preserving the identity of individual lots of cocoa from the farm gate, and establishing procedures for certifying both product and processed attributes at the farm. An internet based marketing system has been proposed for tracking lots and to permit trading of individual bags of cocoa with farm specific identity. The cost of this is likely to be very high even if the implementation is feasible. Identity preservation is valuable only if differentiating at the farm gate is meaningful - i.e. consumers perceive the difference between the labelled and the conventional product. Critics are concerned with the difficulty, credibility and cost of certification and argue it is likely to be more effectively done at the producer organization level or nationally.

2.2.4 Biotechnology and implications for WCA

Multinational funded advances in biotechnology pose new threats to the WCA cocoa value chain. There is mounting concern on the effects of biotechnology patents for cocoa farmers. Mars UK, a British-based company, has patented two genes thought to be responsible for the

taste of high quality West African *Amelonado* cocoa that is used in the world’s finest chocolate (Oxfam, 2002b). Amelonado cocoa is the main variety grown in Ghana and Nigeria. These genes could be transferred into lower quality, higher yielding and cheaper varieties of cocoa, creating the impression of quality; and thus, cocoa traders and retailers would save and at the expense of high quality producers. These patents also allow multinationals to substitute cocoa crops produced in WCA. According to the patents, the intention is to produce the flavour of West African cocoa in laboratories by transferring the genes into vats of yeast. Cocoa dependent countries fear that the use of cheaper artificial substitutes will jeopardize their cocoa exports.

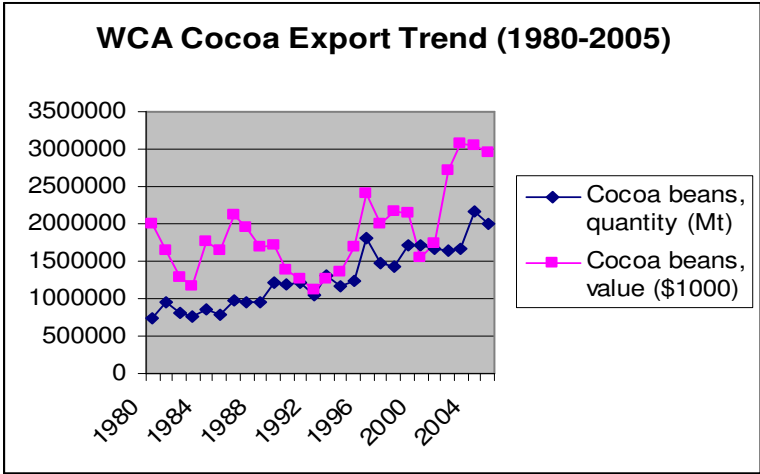
A Danish company, Aarhus Oliefabrik, has taken out two patents on gene coding for flavour producing proteins in cocoa. These compounds have anti-cancer, anti-microbial and anti-oxidant properties. If cocoa is already being used for similar medicinal purposes in producing countries this would be a case of bio-piracy. According to World Trade Organisation rules, companies are allowed to patent the cells that make up plants and then charge farmers license fees to grow them. Under the agreement on Trade Related Intellectual Property Rights (TRIPS), the WTO members must recognise patents on the genes and cells of plants and animals in their local laws, a ruling which many African countries argue amounts to legalised theft.

2.3 Trade

2.3.1 Export trends

In the 10 WCA countries represented in this report, cocoa exports accounts for almost 50 percent of the agricultural exports value and are therefore very much dependent on cocoa exports. The export of cocoa closely follows production meaning that most of the production is consumed elsewhere and brings foreign exchange to the respective countries. The following graph underlines the trend in cocoa exports from 1980 to 2005 in terms of quantity (Mt) and value (\$1,000) in WCA. The quantity of exported cocoa has had a smooth increasing trend over the year. However, the value trend shows sharp fluctuations in the export values. This is alarming as it shows how vulnerable the cocoa dependent stakeholders are due to the highly unstable conditions of the world market.

FIGURE 2.5



Source: Computed from FAOSTAT (2008).

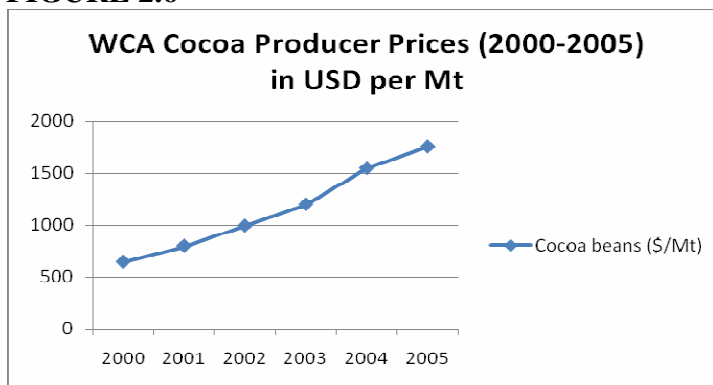
A look into the relative prices of the two commodities at the production level, the next discussion, will bring more insight on the cocoa trade environment.

2.3.2 Price Trends

As demonstrated in Figure 1 in the introduction, world cocoa prices have seen an increase subsequent to the 2000 shock. In this section, I discuss price trends in more detail and relate the region's and local price performance to the trade environment.

Figure 2.6 is a graph of the trend in the calculated average producer prices for five of the WCA countries for which such data is currently available (Côte d'Ivoire, Ghana, Nigeria, Cameroon, and Togo) in USD per tonne from 2000 to 2005. Figure 3.8 shows the price trend of the individual countries in US cents per pounds (lb). Producer prices have followed the same trend as world prices since the shock and so there is currently an incentive for farmers to continue cocoa production and marketing.

FIGURE 2.6

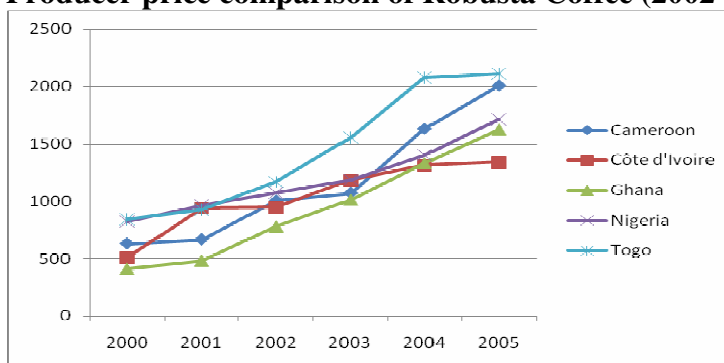


Source: Computed from FAOSTAT (2008).

Note: Average of producer prices from 5 of the WCA countries: Cote d'Ivoire, Ghana, Nigeria, Cameroon, and Togo.

FIGURE 2.7

Producer price comparison of Robusta Coffee (2002-2007) in US cents per lb



Source: FAOSTAT (2008).

An important observation from Figure 3.8 is that each of the WCA countries represented here have seen an upward trend in cocoa prices at the producer level although some countries offer better prices than others. The divergence in producer prices across these countries have many reasons such as the different trade policy (i.e. export taxes) and the relative level of government support, comparative advantage (i.e. production costs), and infrastructure and logistical conditions. However, the divergence offers an explanation for the occasional

smuggling between countries whenever the profit opportunity outweighs the cost of doing so (i.e. transportation costs). The smuggling of cocoa in West African Countries, in particular between Côte d'Ivoire, Ghana, Guinea, Togo, and Sierra Leone, has differed over time in terms of size and the direction of the flows (ICCO, 2008). An accurate picture of these flows is difficult to obtain; nevertheless, the smuggling is detrimental to the smuggling country's earnings.

Cocoa and coffee prices are extremely volatile in the short-run (Oxfam, 2002); and the fluctuations constitute one of the main sources of vulnerability. Because the market reforms meant that price guarantees were no longer given, highly volatile prices have posed new risks for producers in all countries, who have seen their income become less secure (Laven, 2005). Yields are both vulnerable to temperature or precipitation changes as well as disease, the volume of production can vary widely from one year to the other, which causes prices to spike. Demand for cocoa and coffee depends initially on the fluctuating economic health of OECD countries which is another major source of price volatility. Volatility is also the result of the commodities' natural cycle. The peculiar characteristics of the price elasticities of supply and demand (low in the short run) lead to highly variable prices in the world market (Ponte, 2001). Supply reacts slowly to an increase in prices in the short run while the new plantings are taking place. When prices increase, farmers expand production to take advantage. This additional production eventually causes prices to depress. And when the price declines, so does production. Once cocoa trees are planted, they produce for 25 years, which means that supply is ratcheted up every time prices increase. The time lag between demand (which raises prices and encourages new planting) and supply (which eventually over-satisfies the demand and drops the price) is crucial to understanding the price fluctuations and overall behaviour of the market. While the investment response to price changes is quick, the output response to investment is low. As a result, the extra supply might arrive on the market when prices are on the decline, magnifying the downturn in the cycle. This high price volatility makes it impossible for farmers to plan their production accordingly. In the absence of price support mechanisms, and because small farmers do not have adequate savings or access to credit, they are particularly ill-equipped to deal with volatility. Price volatility adds to already high production risk from the disease and weather. At the macro level, volatility has adverse effects on the ability of governments to forecast revenues and social spending, as well as their capacity to service debt.

The increased volatility has hurt small producers most, since they do not have access to hedging markets. Difficulties overcoming performance risk complicate forward selling in by private entities in developing countries especially if such sales involve smallholder crops or take place in an environment where poorly functioning credit institutions and unreliable contract enforcement. Small farmers cannot afford to store or transport their crop to another place, which drastically limits their ability to take advantage of market opportunities.

Now I briefly discuss the role of international cooperation on stock management and price stabilization.

2.3.3 International agreements and price stability

International cooperation failed to stabilise prices. In 1999, cocoa stocks represented over 50 percent of annual world demand. There are several factors behind this imbalance between supply and demand. Production has increased at a faster rate than demand has. The trend is largely the result of producers' response to attractive prices in the late 1970s. New

technologies, such as higher yielding trees, have contributed to this higher productivity. These new varieties with attributes such as disease and pest resistance, flavour, and yield could help protect small farmers against catastrophic loss of their crop through weather, disease or pests. While these new varieties would mean higher and more stable yields for small farmers, their widespread introduction contributes oversupply.

The 1973 International Cocoa Agreement (ICA) of the International Cocoa Organization (ICCO) operated a buffer stock program aimed at defending the world cocoa prices within a certain price range (Varangis and Schreiber, 2001). The buffer stock provisions had the main objective of raising and stabilizing world prices, but failed at doing so. During the late 1980s, the decline in world cocoa prices forced the buffer to its limit (250,000 Mt in 1988) and the efforts to stabilize prices were abandoned there and then. Cocoa prices and cocoa-producing countries were relatively unaffected by the collapse of ICCO's buffer scheme because the stock program itself had not been effective in stabilizing cocoa prices. Recent renewals of the ICA (latest in 2001) do not contain economic clauses such as price support or stabilization; and in 1997 the buffer stock held by the ICCO was liquidated.

2.4 Structural Adjustment Programs (SAPs) and policy environment

2.4.1 Marketing system prior to the reforms

The dominant role of cocoa in WCA exports is one of the factors responsible for serious rigidities in production, both in terms of production capacities and of production techniques. Until the 1990s, cocoa and coffee outputs were heavily regulated by the producing country governments. The sectors were dominated by state-sponsored marketing boards, which were solely in charge of the purchasing, the marketing and export of cocoa and coffee beans. Marketing boards also offered price stabilisation schemes for producers. In years of low prices, many countries sheltered producers by fixing a higher internal price. The parastatal boards have been accused of being inefficient and for imposing too high of export taxes. It has been argued that a series of disincentives have contributed to farmers turning to subsistence farming and smuggling of their cash-crop products.

The parastatal board systems differed somewhat in the former French colonies with a marketing structure based on the French *Caisse de Stabilisation* model, as opposed to the former British colonies that controlled production and sales through marketing boards. Each of these agencies taxed exports while seeking to stabilize domestic cocoa markets. They also provided a number of public goods, including research and extension services pest and disease control efforts, market information services, and regulations and governance of commerce.

The francophone marketing systems established a complex structure of payments at the beginning of each crop year, which included specifying producer prices and payments for marketing services (Bloomfield and Lass, 1992). Producer prices were decided upon irrespective of the level of world prices (Akiyama, 1988). They were to reflect production cost and have an equal remuneration for all crops. The governments not only determined the producer prices but also domestic and external marketing and transportation costs. The Caisse also involved a mix of private sector participation in the internal marketing side. The CSSPPA (Caisse de Stabilisation et de Soutien des Prix des Produits Agricoles) in Cote d'Ivoire set an export reference price – the exporter paid the CSSPPA the difference if the price negotiated was higher - if the negotiated price was less, the CSSPPA was supposed to

reimburse the difference. The CSSPPA left quality control and transport in the hands of the private “traitants” (licensed to compete in specified regions in the purchase of cocoa from farmers) and exporters. In the case of Cameroon, the ONCPB (Office National de Commercialisation des Produits de Base) regulated the marketing to an even greater extent, determining the area in which internal buyers could purchase the crop, fixing the date on which the purchase had to take place, arranging transportation and negotiating export sales. In the Anglophone regions, the ONCPB acted as a marketing board, with cooperatives acting on behalf of the government in the case of internal transport of the crop to factory or to exporters, and the ONCPB handling exports.

The Francophone countries shared for many years several important features; among the most significant, especially in recent years, is that both Côte d’Ivoire, Benin, Togo, Cameroon, and The Central African Republic have belonged to the French Franc based CFA-franc zones (BCEAO and BEAC). Since 1948, the CFA has been fixed for the 13 African member states at 50 CFA francs to the French franc.

In the case of the Anglophone marketing boards, they handled everything from setting producer prices and quality control to undertaking exports. However, the Nigerian Cocoa Board (NCB) allowed farmers to sell either directly to the NCB or to licensed buying agents (LBAs) who would in turn sell to the NCB. Early on after independence, LBAs were operating in Nigeria, but enough of them went out of business and were not paying the farmers, so the NCB decided to assume the entire responsibility for buying cocoa. In the case of Ghana, the Cocoa Marketing Board, Cocobod, has been the sole agent for much of the time. The quality and grading oversight of both boards meant that Nigeria and, even more so, Ghana shared another common heritage: they were known for their longstanding tradition of careful fermentation and drying practices, which gave their cocoa a distinctive flavour much sought after by European chocolate manufacturers, as well as their high and consistent quality cocoa shipments. The marketing boards which were established under British colonial rule were particularly effective with their training and extension to farmers, as well quality control, and these controls were maintained beyond independence. For this reason, Ghana has traditionally fetched the highest premium on the world market for bulk cocoa (as distinguished from fine and flavoured cocoa) followed closely, until the disbandment of the NCB in 1986, by Nigeria’s cocoa price premium. Unlike their Francophone counterparts, for most of the period between 1970 and 1990, Ghana and Nigeria had independent and nonconvertible currencies at government-fixed exchange rates. With the structural adjustment programmes, both countries have moved to flexible, auction-determined fully convertible exchange rates.

The parastatal agencies have been the targets of structural adjustment reforms. Allegations of corruption, inefficiency and high cost led to the belief that private markets would more efficiently provide the same services. Moreover, currency crises made it extremely difficult for these agencies to stabilize farm prices and domestic currencies for what is essentially a cash crop. This led to unacceptable variations in both the degree of export taxation and in farm prices. Hence, the parastatals failed at one of their primary missions - that of stabilizing the domestic market.

2.4.2 Structural Adjustment Programs (SAPs) and marketing reforms

Under pressure from the World Bank and the International Monetary Fund (IMF), most cocoa and coffee (among other commodities) producing countries underwent comprehensive

Structural Adjustment Programs (SAP). Private traders were allowed on the market, price stabilisation schemes were abandoned and export taxes substantially lowered. This resulted in significant increases in producers' share of export prices and the average producer prices in some cases. For example, following the reform, cocoa producers in Cameroon and Nigeria saw prices for their products increase to over 70 percent of the FoB (free on board) price, up from 40 and 20 percent before the reform, respectively (Akiyama, 2001). Often, the reform brought an end to pan territorial pricing which forced producers located close to markets to subsidize producers located further away; now producer prices began to reflect transportation costs.

On the downside, producers are now extremely vulnerable to price volatility on markets as the parastatals and governments no longer internalize price risk. Market reforms potentially offered some producers the opportunity to access futures, options, and related price risk markets to insure against volatile prices. But such risk mitigation devices have not emerged in WCA domestic markets and the existing exchanges in industrial countries may not be viable because of the high basis risk (risk associated with imperfect hedging using futures) and the exchange rate risk. Producers have also lost access to inputs as subsidised credit has disappeared and private banks consider lending to small producers as too risky. Yields and quality have declined in some cases (see Figure 3.2 (b) for yield trend), undermining the initial intended benefits of the liberalisation for farmers' income.

The era of structural adjustment happens to have coincided with a sustained period of falling world prices for cocoa (Bloomfield and Lass, 1992). In 1988 the price of cocoa on the LIFFE (London futures) decreased by 27 percent from 1987; and by 1992, the decrease was close to half the price in 1988. The drastic fall in the world commodity prices at the time contributed to substantial cuts in civil servants salaries, significant currency devaluation, freezes on employment, tax hikes, and a reduction of state employees. Farmers and many state employees who lost their jobs or faced salary cuts responded to the crisis by increasing their activity in food crop production to compensate for lost income. I will now discuss the reform cases for Nigeria, Cameroon, Côte d'Ivoire, and Ghana.

Nigeria

The elimination of the cocoa and coffee parastatals came first to Nigeria through the Structural Adjustment Programme (SAP) of state-owned enterprises in 1986 (Abbott, 2002). The reasons for the poor performance of the cocoa and coffee sectors consisted of the oil boom in the 1970s and early 1980s, resulting in an outflow of labour and capital from the agricultural sector, an overvalued exchange rate, a declining producer prices in real terms, and a lack of investment in agriculture. Some cocoa was reportedly being diverted through neighbouring countries where farmers could earn a higher return in a convertible currency. Consequently, earnings of the NCB dropped, as a result the provision of services suffered. The elimination of the NCB did have some of the intended effects. Prices, production and exports responded positively and quickly in subsequent years. There were several unintended consequences of the cocoa market liberalisation. In the first few years, the government's foreign export earnings from cocoa shrank as exporters opted to keep their earnings in overseas accounts fearing that the government would turn back on its programme of floating exchange rates and resume to the retention of foreign exchange earnings. The second problem was the rapid decline in the quality of cocoa and in the reliability of shipments. Nigerian cocoa used to have a reputation for good quality. After the elimination of the NCB, there were no provisions put in place to maintain the reliable quality control services which had been provided by NCB until then. Many inexperienced traders entered the market for arbitrage

opportunities. They used the liberalized commodities for conversion into foreign exchange earnings. They bought and sold any cocoa available with much of it being of very poor quality. Without the grading infrastructure, cocoa shipments proved to be notoriously unreliable. On the world cocoa market, Nigeria quickly lost its price premium and its reputation for honest dealing that was built up by the NCB. Exporters could no longer sell cocoa using long term physical forward contracts due to their lack of dependability.

Liberalisation harmed the local processing industry even more. Local companies could not afford to compete as exporters had bid up the price of beans beyond their reach. In 1990, the government tried encouraging the domestic processing industry by providing concessional loans through the Import-Export Bank and other financial institutions. Joint foreign ventures were permitted and the import of cocoa beans was legalised to allow for blending. It had even planned to ban the export of beans commencing in 1990/91 in order to support the domestic processing industry, but the ban was lifted when it was apparent that the local capacity was insufficient to process the full crop.

Cameroon

Structural adjustment in Cameroon came in two phases in 1991 and in 1994. In September of 1989 the producer price of cocoa was slashed from 420 FCFA/kg to 250 FCFA/kg; in 1990 it fell to 220 CFAF/kg (Varangis and Schreiber, 2001). In 1992, the ONCPB, with its 2800 employees was replaced by the Office National de Cacao et de Café (ONCC) with a staff of 157 and a strictly regulatory mandate (Gockowski 1994 in Duguma 1997). However, market reforms also meant the end of rural road maintenance. Meanwhile, producer prices continued to deteriorate due to the weak world market prices at the time. Consequently, the distribution of fungicides and insecticides by the state-run of the Société de Développement du Cacao (SODECAO) ended in 1992. SODECAO works with international and local agricultural research institutes to develop and promote the cocoa sector. In the 1994 reform, private traders were enabled to procure cocoa directly from farmers and sell it to exporters, whom in turn use their own agents to procure cocoa from farmers. Producer prices, costs, margins, along with the domestic marketing chain are now entirely determined by the market, and the stabilization fund has been eliminated. The most immediate effect of the 1994 liberalization was a significant increase in prices paid to growers as was the case in Nigeria as well. Producer prices doubled after the CFAF devaluation of January 1994, rising from CFAF 150/kg to CFAF 300/kg. The following crop year (1994/95) producer prices were CFAF 475-525/kg. The restrictions on the location and timing of cocoa bean sells were also eliminated. Immediately following the reforms, roughly 200 operators were registered as buyers and exporters of cocoa, but only 12 exporters account for more than 80 percent of total exports. The local exporters have been reduced to traders, selling to either foreign-linked exporters or the local processing factory.

In addition to the adjustment costs, the sector was still subject to a 13% export tax while fertilizer and pesticide imports were subject to a 6.5% tariff duty (Duguma, 1997). As a result of all the above, both the quality and the quantity of cocoa produced by smallholders in Cameroon have stagnated since the mid-1980s. Cameroon cocoa, which once received a quality premium on the world market, is now discounted because of this deterioration. The quality control task was left to the Ministry of Agriculture since 1989 but all efforts were abandoned since then. The quality of Cameroonian cocoa was problematic even before the reforms. Many of the domestic buyers and exporters showed little regard for quality, and the quality control provided by the ONCC was believed to be both ineffective and unreliable. As buyers and exporters sought to maximize their profits, low and high-grade beans were mixed

together. Farmers did not pay attention to drying and fermentation in order to take advantage of the opportunity to sell quickly. Unlike the gradual phase out of fertilizer subsidies (fertilizers are used mainly by coffee producers) and the financial support given to private fertilizer suppliers, the liberalization of pesticides was abrupt. Consequently, many producers who used to rely on state-sponsored pest and disease control have failed to treat their crops.

At the same time that liberalization was sweeping the marketing side of the cocoa sector, producers were encouraged to organize themselves into "common initiative groups" (GICs). The purpose was to enable them to market their product in bulk lots. The reform that enabled the formation of the GICs has been relatively successful in lowering assembly and transaction costs and increased producer prices for group members. The recurring political unrests in Cameroon render much of the current effort ineffective. Ports are periodically blocked, and although this has driven up the premium on cocoa, it has thrown bottlenecks into much of the system.

Two specific problems can be identified in the case of Nigeria and Cameroon. First, the public goods associated with cocoa production and distribution were lost. Research activities diminished and extension services disappeared. The reforms were contributing to more domestic market instability. Second, the expected simultaneous emergence of both new regulations and new marketing intermediaries did not occur. When public marketing boards are replaced by private agents, new institutional innovations are necessary. The efforts of the reforms were towards increasing transparency, promoting competition, and improving the allocation of export rights with the goal of reducing marketing costs as a share of FOB prices and increasing producers' income, reducing fiscal risks of exporting, creating strong and independent producers' organizations, and promoting a strong and efficient financial sector (Varangis and Schreiber, 2001). Nigeria's and Cameroon's structural adjustment processes have been described as chaotic, with incomplete replacement of marketing institutions; as a consequence, Cote d'Ivoire and Ghana long resisted structural adjustment reforms. The coffee sectors were liberalized first.

Côte d'Ivoire

The 1995/96 reform included export rights and limited the the direct sales of the Ivorian parastatal, CSSPPA, to 15 percent. Cote d'Ivoire finally liberalized domestic cocoa markets in 1999, but with substantial continued state involvement in the sector. The role of the CSSPPA was reduced to that of an advisory and regulatory agency and eliminating its interference in export marketing. The marketing system of export was radically changed, eliminating the price floors and liberalizing farmgate prices. The absence of any kind of preparations prior to liberalisation led to total disorder on the cocoa market. Previously, the Ivorian marketing board had a financing system in place to phase sales throughout the year. After liberalization, all the producers started selling their harvest at the same time and flooded the market, causing international prices to collapse. The subsequent collapse in price (40%, 1999-2000) caused considerable social unrest in the country as cocoa growers protested at the way the government had liberalised the industry. The reductions in export taxes on cocoa had the added effect of reducing the income of the Ivorian government, which until liberalisation had relied on cocoa for 20% of its entire revenue. The overall level of taxation in Côte d'Ivoire is currently about 15 percent (Burger, 2008).

Ghana

From the early 1960s to the early 1980s, the officially recorded output of cocoa in Ghana declined by 60 percent (from 35 to 10 percent of world production) (Bulir, 1998). Production is believed to have declined sharply in response to internal and external shocks and poor overall economic management. The output subsequently doubled during the 1983–95 Economic Recovery Programme (see Annex). In 1982-84 prolonged drought and bush fires took a heavy toll on cocoa trees, particularly in the Brong-Ahafo and Ashanti regions, and producers had few incentives to replant. The price incentive to smuggle could explain as much as one half of the observed decline in official output from its trend and the subsequent recovery (Bulir, 1998). For much of the post-independence period (post 1960), the taxation of cocoa producers in Ghana had been higher than in most cocoa-producing countries. The government had traditionally taxed cocoa by retaining export proceeds at the Cocobod and by paying farmers a preset price in domestic currency. On the one hand, this practice helped to insulate domestic producers from short term fluctuations in the international cocoa price, and the cocoa export duty remained an important source of fiscal revenue. On the other hand, excessive explicit and implicit taxes on cocoa led to the smuggling of cocoa abroad. The massive decline in the officially recorded output can be explained by cocoa smuggling to neighbouring countries, notably Côte d'Ivoire.

Real producer prices began to fall sharply in 1993-94 as inflation outpaced price adjustments and world prices declined. Producer prices were administratively set and were fixed for the entire crop year by the Producer Price Review Committee, a body consisting of the Cocobod, government officials, representatives of private cocoa buyers, the national cocoa farmers' organizations, and haulers and transporters. The committee takes into account expected export prices during the coming year, the operating costs of Cocobod and its subsidiaries, the explicit tax, and farmers' production costs. Producer price stabilization was hard to implement, and governments have utilized the funds intended for this purpose to augment fiscal revenues.

The process of liberalization included relaxation of price controls and subsidized input prices. Cocobod was gradually replaced in its function as direct purchaser of cocoa with a group of Licensed Buying Companies (LBCs). The first LBCs were allowed to purchase cocoa domestically, buying and selling at prices fixed by the Cocobod. The partial liberalization of Ghana's cocoa sector has resulted in competition among licensed Buying Companies, which purchase cocoa in geographically segmented village markets. The intensity of the competition varies from village to village (Zeitlin, 2006). As of October of 2000, Cocobod has with effect authorized limited, direct exports. Structural policies designed to reduce the monopsonistic market power of village level Licensed Buying Companies (LBCs) may result in improved service provision and higher productivity levels in the villages affected. Infrastructure facilities, such as transport and communication means, are still some of the most important structural variables influencing production.

2.4.3 Post reform role of public and private sector

Prior to the SAPs, the state-owned marketing boards (or stabilisation funds) were the dominant drivers of the cocoa and coffee value chains. The state fulfilled the role of intermediary, which made it possible for international traders to buy cocoa without any direct relation with their suppliers. After liberalisation, international traders, and chocolate manufacturers, to a lesser extent became the main drivers of the cocoa chain. Local buyers have increasingly become involved in the provision of marketing channels and services, credit, and input. After the reforms, subsidies on extension and other services previously

provided by the government were abandoned in most of the WCA countries. Subsequently, the quality of these services declined along with the quality of the produce. The private sector took over some of these responsibilities as was anticipated. In this section, I will discuss which the new roles of the private and public sectors and how well these activities are being performed currently.

Nowadays, the governments are mostly reduced to executing only macro level policies such as tax enforcements. In Nigeria, individual states impose taxes on cocoa leaving their territory. They inspect the beans at state borders before bags are sealed in order to check the quantities and taxes are assessed on the quantities shipped. During a liberalisation, the role of government is pivotal to the success of the process. Pest and disease control remains better in Ghana than in the other WCA cocoa producing countries because of the diligence of the Cocobod. Currently, the provision of spray machines by the government particularly in the Western Region, are likely to result in higher output levels. It appears that the greatest returns are due to improving the participation rate of the spraying regime. However, regulations governing cocoa commerce have been slow to evolve, as have been public market information services. In Ghana, very large export taxes which include both direct export taxes and the margin accrue to Cocobod. While most countries have abandoned export taxes, a multitude of other taxes, often at local level, place a heavy burden on farmers. In Cameroon where liberalization has occurred to the greatest extent, trader and exporter margins appear to be extremely small, in spite of complaints about chaotic marketing institutions. Farm gate prices there are among the least reliable, both in terms of level and where they are measured. All sources report wide variations in farm gate prices, which may in part reflect exploitation of very remote farmers by the few local buyers who serve them in the absence of any government intervention.

In Cameroon, the lack of resources has impacted SODECAO’s coverage of the cocoa producing region of Cameroon (Dada, 2006). Based in Yaounde, SODECAO programs are presently only able to benefit producers within close proximity, i.e. in the south and southwest (francophone areas). Producers in other parts of the country remain out of its reach. Whereas SODECAO had 3,500 employees prior to liberalization, after it went bankrupt that figure declined to less than 400. Additionally, SODECAO was charged with maintaining the rural road network. When it used to perform this function, rural transportation was efficient and inexpensive. However, the reverse is true today. Table 2.2 lays out the roles of SODECAO before and after the reforms.

TABLE 2.2
Pre-Reform and Post-Reform Roles of SODECAO in Cameroon

Pre-Reform Roles	Post-Reform Roles
Input provision	Encouraging more value addition at the farm level
Maintenance of rural roads	Opening new avenues for access to exporters
Extension services	Helping to improve phytosanitary standards
Guaranteeing producer prices	
Coordinating the cocoa sector	
Collection of cocoa	

Source: Dada, Lade A.; 2006. FAO, Cameroon.

The domestic cocoa markets in Cameroon are mainly hub-and-spoke systems where cocoa from villages is assembled into larger batches in buying centers before being shipped to the

main port of Douala (Wilcox and Abbott, 2006). In Anglophone Cameroon which includes the Center and South provinces, cocoa is purchased by non-licensed buyers (non-LBA or brokers who take ownership of the cocoa) and licensed buyers (LBA's) who work for large traders (merchants). These agents work in the villages and often have long-standing relationships with farmers as they not only purchase the cocoa but also offer pre-harvest financing to enable sufficient input purchases. Once the cocoa is purchased, the cocoa is stored in larger villages to await the trader's vehicle or it is transported to the buying center where it is sold to the large traders. Traders in the buying centers are typically large enough that all sorting and storage tasks are performed in the buying center before large tractor trailers transport the cocoa to the port for export preparation (*usinage*) and purchase by the multinational exporters. In contrast, in Francophone Cameroon, including the Southwest province, farmers sell their cocoa to *coxeurs* (itinerant *pisteurs* that are independent) or to *caissiers* (*pisteurs* who work for *traitants* (large traders)). Each of these agents performs 'door-to-door' purchasing of cocoa but *caissiers* are more likely to purchase cocoa that has been sold through negotiations between farmer groups and *traitants*. All buyers typically live in the buying center but it is only the *traitants* that do not leave the buying center in search of cocoa. When cocoa is purchased at the farmgate the price has either been fixed through a contract negotiated through a farmer group on behalf of group members or the price is negotiated on the spot and subject to a discount that may be based on quality or collected as a rent by the buyer. Once cocoa arrives in the buying center, *traitants* purchase, sort, store for short periods and then the cocoa is transported to a larger buying center or directly to the port.

The new role of the private sectors has come with new institutional innovations such as the GICs in Cameroon (discussed in section 3.5.2, previously) and the LBCs in Ghana. The Ghanaian Licensed Buying Companies (LBCs) compete for producers' output and that has been an important institutional feature and a driver of growth in the cocoa sector (Zeitlin, 2006). The competitive cocoa purchasing markets stimulates efficiency and reduces the costs of delivery to the port, resulting in a higher price for producers. Greater competition among purchasers can lead to strategic investment in producer productivity. The provision of credit, for instance, is not only good for producer productivity but also a means to capturing market share; and thereby softening subsequent competition. The argument Zeitlin (2006) pauses is that increased competition provides motivation to capture a share of the market. Even if credit is only seasonal, it may still be the case that the expectation reduces the consumer mobility across years. Debts that are defaulted upon create ties that bind producers to LBCs across seasons. Once established, these switching costs reduce the pressure on LBCs and their competitors to provide services which they might otherwise undertake as a means of attracting business. Strategic incentives therefore combine with the usefulness of the services provided as a device for establishing a captive segment in the local market to provide LBCs in more competitive environments with a greater incentive to provide credit and services, above and beyond that which would be provided by a monopsonist. Particular LBCs in Ghana have inherently higher market shares, either because of their historical legacy as in the case of the Produce Buying Company which is the remnant of the Cocoa Marketing Board, or their particular *caché* as with Kuapa Kokoo, the 'fair trade' farmers' cooperative. The provision of credit, subsidized inputs, community ownership, or scholarship provision as rationales for joining the LBC, are specific to the farmer-LBC relationship as well. Villages that are known for their high productivity may be the ones driving competitions among LBCs rather than the other way around. While the Cocobod technically sets only a price floor, implying that there might be price competition among LBCs, in practice LBCs don't usually offer a higher price. The absence of competition in prices is confirmed by Varangis and Schreiber (2001, p.63). Nonetheless, LBCs do provide several services to cocoa producers. LBCs have sought to win

producer loyalty by providing various services such as inputs, school improvements, utility poles, and loans outright.

An important feature of the fair trade initiative in cocoa is the partnership between Kuapa Kokoo which is a Ghanaian producer organization, and Day Chocolate of the United Kingdom. Kuapa Kokoo owns 33 percent of Day Chocolate, with Oxfam and the Body Shop owning the remainder. Thus, producer organizations are able to more closely link their activities to consumer demand through ownership of a chocolate manufacturer. Recently, links with the United Kingdom's distribution network have also been established. The Fair Trade Foundation certifies cocoa produced by Kuapa Kokoo as meeting fair trade standards. Conservation International is also involved in this partnership, working with rain forest preservation near Kuapa Kokoo villages, and providing certification for environmental practices.

Not surprisingly, the increase role of private sector involvement has introduced new kinds of risks in the sector other than price risk. For instance, in Cameroon, forward sales have collapsed owing to counterparty risk. Since the reform, private exporters instead of the ONCPB act as counterparties in forward transactions, a notion which raises the performance risk.

PART III: WCA COFFEE STUDY

3.1 Production

3.1.1 Ecology, production, labor and land

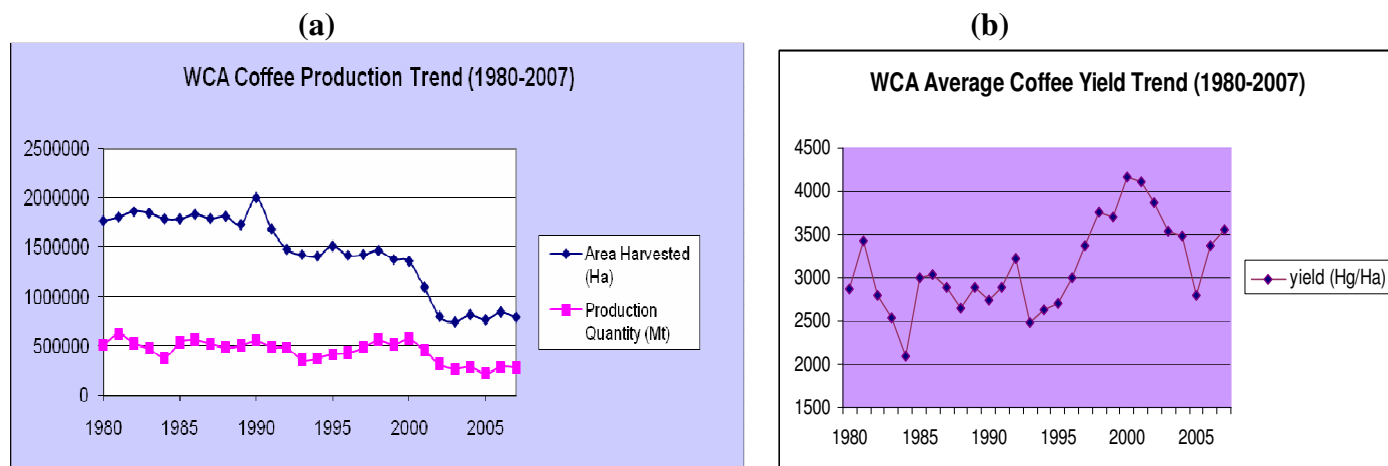
Coffee growing and drinking started in Ethiopia in the 9th century. Coffee, of the most valuable primary products in world trade, was introduced in WCA in the colonial times – around the same time as cocoa. Coffee is a tropical plant which grows between the latitudes of 25 degrees N and 25 degrees S but requires very specific environmental conditions for commercial cultivation (www.ico.org). Temperature, rainfall, sunlight, wind and soils are all important, but requirements vary according to varieties grown. Whereas Robusta coffee can be grown between sea-level and about 800 m, Arabica does best at higher altitudes and is often grown in hilly areas. Ideal average temperatures range between 15 and 24 degrees C for Arabica and 24 to 30 degrees C for Robusta, which can take the hotter and drier conditions. In general, coffee needs an annual rainfall of 1500 to 3000 mm (Arabica needs less than other species); rainfall requirements depend on the retention properties of the soil, atmospheric humidity and cloud cover, as well as cultivation practices. Coffee Liberica is also grown in WCA, but only very small quantities are traded as demand for its flavour characteristics is low.

In coffee production, land, labor and other input requirements and issues in WCA are similar that of cocoa (see Section 3.2.1 of Part 1). All coffee need good drainage, but it can grow on soils of different depths, pH and mineral content, given suitable application of fertilizer (www.ico.org).

3.1.2 Production trends and yields

Figure 3.1 shows the trend in WCA coffee production in terms of area harvested in hectares (ha) and production quantity in metric tonnes (Mt), as well as the yield trend (hg/ha), from 1980 to 2007.

FIGURE 3.1



Source: Computed from FAOSTAT (2008).

Unlike the case in cocoa, coffee production has declined in WCA since 1980 both in terms of area harvested and total production and at a faster rate following the 2000 price shock. On average, coffee yield has varied a lot during this time. Recently, production has remained steady at close to 2.8 million Mt and yield has also been improving.

Table 3.1 shows the production figures, area harvested (ha) and quantity (Mt) for the individual countries in alphabetical order from 2000 to 2007.

TABLE 3.1: WCA Coffee Production (2000-2007)

Country	Element	2000	2001	2002	2003	2004	2005	2006	2007
Cameroon	Area Harvested (ha)	300000	300000	140000	160000	200000	172000	200000	175000
	Production Quantity (Mt)	86200	70500	41000	48000	54000	48256	45000	48240
CAR	Area Harvested (ha)	25000	25000	25000	12000	9000	9000	6500	6500
	Production Quantity (Mt)	12900	12300	13000	5520	4320	3300	2580	2400
DRC	Area Harvested (ha)	114538	99649	82256	82179	82103	82026	81949	55000
	Production Quantity (Mt)	46767	34723	32080	32050	32020	31990	31960	21300
Côte d'Ivoire	Area Harvested (ha)	829319	602075	455090	410472	440000	440000	480000	480000
	Production Quantity (Mt)	380000	301127	182001	140027	154081	95569	166200	171000
Ghana	Area Harvested (ha)	10000	8000	8000	5000	6500	7000	9000	10000
	Production Quantity (Mt)	1956	1379	1464	900	1140	1200	1500	1650
Liberia	Area Harvested (ha)	16000	16000	16000	16000	16000	16000	16000	18000
	Production Quantity (Mt)	3000	3200	3200	3200	3200	3200	3200	3600
Nigeria	Area Harvested (ha)	3190	3210	3330	3540	3580	3670	3710	3750
	Production Quantity (Mt)	3830	3850	4100	4360	4660	4990	5340	5400
STP	Area Harvested (ha)	180	180	200	200	220	225	180	180
	Production Quantity (Mt)	18	22	25	25	27	28	20	20
Sierra Leone	Area Harvested (ha)	9000	9000	9000	10000	11000	11000	11000	11000
	Production Quantity (Mt)	15000	15000	15000	17000	18000	18000	18000	18000
Togo	Area Harvested (ha)	48200	30000	60000	48000	48000	28000	34000	33600
	Production Quantity (Mt)	15200	7000	18000	13500	13500	8400	10100	10080

Source: FAOSTAT (2008).

Now I briefly discuss the production pattern in each of the major WCA cocoa producing countries in descending order of production quantity in 2007.

Côte d'Ivoire

Côte d'Ivoire Africa's largest producer of Robusta coffee. There has been a lack of investment in the coffee sector and production has subsequently declined in recent years was recorded to be 171,000 Mt in 2007, a decrease from 380,000 from 2000. Mainly producing Robusta beans, coffee from Cote d'Ivoire usually ends up as mass-market coffee in France and Italy.

Cameroon

Coffee production is still below previous years' levels; averaging 63,000 tonnes per year over the past six years, much lower than the 104,000 tonnes produced in 1996 (see Annex 1). Cameroon produces both Robusta and Arabica.

DRC

In the Democratic Republic of Congo (DRC), Coffee output has fallen steadily since the 1980s, owing to disease, lack of maintenance and planting, and smuggling to neighbouring countries (EIU, 2008). Since 2003, the region has suffered insecurity and civil wars which have displaced tens of thousands of people forcing them to abandon coffee fields. Recorded green coffee bean production was 32,000 tonnes in 2006, compared with 47,000 tonnes in

2000, 85,000 tonnes in 1995 and 101,600 tonnes in 1990 (FAO, 2006 and see Annex 1). Coffee production is hampered by poor to nonexistent transport infrastructure, which prevents farmers from accessing both agricultural inputs and markets for their crops. A large proportion of Congo's coffee trees are over 60 years old which reduces their productivity. Banking credit for agriculture is almost non-existent. The country expects to benefit from the return of relative calm in the eastern Kivu provinces, the country's main coffee producing regions (www.flex-news-food.com). The sector is also threatened by the coffee wilt disease which continues to attack the Robusta trees throughout the country. The country is expected to produce 30,000 tons of Robusta and 20,000 tons of Arabica for 2008, according to the state-run Coffee Board. The coffee board is also seeking funding to set up more coffee washing stations to ensure that it improves the quality of the crop. It aims to have up to 60% of its Arabica coffee fully washed in the next two years. The coffee board also plans a program to plant high-yielding and wilt-resistant varieties over the next seven years. Under the scheme up to 50,000 hectares of coffee trees will be replanted every year in the next seven years. The country is now seeking to increase average coffee yields to around one ton per hectare.

Sierra Leone

The distribution of coffee production is similar to that of cocoa in Sierra Leone: in the eastern border lands. Although the country has a relatively high yield in coffee compared to the rest of the region (see Figure 4.3 below), marketing of crops is a major challenge. Traders and farmers face basic problems such as having to rely on word-of-mouth transmission of market information regarding prices and standards. Farmers have little or no knowledge of the world market price for coffee, cocoa and other exports. For inputs, other than through donor-financed and non-governmental projects, there are almost no fertilizers, chemicals and other agricultural inputs available outside of Freetown (the capital). The appalling state of the roads in the interior not only impacts directly on the marketing cost of agricultural products but also has significant consequences in adding to the cost and difficulty of supplying agricultural inputs in rural areas.

Togo

In 2007, Togo produced 10,080 Mt of green coffee. Coffee production, although much less important than in cocoa, suffers from the same constraints as cocoa such as poor access to financing and to end markets.

Nigeria

Cocoa is the major agricultural commodity export of Nigeria in terms of foreign exchange earnings. Its contribution to the total exports earnings during the past two decades dropped considerably due to the enormity of foreign exchange earning of crude petroleum. Even so, cocoa remains Nigeria's major agricultural export of which the country is the fifth largest exporter of in the world. Cocoa output ranges between 185,000 and 215,000 tonnes in recent years. Oyo is one of the five cocoa-producing states in the southwest cocoa belt, which accounts for 70% of Nigeria's annual cocoa production of 242,000 tonnes (WABA, 2007). The increasing demand for labour in the area of production and marketing in the cocoa belt area contributes to the overall development of a different pattern of labour migration in Nigeria (Folayan et al., 2007).

Liberia

Liberia recorded a production of 3,600 Mt of coffee in 2007, an amount that is not much different from that of the civil war years. However back in 1980, coffee production was over 12,000 Mt (see Annex 3).

CAR

Coffee is CAR’s most important cash crop although the production has followed the pattern of the rest of the region. In 2007 coffee output was 2,400 Mt compared to 13,000 in 2002.

Ghana

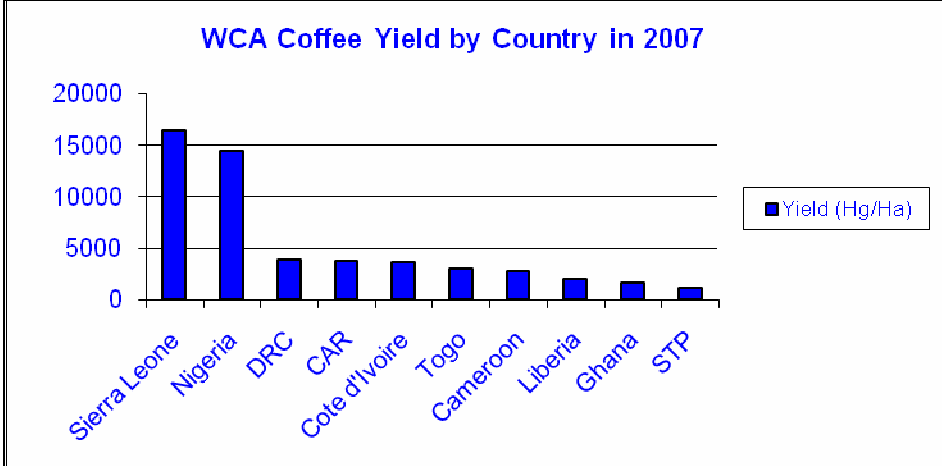
Coffee has seen a gradual decline in production and exports due to the slump in world market prices, poor pricing policies, and lack of government support. These last three points are discussed further in the upcoming sections. In 2007, Ghana had a coffee production of 1,650 Mt. To revamp the coffee industry, the Ghanaian government, through the Ministry of Finance and Economic Planning, had directed the Ghana Cocoa Board to draw up effective strategies, including the provision of incentives to farmers to rehabilitate old farms and establish new ones.

Sao Tomé and Principe

Coffee production remains insignificant in Sao Tome and Principe, at only 20 tonnes in 2007.

Production and export and other relevant statistics from 1980, for the purpose of this report, are displayed in the Statistical Annex at the end of the paper. Figure 3.2 displays the yield per WCA country for the year 2007.

FIGURE 3.2



Source: Computed from FAOSTAT (2008).

WCA coffee yield ranges from 111 Kg/Ha (Sao Tomé and Principe) to 1,636 Kg/Ha (Sierra Leone); with an average of 495 Kg/Ha compared to the world average of 753 Kg/Ha. Sierra Leone, in 2007, had a production of 18,000 tonnes which was about 6.39 percent for the WCA region. However, the country’s yield is the highest of the region. Nigeria had the second highest yield of 1,440 Kg/Ha and captures about 2 percent of WCA coffee production. Côte d’Ivoire produced 60 percent of the WCA coffee output and had a below average yield of 356 Kg/Ha.

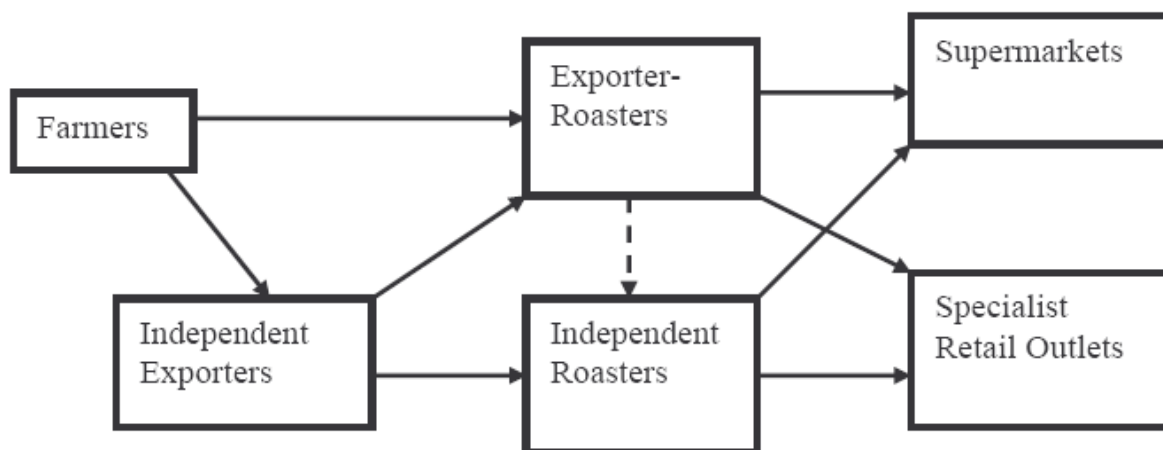
3.2 Marketing and value chain

3.2.1 The coffee value chain

The coffee value chain is relatively simple compared with the cocoa value chain while there is considerable concentration at the processing stage of coffee as well. The relatively greater success for coffee value chain can be attributed to several factors including the fact that consumers buy coffee beans directly, whereas cocoa beans are used as ingredients in recipes and never purchased directly by consumers (Abbott, 2002). A second difference is that there is more TNC involvement in cocoa processing located in the producing countries than is the case of coffee. The cocoa TNC traders are much more familiar with the producing countries. When they began to move into processing, locating in producing regions was the logical choice. In contrast, the coffee manufacturing TNCs had less direct contact with the producing regions, buying most of their coffee through the traders.

Figure 3.3 illustrates the basic coffee supply chain. Again, the intent is to describe the chain more in depth up to the level where the actors of producing countries get.

Figure 3.3: The Basic Coffee Supply Chain



Source: Gilbert (2006).

Coffee plants may grow as shrubs or trees to a height of 10-15 meters at maturity but are kept at three meters on plantations for harvesting purposes. The coffee shrubs live for as long as 60 years and remain productive for 15-20 years. The yield of the coffee tree peaks after 5 to 7 years. The fruits are left unpicked until they reach the ideal stage of ripeness, usually after about seven months. Each coffee fruit contains two semi-oval, furrowed seeds or beans, covered with a silver-colored membrane and enclosed in a second tougher skin called parchment. Arabica (85-90 percent of world coffee production) and Robusta (10-15 percent of world coffee production) beans are distinguishable in shape: Arabica being flatter and elongated with a crooked furrow, compared to the convex and rounder Robusta with its straight centre furrow.

Given their continuous blossoming, coffee plants may carry green fruits, fully ripe red cherries and overripe ones, all at the same time. To avoid mixing the fruit and potentially contaminating a crop with either green or overripe beans, handpicking is the best method of

coffee harvesting. This allows for green fruit to stay on the tree for the next round of harvesting, and overripe fruit to be naturally discarded by falling to the ground. A quicker, but far less accurate and common method of harvesting is “stripping”, whereby branches are stripped of all their fruit either by hand or the use of special machines.

Two ancient methods are still used today to extract coffee beans from their cherries after harvest, both of which should begin with 24 hours of picking: the dry process and the wet process. At the farm level, Arabica beans are normally processed using the wet method. The longer and more complex wet process is mostly used for coffee cherries that are handpicked, and thus more uniform in size. Once gathered, the fruit is put into pulping machines that free the seeds in their parchment from the hulls. The beans are then fermented or "washed" in large water tanks for several days to remove any remaining decomposed pulp formed during this phase. This operation also triggers off a series of chemical reactions in many Arabica varieties that enhance the coffee's aromatic and flavour qualities. The washed beans are then sun dried, freed from their parchment with the use of centrifugal force, then polished and electronically sorted to weed out defective beans and finally, graded for size, form and colour ready for selection and shipment. Robusta beans (twice as cheap as Arabica), on the other hand, are generally processed by a more straightforward method. The picked cherries are sun dried for several days before being sold to a processing plant which removes the casing with a mechanical mill before sorting, grading and packaging the beans for export. The dry process is necessary for fruits that have been harvested by stripping. Once separated from other matter such as leaves and bits of wood or pebbles, the coffee cherries are spread out in the fresh air on threshing floors to sun dry for a few days. Then, they are put through a hulling machine that frees the beans by crushing the hulls and parchment. The dry method produces "natural" green coffees, also called "unwashed" green coffees. The farmer then sells the bean encased in a light skin or parchment (hence parchment coffee) to a private trader. The local trader transports coffee to a curing factory, where the parchment is removed and the beans are sorted. Afterwards exporters take care of grading, packaging and transporting up to the port where coffee is exported.

Coffee is subject to a continual series of quality control tests. Beyond the detection and elimination of defective beans, these controls ultimately serve as a basis for the final selection of green coffees that meet the quality and taste specifications required for proper blending. Expert coffee buyers perform these decisive tests on samples prior to purchase. Green beans are shipped unroasted in 60 kg jute bags from producing countries. The green bean preserves its unique characteristics longer than the roasted bean.

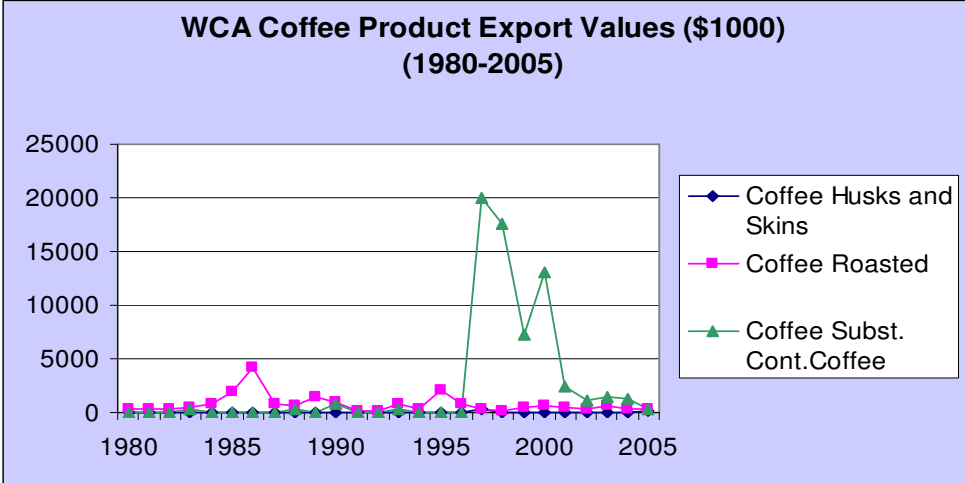
Following liberalisation, most of the green coffee is bought from farmers by private traders and exporters, the remaining part being bought by cooperatives. These intermediaries provide an important service to coffee markets, by buying from different farmers and remote regions, as well as processing and transporting coffee in quantities big enough to be exported and bought by international traders.

Because of the way the international coffee supply chain works, the link between producers and consumers is lost (Oxfam 2002a). Coffee is traded down a complex line of intermediaries, ranging from local traders, exporters, international traders, roasters and retailers, who each capture a percentage of the retail value of coffee. Less than 30 percent of the revenues generated by world coffee sales remains in the coffee producing countries and smallholders usually capture less than 10 percent of the retail price. Farmers receive a low share of the export price of green coffee beans. The retail price, which is set on commodity exchanges, is

shared among farmers, local traders, exporters and governments (via taxation). In general, small farmers are likely to get a rough deal because they have little power over private intermediaries, cooperatives and governments. Small farmers rarely have a choice regarding the timing of the sale or the identity of the buyer. But this does not mean that all small farmers get a similar deal, this depends on the country of origin. How much farmers receive for their coffee mainly depends on the role of local traders and exporters, marketing costs and processing capacities at farm level. Liberalisation has not improved price transmission as significantly as expected and in some respect appears to have worsened it noticeably. One possible explanation is strategic behaviour and market power amongst private actors at intermediate levels in the processing chain (Shepherd, 2004). The continuing strong performance of Nestlé and other giants on the processed beverage world is in outstanding contrast with the ever increasing impoverishment of ordinary coffee farmers at a time of low green coffee prices.

The price captured by the farmer and other local actors also depends on how much processing is done at a local level. Most farmers produce parchment coffee because it yields a price that is higher than the price of fresh coffee berries. This requires them to wash, pulp and dry coffee on their farms, work usually performed by women and children. But very few small farmers have the required skills and equipment to process quality parchment coffee, which reduces the price they can get from private traders and can also hurt the overall quality of a country’s production. Figure 9 illustrates the trend in the value of other coffee products exported by the WCA countries. Coffee substitutes, as shown in Figure 3.4 below, are the main coffee product that has been processed in large quantities in the region and this lasted only from the late 1990s to the early 2000s.

Figure 3.4: WCA Coffee Product Export Value Trend (1980-2005)



Source: Computed from FAOSTAT (2008).

Côte d’Ivoire has provided incentives such as tax holidays and access to cheap low quality beans to attract foreign capital; its instant coffee industry is owned by Nestlé (Talbot, 2002). Unlike the case in Brazil and Colombia, the Ivorian state may not have had any alternative to inviting foreign capital, because of the weakness of the local capitalist class. The first instant coffee factory was built at the time of independence (1960), when the capital and expertise were not available locally. A capitalist class subsequently developed, but the state never provided incentives to entice them to compete with Nestlé.

Multinationals capture most of the value-added linked with the production of cocoa and coffee. To secure their market share and increase their profit margins, they have made huge investments in branding and advertising, which shelters them from price competition. While coffee prices almost halved between 1999 and 2001, the average retail prices in the US (the largest consumer in volume) decreased by less than 4 percent (Ponte, 2001). This suggests that not only gross margins have increased for roasters, but also profits.

The coffee manufacturing stage of the chain is dominated by a small number of food processing TNCs: Nestlé, Philip Morris, Sara Lee; and Procter and Gamble (Talbot, 2002). These TNCs compete on the basis of brand names backed by heavy advertising and they design new products for niche markets (i.e. flavoured instant coffees). Empirical evidence suggests that concentration along the supply chain and product differentiation allows manufacturers to be extremely slow and less than generous in passing on international coffee producer price decreases to the consumers. The cost of the lack of competition along the supply chain to producer countries is far from negligible. Morisset (1997) examined the increased spreads between international and domestic commodity prices and analyzes their implications for commodity exporting countries. The study estimates that the cost to developing countries amounts to US\$20 billion a year in additional export revenues from coffee alone because it has limited the expansion of demand in these markets.

Given a few of the characteristics of cocoa and coffee production and value chain - i.e. the green coffee beans preserve its unique characteristics more than the roasted bean, there is a lack of competitiveness in local processing due to high costs and low levels of sophistication - and the fact that producing and consuming countries are distinct and have an important spatial dimension between them, upgrading to processing activities may not be the best development strategy at this time. The strategy lies in increasing the efforts towards maintaining a credible and attractive reputation in the world market through product differentiation (process, quality) and certification (organics, fair trade, shade grown). These initiatives, reinforced by increased capacity building activities, will differentiate producers and guaranty a market and a fair price even in years of over supply. Finally, the existence of a domestic market for finished products may play a role in successful forward integration as local firm could first learn how to produce to satisfy the domestic market before proceeding to exports.

3.2.2 Farmers' organizations

FOs in the coffee business in WCA are similar to those of the coffee sector in that they are poorly organized and lack the necessary skills and equipment to rip the benefits of cooperation in the marketing of their produce.

To produce higher quality parchment coffee, some WCA producers have regrouped in associations or cooperatives and acquired processing facilities to produce coffee parchment. However, due to lack of access, know-how, and willing buyers for the final products have made it difficult for farmers to take over the processing of cherries without external or public support. Private companies sometimes provide the processing services to farmers for a fee, which avoids the problems faced by farmers who wish to purchase pulperies. Some FOs go one step further in processing coffee by taking parchment coffee to curing companies and selling coffee ready for export.

3.2.3 Quality standards and traceability

For coffee, the drying operation is the most important stage of the after harvest process, since it affects the final quality of the green coffee (www.ico.org). Coffee that has been over-dried will become brittle and produce too many broken beans, which are considered defective, during hulling. Coffee that has not been dried sufficiently will be too moist and prone to rapid deterioration caused by the attack of fungi and bacteria. FOs that are able to consistently do this process just right, with the right marketing skills, will be able to derive a premium in the market. The strategy implemented in Côte d’Ivoire is another interesting one where they differentiate by providing cheap low quality beans to attract foreign capital.

There are some favourable trends in cocoa and coffee consumption such as origin, fair trade, shade grown, and organics; but the actors in producing countries will not benefit if they do not act strategically. The relative success of fair trade in Europe in the 1990s has shown that some consumers are willing to pay a premium for their coffee in order to insure that farmers receive a fair payment for their effort (Ponte, 2001). However, most of the labelling strategies remain a small portion of global cocoa and coffee sales.

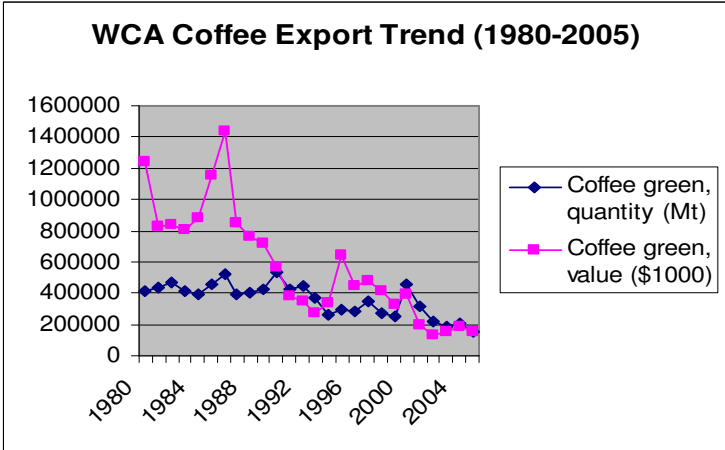
3.3 Trade

3.3.1 Exports Trends

While cocoa has seen a boom in production and export in WCA over the past 2 decades despite the adverse market conditions, coffee has experienced the reverse. Although the share of coffee to the global export market for WCA has diminished, most of these countries still rely on coffee for a high proportion of their export earnings.

WCA produced 10 percent of the world coffee output in the early 1980s, a figure which declined to only 3.6 percent in 2007; and coffee exports account for 2.5 percent a decrease from 11 percent estimated just in 2000 (see Figure 3.5 below). Figure 3.5 underlines the trend in WCA coffee exports from 1980 to 2005 in terms of quantity (Mt) and value (\$1,000). Other than the high fluctuations in the export values, note how the gap between the quantity exported and its value has basically disappeared by the early 1990s which provides an explanation to the subsequent decline in production and export all together.

FIGURE 3.5



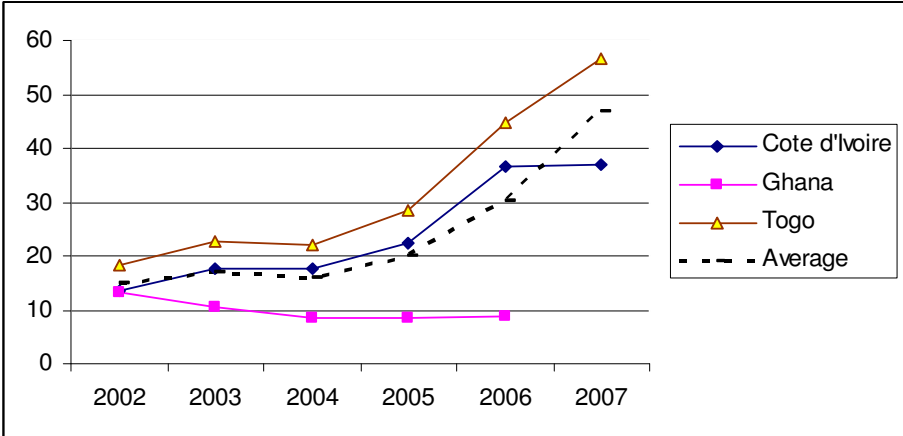
Source: Computed from FAOSTAT (2008).

Next is an analysis of relative prices of the coffee at the production level with the aim of bringing more insight on the cocoa trade environment.

3.3.2 Price trends

The following graph is the trend in producer coffee average prices for three of the WCA countries (Côte d’Ivoire, Ghana, and Togo, what was available) in USD cents per pound (lb) from 2002 to 2007. Dashed line shows the average trend.

FIGURE 3.6
Producer Price Comparison of Robusta Coffee (2002-2007) in US cents per lb



Source: Computed from ICO (2008).

Producers’ prices of coffee have also seen an improvement since the 2000 shock except for the case in Ghana where the already low price performance has worsened. As the case in cocoa, the differences between the countries are due to reasons such as different levels of government support policies, and different cost structures, infrastructure and logistical conditions.

World coffee prices also go through extreme volatility in the short run. For instance, in the first six months of 1997, international coffee prices tripled before losing half their value in the next six months (Oxfam, 2002a). Between January and December 2000, prices declined by 40%. Producer prices of coffee in Cameroon for the 1999 campaign varied by 30% depending on the region and fluctuated by 36% over a four-month period. Coffee has low supply elasticity just as the case with cocoa due to the perennial nature of the crops and the demand is very inelastic. A situation of supply shortage results in high coffee prices without a significant reduction in consumption; and when prices are high it takes time for production to adjust. This is exacerbated by the lag between plantation and harvest, which varies between 18 and 24 months for coffee.

The vulnerability in coffee is enhanced by the relatively high degree of dependence of the world coffee supply has on Brazil, which accounted for 20 percent of all exports in 2000 according to Oxfam. The World Bank’s International Task Force on Commodities was designed to help small coffee producers insure their production against price risk (Oxfam, 2000). This initiative was aimed towards sheltering small farmers from extreme price volatility, but doesn’t address the problems caused by the occasional oversupply, local market conditions or growing domination of the supply chain by powerful multinationals. Moreover, the initiative’s success is dependent on the strength of the local financial intermediaries.

3.3.3 International agreements and price stability

The quota system of the International Coffee Organization's (ICO) International Coffee Agreement (ICA), was negotiated in 1962 with the support of the United Nations to secure cooperation between producing and consuming countries, balance supply and demand, maintain and stabilize fair prices and encourage coffee consumption (Oxfam, 2000). The ICA quota system was a major source of rents and was used to sustain the governmental marketing agencies (Bohman and Jarvis, 1996). Between 1963 and 1989, 24 import and 44 export countries cooperated through the ICO to stabilise the price through export quotas and buffer stocks. However, the economic clause of the agreement, which gave rise to the export quotas, was suspended in 1989 after disagreements between member countries over quota levels. The ICA collapsed as members could not agree on a way to control exports to non-members and to distribute quotas for Arabica and Robusta coffee (Akiyama, 2001). Many exporting countries started to export large quantities from their accumulated stocks. The subsequent release of withheld stocks flooded the market and largely undermined the price of coffee and affected the revenues of all the producing countries. The price declines caused significant fiscal and balance of payments problems for these countries. In the years following the collapse of the ICA producer countries dismantled their centralised marketing systems; the previously highly regulated producers' market became relatively free market in which the majority of activity is left to the private sector.

The ICO had also established a Diversification Fund under the ICA in 1968 to encourage diversification in coffee exporting countries in order to alleviate the imbalance between supply and demand; thus limit coffee production in order to bring supply into reasonable balance with world demand and to maintain such balance. The fund was created to channel part of the earnings from coffee exports into the strengthening and diversification of the agricultural sectors of member countries. Resources from the cultivation of coffee were to be diverted to activities such as the cultivation of other crop which would not only enhance the country's economic position but would also enable coffee growers to increase their income. Vertical diversification was not covered by the Fund. The programme played an important role in the economic development of many of the World coffee exporting countries by expanding and improving their agricultural sectors.

The Association of Coffee Producing Countries (ACPC) was formed in September 1993. The 29 member countries immediately agreed to implement a coffee retention plan to try and halt the precipitous decline in prices. As of December 2000, the ACPC agreement has failed to raise prices due to a combination of high stocks in consumer countries and unsatisfactory implementation by producer countries. The latest ICA was made in 2007. The goal of the agreement is to strengthen the ICO's role as a forum for intergovernmental consultations, facilitate international trade through increased transparency and access to relevant information, and promote a sustainable coffee economy for the benefit of all stakeholders and particularly of small-scale farmers in coffee producing countries (www.ico.org).

3.4 Structural Adjustment Programs (SAPs) and policy environment

The marketing systems of the pre and post post reform environments in WCA for coffee were the same for cocoa. I will now therefore discuss the reform process for few of the countries.

3.4.1 Structural Adjustment Programs (SAPs) and marketing reforms

Many coffee producing countries had little choice but to undertake liberalization (Akiyama, 2001). The decline in commodity prices caused serious fiscal problems and contributed to many governments to seek international donor assistance. The assistance came with conditions and thus the SAPs. Togo has an interesting liberalization story worth and is now discussed.

Togo

Prior to Liberalisation, Togo's coffee marketing and pricing system closely resembled the French *caisse de stabilisation* system (see section 2.4.1). The parastatal Office de Produits Agricoles Togolais (OPAT) enjoyed a monopoly in external marketing, although domestic coffee and cocoa marketing was in the hands of the private sector (Akiyama, 2001). Wholesalers supplied OPAT with 70 percent of its coffee and cocoa crop, 10 percent came from small traders and the rest from cooperatives. By 1992 some 30 licensed wholesalers handled 60-70 percent of the coffee and cocoa crops, with cooperatives handling the rest. Reforms in Togo followed fiscal problems brought on by a prolonged general strike pressuring the establishment of a multiparty system of government that lasted from late 1993 until mid-1994. The 1996 reforms were key components of the country's economic recovery and adjustment operation (Varangis and Schreiber, 2001). The reforms included the liberalization of coffee and cocoa prices, primary marketing, and exporting, all of which had previously been regulated by the marketing board. The goals to improve producer incentives and income and develop private participation in marketing and export activities while maintaining the country's reputation as a reliable supplier of quality products in international markets were established.

Producer prices had already increased sharply in 1994 as a result of the 50 percent devaluation of the CFA Franc but growers were receiving only 30 percent of the export unit value. Exports and producers' incomes and incentives increased as impacts of a well carried out reform. Producers have intensified their crop maintenance efforts and expanded their cocoa and coffee plantations. Coffee and cocoa exports reached a record high in 1997 which was more than double the 1996 level. The producer's share of the FOB price soared, climbing to an average of 76 percent for coffee and 80 percent for cocoa for the 1996/97 crop year.

After the reforms, a private firm started to provide various services, including research, extension, and the provision of agricultural inputs to the cocoa and coffee sectors under a technical agreement with the government. All the key aspects of the reforms were discussed with representatives of various constituencies (the private sector, the banking community, and the administration) in a participative manner which was rapidly institutionalized. A Coordination Committee made up of representatives of the private sector, producer cooperatives, and the government was established to oversee the reform process.

3.4.2 Post reform role of public and private sector

The post reform roles of the public and private sectors in WCA are the same for the coffee industry as the cocoa one. Local buyers have increasingly become involved in the provision of marketing channels and services, credit, and input. Most of the subsidies on extension and other services that were previously provided by the government were abandoned.

Subsequently, the quality of these services declined along with the quality of the produce as the private sectors were not able to take on these responsibilities as was anticipated.

Liberalization in Togo is documented to have been relatively more successful; except, the reform adversely affected the functioning of the FOs (Akiyama, 2001). Around 40,000 farmers produce coffee and cocoa in Togo. Of these some 9,000 belong to 290 Coffee and Cocoa FOs (*Groupements de Producteurs Caff -Cacao*, or GPCCs). These groups belong to 15 Unions of Producer Groups (*Unions de Groupements de Producteurs*). Before liberalization the GPCCs handled about 20 percent of the produce, but since the reforms that share declined substantially as these groups have difficulty competing with private traders. Their costs are also considerably higher than those of private traders, so that farmers increasingly prefer selling to the traders. Experience in other countries supports the finding that such cooperative groups often face difficulty competing with private traders. Exporters have also formed their own association, the Council of Coffee and Cocoa Exporters. The council has established its own regulations and is committed to the principle of fair competition. One of the group's most important rules requires exporters to deposit 20 percent of the FOB value of each export contract as a bond in case they do not fulfil the contract.

PART IV: DIVERSIFICATION STRATEGIES FOR WCA COCOA AND COFFEE SYSTEMS

As WCA remains a supplier of the cocoa and coffee commodities in the raw or semi-processed forms, the region is subject to declining terms of trade. It is at the later stages that most of the value and profits are added and most of the profits are made; although WCA countries have not been successful given the reasons previously discussed. Other factors that hinder or facilitate vertical diversification or forward integration include the relative positioning of 'breaks' in the chain, where intermediate products become storable and thus transportable over the long distances between where they are produced and where they are consumed (Talbot, 2002). Additional factors consist of the forms of state action to promote forward integration, the strength of the local capitalist class, and the size of the domestic market for the finished product. Forward integration or 'upgrading' involves the ability of the actors in the value chain to move up the learning curve, to acquire the kinds of skills necessary to successfully compete with the already established firms at that stage of the chain. The skill level of the WCA labour force alone does not provide an adequate explanation for the potential for successes or failures in the industrialization process. Additional factors that were previously discussed also play a role and they include WCA state policies, the nature of the local economy, internal and external market conditions, trade policies in importing countries, the nature of TNCs that structure the chains, and the relative strengths of domestic capital.

Diversification can be both vertical (i.e. upgrading) and horizontal. Horizontal diversification involves the production of alternative crops that are not only either equally or more profitable but that also serves to lower the variance in income between seasons and is important for food security purposes. Agricultural research must advance to widen the range of crops that can be grown on tropical soils, as well as alternative uses for cocoa and coffee. Cocoa and coffee grown on high-cost plantations can be replaced by other products. Activities can be organized to raise complementary earnings for growers and more effectively coordinated investment decision-making. By reducing production, diversification within the cocoa and coffee production systems can be a means to achieving higher producer prices and to allow farmers to earn better income. Successful agricultural diversification out of the cocoa and coffee sector faces various obstacles. First, it may not always be possible to grow other crops in place of coffee because of weather, soil and altitude factors. Diversification has high transition costs as producers have to tear down the trees, plan different crops and learn new production and marketing techniques all in the absence of access to credit and technical support. The transition costs need to be included in the cost benefit analysis along with relative prices and production and marketing costs. What makes a producer continue producing cocoa and coffee, even when international prices keep falling, are the relative prices of other cash and food crops. The low profitability of food crops results from dysfunctional local markets. Therefore, as long as the harvesting costs are covered, farmers keep on producing cocoa and coffee even with rapidly falling prices.

Diversification is possible first with the exploitation of what already exists in the cocoa and coffee systems. Most of the exotic and indigenous tree species managed in the WCA agroforests are from the wild or are land races and were not selected based on genetic quality (Duguma, 1997). There are several high value fruit and medicinal tree species in the rain forest of the region that are currently exploited in the wild. These species are reported to have tremendous potential for domestication. Currently, the products from these species are consumed or traded locally with very limited market opportunities. In the Baoulé region of Côte d'Ivoire, an inventory of the cocoa and coffee shade trees and their often multiple uses has been established (Herzog, 1994). Of the 41 tree species, 22 are used as firewood and 16 as timber for local constructions. Some of the plants secure pharmaceutical products for

traditional medicine and some have edible parts (fruits, leaves, flowers, palm wine). The fruits are sold in local market. Most of the products are essential in daily life and play an important role in the local economy. Two tree species have been kept on the plantations because of their effectiveness against malaria (*Alsonia congensis*, *Microdesmis puberula*). The commercialization species such as cola nuts (*Cola nitida*), oil palm (*Elaeis guineensis*), the wood from *Chlorophora excelsa*, the herbal plant (*Thaumatococcus daniellii*) are all documented to be profitable as well. The oil from palm is preferred to the oil of modern cultivars because of its taste and consistency. Also, unrefined red palm oil is the food the overall highest carotene (pro-vitamin A) content. The fruit from the *Thaumatococcus daniellii* has a sweetness that comes from a protein (thaumatine), which is 1600 times sweeter than sucrose. Thaumatine is applied in the food and animal feeding industries as a sweetener. For this purpose the fruits are collected in certain regions of Côte d'Ivoire by a British company and exported. African plum or safou (*Dacryodes edulis*) is currently the main species planted by farmers in Cameroon to diversify cocoa farms and provide alternative income. Timber and fire wood production system along with the rice production are practiced in Sierra Leone as a means to reduce farmers' food debt.

Increased capacity for local processing and marketing, and more integration between the different industries concerned here, are required to encourage the regional and perhaps international trade of these products. For instance, field scientists must be aware of the exact needs of the food industry and the desired traits of the pharmaceuticals. Such developments require appropriate policies and commercial interests sympathetic to small scale production.

A cash crop that is promising for diversification purposes is rubber which has steadier and higher prices (WABA, 2007). Many farmers in Côte d'Ivoire are responding to the disorder in the cocoa sector by switching to rubber. Rubber also provides a year round crop for 11 out of 12 months. The economic life period of rubber trees in plantations is around 32 years, 7 years of immature phase and about 25 years of productive phase. Setting up a rubber farm is costly and some farmers desire but don't have the means to invest. New companies are emerging; for example, GEPDH a business in Abengourou (an eastern town in Côte d'Ivoire) supplies and plants rubber trees for \$1,518 per hectare including maintenance and specialist advice for the first three years. GEPDH ask for an upfront deposit then monthly payment for three years. Once trees have matured the potential earnings is approximately US\$631 per hectare each month although some farmers are sceptical about that amount.

Beyond the development of the already available species, farmers should be able to intensify their diversification efforts by changing the proportion of their efforts directed at different crops as long as the lots are less than fully utilized and the process is relatively more profitable. A diversification programme is the sort of programme that is able to lead to more social upheavals such as sustaining food security and income surpluses for the purchase of other goods. Gockowski and Ndoumbé (2004) suggest that for Central Africa, rural areas in the periphery of urban centres are the most likely domains for horticultural intensification, rather than the hinterlands characterised by poorly developed transport infrastructure and sparse populations. Horticulture is providing a pathway for intensification among smallholders in southern Cameroon driven by growth in urban market demand and high relative prices (Gockowski and Ndoumbé, 2004). Horticultural crops have higher value relative to staple foods the production of which has seen a growing importance. These crops include tomatoes, bananas, green maize, okra, leafy green, hot peppers, citrus, cassava leaf, African plum, and avocados. Commercial horticulture is input intensive (labor, fertilisers, and pesticides). Women's wide range of responsibilities in the village society limits their

capacity for adopting labour intensive technology systems. The promotion of dry season production of African traditional leafy vegetables is a viable option for women as their labour demand is lower on top of the price of these commodities being on the rise at that time. The cash requirements for intensive horticulture production combined with the failure of formal rural credit institutions present a constraint to adoption especially for resource-poor households.

Finally, Non-farm activities and livestock husbandry are key ways to improve farmers' access to cash even during lean periods and therefore access to better credit and improved inputs (Reardon et al, 1994). These other sources of income can potentially improve farm productivity if it is used to finance farm input purchase or longer-term capital investments. They contribute to the reduction of the variance of overall household income in cases of imperfect covariance between farm and non-farm income.

PART V: CONCLUSIONS AND RECOMMENDATIONS

This report examines the cocoa and coffee value chains in 10 West and Central African countries: Cameroon, the Central African Republic, Côte d'Ivoire, the Democratic Republic of Congo, Ghana, Liberia, Nigeria, Sao Tomé and Príncipe, Sierra Leone, and Togo. All these countries rely heavily on one of both these commodities as a major source of foreign exchange. Diversification of the cocoa and coffee cropping and marketing patterns are essential to get away from the vulnerabilities that arise from the high dependence of a large number of people on one dominant farming enterprise system. In order to identify the most feasible revenue raising diversification options for actors implicated along the chain, I study the cocoa and coffee farm and supply chain structures up to export, the underlying technologies and production patterns while taking into account the underlying policy and institutional environment. In two separate parts, the two commodities are studied in terms of their respective production requirements and trends, the past and current marketing systems and the implications from the Structural Adjustment Programs (SAPs) and the change in the role of private and public sectors, the trade trends including a discussion on price stability, and finally other emerging issues for the sectors.

The following policy messages and recommendation are supported by the study:

- The global market structure and the smallholders.

The structures of cocoa and coffee value chains are important determinants of the chances for development of the WCA countries under study. Due to a significant spatial difference between production and consumption and the fact that large transnational corporations control the consuming end of the market, the lack of solidarity among and between the local upstream actors within the system, and other constraints such as poor access credit and information, inadequate infrastructure and storage facilities, attempts at any form of vertical coordination have not returned much benefit, if any, to the smallholders in the region. Producer countries out to design policies geared at making local markets work for small producers. This involves creating strong, accountable and transparent regulatory bodies in the cocoa and coffee sectors to provide marketing information and monitor competition along the supply chain. Consensus building mechanisms are a means to dealing effectively with issues between different agents.

- Supply mismanagement and market regulation.

Problems of oversupply and highly volatile prices need to be adequately addressed through more robust international cocoa and coffee agreements and regulations. The governmental agencies must play a role in this process by introducing rules and regulations that are transparent and are able to protect small producers against devastating conditions such as price and pest risks as there are currently no private institution that is able to perform such a service. Border trade policies must be formulated and enforced such to avoid actions such as smuggling and informal trade which are damaging to export revenues.

- Diversification strategies.

The appropriate diversification strategy can be implemented after an in depth feasibility study. This feasibility study must evaluate all costs and benefits of the strategy in a case by case manner as well as design market access strategies for the new products. These schemes will require cooperation within the WCA region and between the region and other countries. Diversification approaches need be formulated in a way to match with farmers' needs, capacities, and land use systems and be able to reach the most vulnerable

groups. To successfully diversify, farmers need better functioning input markets and the credit sourcing should be separated from cocoa and coffee schemes to avoid loan traps.

- Market information and market access.

The dissemination of market information such as price signals and new technology should be facilitated with the assistance of local governments. Price discovery enabled when statistics on the market are collected and disseminated in a timely manner. Farmers with better access to the source of technical information have more knowledge on technology application. Farmers with information about the market have a better chance to obtain a higher price for their efforts in quality enhancement and advocated good practices.

- Farmers' Organization.

Most of the farmers' associations (FOs) implicated in the cocoa and coffee production in WCA lack organization in collectively marketing their produce. This is an area where capacity building programs will play a major role, whether through government sponsored extension programs or through International Organization programs and projects. Farmers, whom are usually the main group targeted to benefit from a reform or a new strategy, lack the organization and the means to participate in the process. If FOs are well organized, they can not only act collectively to have a voice in the policies that concern them, but they are also more able to market they product and acquire enough credibility to engage in sustainable marketing and access to credit.

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www.worldcocoafoundation.org

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APPENDIX 1

1. a Contacts

Organization	Links/Location	People
<u>Banks and MFIs</u>		
Reseau de Caisse	Cameroon	Gustave Ewole Medjeme – Director
<u>Producers' associations</u>		
ANOPA	Cote d'Ivoire	Agnimou François – Agronome
USMSF	Nigeria	Olaseindre Arigbede – National Coordinator
MGPC	Togo	Amgnikpa Kokou Michel
FUPCM	Cameroon	André Belebenie - Producer
PFOPAC	Cameroon	Elisabeth Afanda Epse – President Desire Alexandre Manga Ndzana
Socodevi		
Kuapa Koko	Ghana	
<u>Professional organizations and agro-processing firms:</u>		
Commodity Exchange	Ghana	Alexis Aning
GOAN	Ghana	George Kwame Ofori – Chairman
Accfmo	Cameroon	Sylvanus Nekemya - Chairman
CICC	Cameroon	André Marie Lema – Executive
SUACC	Cameroon	Augustin Tegui – Vice President
Bourse du Café et Cacao (BCC)	Côte d'Ivoire	
Cocoa and Coffee Interprofessional Board	Nigeria	
<u>Parastatals, boards and governmental agencies</u>		
Cocobod	Ghana	
Ministry of Agriculture	Cote d'Ivoire	Yao Alexis Haccandy – Program Director
Ministry of Trade and Industry	Ghana	Ebo Kobena Quaison
NCCB	Nigeria	
<u>NGOs/ International organizations:</u>		
AfDB	Cameroon	Jean Marie Meng Lihinag
IFAD		
WB		Ousame Seck
UNCTAD		Pierre Etoa
FAO	Cameroon	Ousmane Guindo – FAO Representant
CEDEAO/ECOWAS	Nigeria	Dr. Yamar Mbodj – Advisor Dr. Ametotovi Folli Francois - Economist
CMAAOC		Doudou Ndiaye – Agro Economist

RECAO		Kassim Dembélé - Coordinator
UEMOA		Roger Bila Kabore – Agro Economist
IADES	Togo	Adufu Kossi Sena – Director
UNECA	Cameroon --	Fabrizio Carmignani Mamadou Malik Bal
ICRAF		
European Commission	Cameroon	Philippe Jacques - Advisor
CEMAC	Cameroon	Isaias Anque Obama
<u>Research and Academics:</u>		
CRIG		
CRIN	Nigeria	
<u>Other actors</u>		
Martin Abega		
Jean Ngansi – Cameroon Exports – Representant Group Unicroppeirie		
Mahamat Karagama – Cameroon – Sales Director		
Traders		
Local retailers - wholesalers		
Consumers		
Professional associations of traders		
Quality grading institutions		
Input suppliers		

1. b Questionnaire

Banks and Microfinance Institutions:

- Q1: How do you access and assess information about needs and risks?
- Q2: How is the evolution of savings and banking for farmers?
- Q3: What is the level of competition in the banking sector?
- Q4: What are the main interest rates for your products and services?
- Q5: How strong is the level of credit rationing?
- Q6: What is lacking and what are the main constraints for the development of credit markets and other rural financial services?
- Q7: What financial services do you provide to cocoa and coffee farmers and other actors of the commodity chain?
- Q8: What is lacking to finance inputs for cocoa and coffee production?
- Q9: How is the establishment and diffusion of inventory credit?
- Q10: What are the best strategies to follow to expand viable credit schemes to farmers outside of interlinked contracts?
- Q11: What infrastructures needed to improve to reduce transaction costs? What investments need to be undertaken?
- Q12: Which capacities should be built upon as priorities?
- Q13: What kind of other savings and insurance schemes could be developed in villages? Is the establishment of village banks by farmers a viable option? What are the limitations?
- Q14: How do we develop mid-term and long-term farm credit (equipment, vehicles, capacity)? Which institutions and guarantees are needed?
- Q15: Which arrangements with input suppliers, processors, farmers' unions and government work the best for viable credit schemes?
- Q16: Are the willing large business entrepreneurs able to invest in the agro-processing sector? What is the demand for small entrepreneurs?
- Q17: What is the demand for local retailers?
- Q18: Do you believe that financial services are adapted to the needs of coffee and cocoa commodity chains? What prevents Banks from developing more appropriate services?
- Q19: Which diversification strategies will you be willing to finance or support within the commodity chain of cocoa and coffee?
- Q20: Would you be ready to work with government, and other financial institutions to improve the access of farmers and other NCCs to financial services? By which means?

Producers' associations:

- Q1: Please, define the organizational structure and the activities with producers.
- Q2: Are local farmers' groups efficiently organized?
- Q3: Please, define the leadership structure and the organizational efficiency of your group.
- Q4: What coordination problems do you encounter in your organization?
- Q5: What are your capacity constraints?
- Q6: How are you integrated vertically in the industry?
- Q7: How do you impact the management of the supply chain?
- Q8: How do you negotiate with other stakeholders?
- Q9: Do you think your negotiation rights are effective?
- Q10: Do you have an influence over government policies regarding the sector? Do you feel involved into the policy-making process?
- Q11: What additional activities would you like to develop for farmers?

- Q12: What kinds of partnerships are you involved in? What kinds will you be willing to get involved with?
- Q13: What kind of political action would you be willing to undertake? Under what conditions?
- Q14: What are the future objectives of your organization?
- Q15: What is the main problem of collective action at the village level and beyond?
- Q16: What are the critical constraints for farmers' production?
- Q17: How are the interactions with traders?
- Q18: How are conflicts resolved?
- Q19: What are the current initiatives to improve the performances of farming systems? Which ones are the most promising?
- Q20: How do you think farmers could diversify their production, and which markets should be developed? Under what kind of contractual arrangements?
- Q21: What are the actions to be taken as priorities?

Professional organizations and agro-processing firms:

- Q1: Please define your relationship with other stakeholders on the commodity chain.
- Q2: Where and what are the main coordination failures?
- Q3: How do you envision the provision of extension services to farmers?
- Q4: Are you undertaking contract farming and other outgrower schemes?
- Q5: How do you think farmers should better access inputs?
- Q6: How do you interact with traders and wholesalers?
- Q7: How do you interact with government officials and banks?
- Q8: What are the main constraints in the regulatory and macro-economic environments for the well functioning of the industry?
- Q9: How are the markets structured: wholesale, transformation, retail, trade?
- Q10: How well are you connected to local, regional, and world markets?
- Q11: What human and capital capacities are you lacking?
- Q12: How do you access market information about quality, prices, demand, and supply?
- Q13: How is risk shared along the commodity chain?
- Q14: How high are transaction and transport costs and how it limits business expansion?
- Q15: How are you involved in technical assistance, research and development?
- Q16: Which innovations and reforms are required to improve the market environment?
- Q17: Which new products, quality improvements, packaging, and other industrial options are you exploring so far?
- Q18: What linkages between cocoa and coffee production should be kept, even in the realm of production diversification? Which ones are inescapable?
- Q19: What ongoing projects are you associated with? Which initiatives are the most promising?

Parastatals, boards and governmental agencies

- Q1: How are you involved in agricultural policy-making?
- Q2: What is your current role in the regulation and interventions in the cocoa and coffee markets?
- Q3: How are you involved in input and output markets?
- Q4: What kind of supportive policies and institutions are necessary to increase incentives for the private sector?
- Q5: How are the quality-grading institutions functioning?
- Q6: How do you envision the future of regulation and competition policies for the cocoa

and coffee commodity chains?

Q7: How should the legal framework and market institutions be improved to better serve the business environment?

Q8: How does the macro-economic environment impact business incentives and capacities?

Q9: To what extent does the management of cocoa and coffee commodity chains need to be decentralized?

Q10: Are you currently participating in consensus-building institutions to support the participatory adoption of policies?

Q12: What are your thoughts on market-based instruments for risk management?

Q13: What are the constraints along the commodity chains for cocoa and coffee?

Q14: What are the most promising diversification options, which new commodity markets, or marketing products would you be willing to support?

Q15: How are the provision for basic public goods handled: extension services, quality grading, and research?

Q16: What are the key priorities for development in the cocoa and coffee production systems?

Q17: What are the current initiatives?

NGOs/ International organizations:

Q1: What is your point of view about the critical production constraints for cocoa and coffee in WCA?

Q2: How do you think farmers should diversify their production? Under what conditions?

Q3: Which innovations are suitable to overcome the constraints?

Q4: Please share some of success stories? What were the implications from a welfare improvement standpoint?

Q5: How does the political economy matter for the overall environment of production along commodity chain?

Q6: How are the market and information access evolving?

Q7: Are you currently involved in or contemplating getting involved in any project related to the cocoa-coffee systems?

Q8: What are the most promising areas of development?

Q9: How should future research be organized?

Q5: What are the capital requirements?

Research and Academics

Q1: What are the constraints encountered in the industrial organization of the cocoa and coffee commodity chains in WCA?

Q2: What is and what is not working at the policy level?

Q3: What expertise can you provide locally in the scope of intensification and/or diversification within the cocoa and coffee production systems?

Q4: Are you currently involved in a research project to do with the above mentioned (at the experimental or field stages)?

Q5: Are you currently working with or have you recently worked with agri-businesses or other stakeholders on a research project in productivity and quality enhancement, seed variety, or marketing strategies?

Q6: What are the promising areas of study and of technical development?

Q7: What are the constraints in the organization and financing of research?

Q8: What is inhibiting farmers from adopting new technologies?

Q9: What capacities and incentives need to be reinforced to make innovation and

implementation work?

Q10: Are you willing to participate in a common research project or interprofessional agreement involving a participatory approach of the all the stakeholders?

Other actors

Q1: Please define your relationship with other NCCs in the cocoa and coffee markets of WCA?

Q2: What constraints do you encounter in your economic activities?

Q3: What capacities do you need to be better connected to markets and information?

Q4: What are the critical constraints along the commodity chain?

Q5: Which new products or processes would you be willing to purchase/invest in?

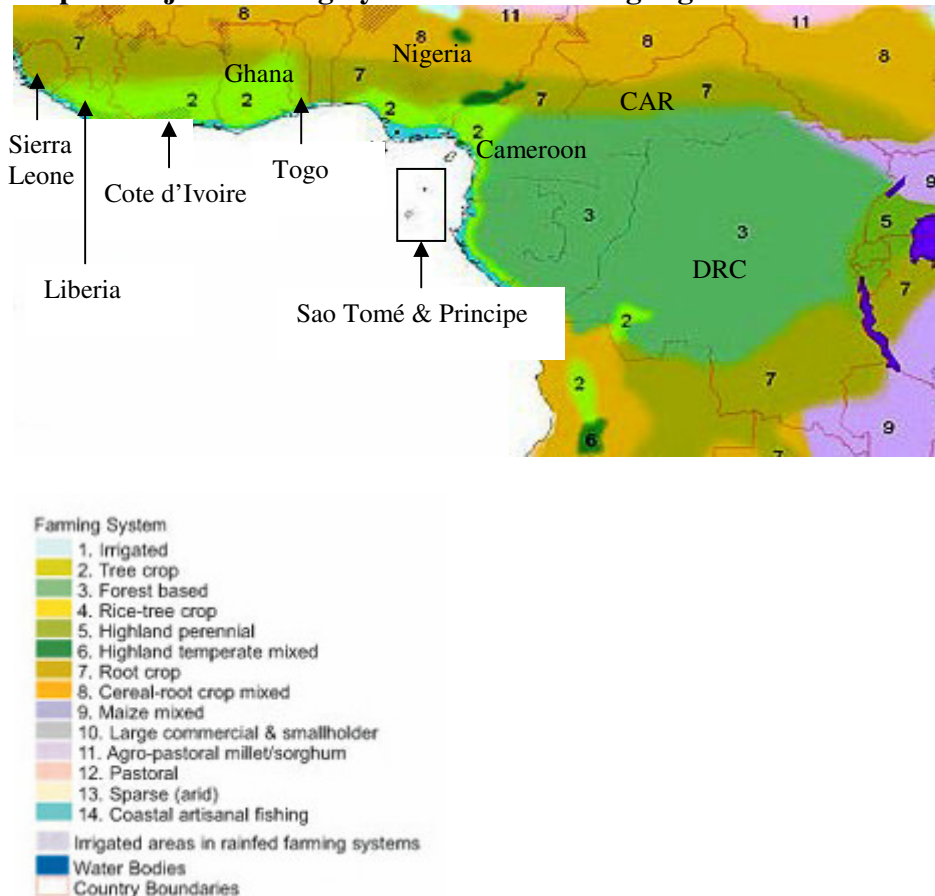
Q6: What are your own concerns about the current situation in the cocoa and coffee sectors?

Q7: How do you foresee the evolution of cocoa and coffee production systems and which strategy will you be willing to pursue?

ANNEX 1 OVERVIEW OF WCA COCOA AND COFFEE FARMING SYSTEMS

The following figure highlights the major farming systems in the WCA cocoa and coffee producing regions.

FIGURE A.1
Map of Major Farming Systems in WCA: Highlights on Cocoa and Coffee Areas



Source: Dixon, J. and A. Gulivov with D. Gibbon; (2001).

The backbone of the tree crop farming system is the production of industrial tree crops, including cocoa and coffee. They are found largely in the humid zones of WCA and in 2001, they occupied 73 million hectares and had an agricultural population of 25 million (Dixon et al, 2001). Cultivated area was about 10 million ha, of which only 1 percent was irrigated. Typically, food crops are inter-planted between tree crops and are grown mainly for subsistence; few cattle are raised.

Cocoa and coffee are agricultural commodities, which, because of their ecological requirements, can only be profitably grown in tropical or sub-tropical climates (Talbot, 2002). Almost all cocoa plantations contain some coffee shrubs and the coffee plantations contain some cocoa shrubs (Herzog, 1994). In general, one of the two crops dominates. The multi-product feature of cocoa and coffee agroforestry systems has been developed by farmers to diversify production and to minimize risk (Duguma, 1997). At the same time it plays a vital role in enhancing bio-diversity and contributing to the reduction of global warming.

The dominant cultural practice of production in the region involves planting of the trees on a forestland, selectively cleared and planted to various types of food crops for one or two seasons. The trees are inter-planted with maize, plantain, cassava and other food and tree crops. The trees are left to develop while farmers harvest the seasonal and annual crops as they mature. Depending on the density of the retained species and the mortality rate of the seedlings, the system is enriched by planting additional tree crops such as rubber, coconut, mango, African plum, avocado, guava, cola, orange, and mandarin. As the trees and the other components grow to maturity, the system evolves to a closed canopy multi-strata system that resembles natural forest with most of the positive attributes associated with it. When land is cleared, indigenous fruit, medicinal, and timber tree species are deliberately retained both for their economic value and to provide shade for the cocoa and coffee plants.

ANNEX 2

TABLE 1: Cocoa and Coffee Value Shares (%) to Total Agricultural and Total Merchandise Export (2000-2005).

			2000	2001	2002	2003	2004	2005
WCA	Share to total agricultural export	Cocoa, beans	45.79	47.80	56.89	53.94	52.01	51.62
		Coffee, green	11.53	5.24	2.86	2.76	3.09	2.61
	Share to total merchandise export	Cocoa, beans	4.29	6.42	9.11	8.45	6.79	4.57
		Coffee, green	1.08	0.70	0.46	0.43	0.40	0.23
Cameroon	Share to total agricultural export	Cocoa, beans	20.07	27.38	39.14	30.46	35.14	34.94
		Coffee, green	26.02	17.83	10.89	11.78	11.69	10.43
	Share to total merchandise export	Cocoa, beans	3.94	6.14	10.23	7.81	9.00	7.06
		Coffee, green	5.11	4.00	2.85	3.02	2.99	2.11
CAR	Share to total agricultural export	Cocoa, beans	0.00	0.00	0.00	0.00	0.00	0.00
		Coffee, green	30.51	8.77	3.13	4.91	3.99	4.84
	Share to total merchandise export	Cocoa, beans	0.00	0.00	0.00	0.00	0.00	0.00
		Coffee, green	5.02	1.33	0.72	0.65	0.46	0.61
Côte d'Ivoire	Share to total agricultural export	Cocoa, beans	44.09	47.88	58.76	53.90	51.37	48.90
		Coffee, green	12.73	4.83	2.41	2.42	2.94	2.30
	Share to total merchandise export	Cocoa, beans	21.73	25.51	34.19	31.55	24.49	20.38
		Coffee, green	6.27	2.57	1.40	1.42	1.40	0.96
DRC	Share to total agricultural export	Cocoa, beans	7.89	10.63	5.29	3.89	3.61	2.44
		Coffee, green	58.80	14.42	18.87	24.12	19.25	29.09
	Share to total merchandise export	Cocoa, beans	0.35	0.27	0.12	0.06	0.08	0.04
		Coffee, green	2.59	0.37	0.43	0.39	0.41	0.48
Ghana	Share to total agricultural export	Cocoa, beans	74.55	80.02	74.48	67.55	66.68	68.02
		Coffee, green	1.10	0.19	0.10	0.12	0.06	0.04
	Share to total merchandise export	Cocoa, beans	24.19	23.08	21.79	30.13	48.05	28.26
		Coffee, green	0.36	0.06	0.03	0.05	0.04	0.01
Liberia	Share to total agricultural export	Cocoa, beans	5.19	1.15	1.29	4.51	2.50	3.57
		Coffee, green	0.27	0.40	0.25	0.39	0.35	0.05
	Share to total merchandise export	Cocoa, beans	2.83	0.63	0.60	3.62	2.31	3.35
		Coffee, green	0.15	0.22	0.12	0.31	0.33	0.05
Nigeria	Share to total agricultural export	Cocoa, beans	61.88	52.60	64.97	73.82	63.22	65.20
		Coffee, green	0.09	0.08	0.08	0.12	0.01	0.08
	Share to total merchandise export	Cocoa, beans	0.78	1.17	1.36	1.82	1.00	0.88
		Coffee, green	0.00	0.00	0.00	0.00	0.00	0.00
STP	Share to total agricultural export	Cocoa, beans	96.83	88.35	97.84	98.27	94.79	94.29
		Coffee, green	1.43	9.84	0.72	0.00	0.00	0.21
	Share to total merchandise export	Cocoa, beans	20.00	30.21	38.46	96.68	89.02	82.26
		Coffee, green	0.29	3.36	0.28	0.00	0.00	0.18
Sierra Leone	Share to total agricultural export	Cocoa, beans	24.64	34.55	45.49	66.05	75.18	83.12
		Coffee, green	28.99	22.73	20.20	10.95	4.27	3.23
	Share to total merchandise export	Cocoa, beans	13.14	8.88	7.41	8.74	7.53	8.88
		Coffee, green	15.46	5.84	3.29	1.45	0.43	0.35
Togo	Share to total agricultural export	Cocoa, beans	6.03	4.72	8.20	8.00	18.95	21.18
		Coffee, green	14.82	4.77	3.29	0.81	2.11	4.53
	Share to total merchandise export	Cocoa, beans	1.29	1.31	1.66	1.77	4.12	3.29
		Coffee, green	3.18	1.32	0.67	0.18	0.46	0.70

Source: FAOSTAT (2008) and author's calculations.

ANNEX 3 STATISTICAL ANNEX

Table A-1: Cameroon Cocoa

		Units	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Cocoa beans	Area Harvested	Ha	444052	425561	408009	425000	420000	426120	410000	440000	420000	420000	360000	350000	340000	340000
Cocoa beans	Yield	Kg/Ha	263.6	278	257.7	256.2	287.8	277.6	300.2	301.8	308	299	319.4	300	287.7	291.1
Cocoa beans	Production Quantity	Mt	117053	118344	105153	108900	120894	118320	123090	132800	129400	125700	115000	105000	97835	99000
Cocoa beans	Import Quantity	Mt	2	0	11	0	5	297	0	11	0	11	0	0	0	0
Cocoa Butter	Import Quantity	Mt									1000	1000				18
Cocoa Paste	Import Quantity	Mt	0	64	0	0	0	0	0	0	0	0	0	2	0	0
Cocoa husks;Shell	Import Quantity	Mt														60
Cocoa powder&Cake	Import Quantity	Mt	260	132	120	156	0	0	0	0	0	0	1	0	0	36
Cocoa beans	Import Value	1000\$	1	0	3	0	1	713	0	20	0	2	0	0	0	0
Cocoa Butter	Import Value	1000\$	0	35	0	0	0	0	0	0	0	0	0	2	0	0
Cocoa Paste	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Cocoa husks;Shell	Import Value	1000\$	351	100	134	179	0	0	0	0	0	0	4	0	0	71
Cocoa powder&Cake	Import Value	1000\$	275	376	258	198	177	290	371	369	240	211	121	59	110	76
Cocoa beans	Export Quantity	Mt	82764	82580	68983	80052	89930	81696	89667	104796	116102	85810	104448	87754	61181	101021
Cocoa Butter	Export Quantity	Mt	4894	4337	3615	3038	3312	3482	4259	5970	4718	7194	4802	3530	1300	2149
Cocoa Paste	Export Quantity	Mt	4170	4154	3046	1289	4914	4755	4409	5753	6273	6876	6966	4220	3730	6556
Cocoa husks;Shell	Export Quantity	Mt	2700	2500	1000	500	799	1527	4100	7595	6195	9127	3552	0	0	59
Cocoa powder&Cake	Export Quantity	Mt	8504	8429	3000	6553	6364	5191	7605	11537	7615	6077	2250	2050	1195	2108
Cocoa beans	Export Value	1000\$	210842	145756	124272	132000	160540	134527	177167	189000	185000	142000	142426	77000	75000	39741
Cocoa Butter	Export Value	1000\$	28793	19660	13135	11170	9894	9624	20493	27410	17401	22213	13990	11000	4000	5476
Cocoa Paste	Export Value	1000\$	14700	9426	5800	2400	12000	11100	10000	11900	11100	12635	10779	6886	6250	8265
Cocoa husks;Shell	Export Value	1000\$	440	410	170	80	47	97	2078	3964	2978	4489	1698	0	0	10
Cocoa powder&Cake	Export Value	1000\$	18136	10082	3213	5900	8200	5700	5700	9000	6100	4500	1783	741	620	602

Source: FAOSTAT

Table A-1: Cameroon Cocoa (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Cocoa beans	Area Harvested	Ha	350000	360000	360000	360000	360000	370000	370000	370000	370000	375000	375000	400000	370000	378000
Cocoa beans	Yield	Kg/Ha	305.7	372.2	349.2	352.2	3472	3135	3313	3300	3378	4132	4446	4462	4447	4741
Cocoa beans	Production Quantity	Mt onnes	107000	134000	125726	126807	125000	116000	122600	122100	125000	154965	166754	178500	164553	179239
Cocoa beans	Import Quantity	Mtonnes	0	0	0	0	0	0	0	2	6	5	0	0		
Cocoa Butter	Import Quantity	Mtonnes	0	0	0	0	0	0	4	4	0	0	0	0		
Cocoa Paste	Import Quantity	Mtonnes	0	0	0	0	0	0	1	0	0	0	1	0		
Cocoahusks;Shell	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0		
Cocoa powder&Cake	Import Quantity	Mtonnes	1	0	0	14	15	1	0	4	16	1	43	60		
Cocoa beans	Import Value	1000\$	0	0	0	0	0	0	0	3	1	6	0	0	0	
Cocoa Butter	Import Value	1000\$	0	0	0	0	0	0	1	0	0	0	2	0	0	
Cocoa Paste	Import Value	1000\$	0	0	0	0	0	0	4	4	0	0	0	0	0	
Cocoahusks;Shell	Import Value	1000\$	2	0	0	15	19	1	1	10	36	3	167	182	0	
Cocoa powder&Cake	Import Value	1000\$	79	125	215	310	497	522	492	563	688	692	926	1105	182	
Cocoa beans	Export Quantity	Mtonnes	76753	105636	122216	92635	95890	104402	77381	109796	129210	126805	169773	163701		
Cocoa Butter	Export Quantity	Mtonnes	995	3703	3509	3353	3132	2266	3283	192	462	518	442	230		
Cocoa Paste	Export Quantity	Mtonnes	3186	6894	11484	11941	14689	18096	17244	26094	21759	22040	15816	17118		
Cocoahusks;Shell	Export Quantity	Mtonnes	26	70	235	197	179	377	134	415	12	13	1476	0		
Cocoa powder&Cake	Export Quantity	Mtonnes	1134	3759	4284	1796	3596	2160	3189	1	0	0	0	54		
Cocoa beans	Export Value	1000\$	92100	130920	151320	141674	145894	125283	73124	116733	187723	178936	230040	210884		
Cocoa Butter	Export Value	1000\$	2579	12529	10341	12447	11992	6344	6724	393	1311	1818	1227	490		
Cocoa Paste	Export Value	1000\$	4305	12801	19376	23294	29380	23525	19223	31359	41315	60991	34942	35212		
Cocoahusks;Shell	Export Value	1000\$	2	8	44	47	44	116	77	145	8	4	351	0		
Cocoa powder&Cake	Export Value	1000\$	343	1584	1121	953	2157	1240	4856	1	0	0	0	109		

Source: FAOSTAT

Table A-2: Cameroon Coffee

		Unit	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	372266	365849	374580	334270	337700	341040	350000	320000	310000	300000	300000	290000	290000	270000
Coffee, green	Yield	Kg/Ha	301.4	298.7	342.3	190.5	408.3	293.2	377.1	258	385	385.6	336.6	396.8	262.7	253.3
Coffee, green	Production Quantity	Mtonnes	112207	109286	128237	63700	137900	100020	132000	82560	119400	115700	100980	115080	76200	68417
Coffee Roasted	Import Quantity	Mtonnes	0	0	0	0	7	3	2	1	3	1	1	0	4	0
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes														
Coffee, green	Import Quantity	Mtonnes	36	22	1	0	690	0	0	6	9	7	0	3	1	2
Coffee Green+Roast +	Import Quantity	Mtonnes	36	22	1	0	697	3	2	7	12	8	1	3	5	2
Coffee Roasted	Import Value	1000\$	0	0	0	0	29	15	17	6	6	6	5	1	12	1
Coffee Subst. Cont.Coffee	Import Value	1000\$														
Coffee, green	Import Value	1000\$	224	49	12	0	327	0	0	0	6	7	0	10	5	4
Coffee Green+Roast +	Import Value	1000\$	224	49	12	0	356	15	17	6	12	13	5	11	17	5
Coffee Roasted	Export Quantity	Mtonnes	0	0	0	0	734	1108	1786	83	21	258	474	85	0	3
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	395	0	0	0
Coffee, green	Export Quantity	Mtonnes	91567	92613	76590	93637	102700	100365	122000	98000	95000	152007	157149	112710	104200	67058
Coffee Green+Roast +	Export Quantity	Mtonnes	91567	92613	76590	93637	103434	101473	123786	98083	95021	152265	158018	112795	104200	67061
Coffee Roasted	Export Value	1000\$	0	0	0	396	1412	3668	213	56	678	506	75	0	9	123
Coffee Subst. Cont.Coffee	Export Value	1000\$	0	0	0	0	0	0	0	0	0	0	780	0	0	0
Coffee, green	Export Value	1000\$	302654	189865	160826	195486	205600	244557	337300	205500	185000	262566	173832	117000	97000	63957
Coffee Green+Roast +	Export Value	1000\$	302654	189865	160826	195486	205996	245969	340968	205713	185056	263244	175118	117075	97000	63966

Source: FAOSTAT

Table A-2: Cameroon Coffee (continued)

		Unit	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Coffee, green	Area Harvested	Ha	250000	250000	270000	300000	300000	300000	300000	300000	140000	160000	200000	172000	200000	175000
Coffee, green	Yield	Kg/Ha	294.9	296	385.6	212	375	326.6	287.3	235	292.8	300	270	280.5	225	275.6
Coffee, green	Production Quantity	Mtonnes	73743	74000	104121	63600	112532	98000	86200	70500	41000	48000	54000	48256	45000	48240
Coffee Roasted	Import Quantity	Mtonnes	4	2	2	2	10	2	3	12	5	12	12	19		
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes						0	0	0	0	6	1	0		
Coffee, green	Import Quantity	Mtonnes	0	1	0	0	0	2	1	1	1	1	1	2		
Coffee Green+Roast +	Import Quantity	Mtonnes	4	3	2	2	10	4	4	13	6	19	14	21		
Coffee Roasted	Import Value	1000\$	9	10	3	3	86	3	15	12	8	44	50	78		
Coffee Subst. Cont.Coffee	Import Value	1000\$						0	0	0	0	8	3	0		
Coffee, green	Import Value	1000\$	0	1	0	0	3	9	1	8	3	1	5	4		
Coffee Green+Roast +	Import Value	1000\$	9	11	3	3	89	12	16	20	11	53	58	82		
Coffee Roasted	Export Quantity	Mtonnes	66	454	83	4	4	17	7	45	25	159	31	59		
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes	0	0	0	0	0	0	4	9	10	38	21	160		
Coffee, green	Export Quantity	Mtonnes	54395	62734	74039	58971	0	85654	88863	70601	47929	53325	53674	43387		
Coffee Green+Roast +	Export Quantity	Mtonnes	54461	63188	74122	58975	4	85671	88874	70655	47964	53522	53726	43606		
Coffee Roasted	Export Value	1000\$	1260	208	13	10	34	13	81	48	216	56	67			
Coffee Subst. Cont.Coffee	Export Value	1000\$	0	0	0	0	0	0	5	16	7	66	44	296		
Coffee, green	Export Value	1000\$	100000	138771	126876	89966	0	111351	94799	76022	52238	69215	76497	62989		
Coffee Green+Roast +	Export Value	1000\$	100123	140031	127084	89979	10	111385	94817	76119	52293	69497	76597	63352		

Source: FAOSTAT

Table B-1: CAR Cocoa

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Cocoa beans	Area Harvested	Ha	1000	1000	1000	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Cocoa beans	Yield	Kg/Ha	20	30	40	36.3	38	38	40	40	40.9	41.8	43.6	44.5	45.4	45.4
Cocoa beans	Production Quantity	Mtonnes	20	30	40	40	42	42	44	44	45	46	48	49	50	50
Cocoa beans	Import Quantity	Mtonnes														
Cocoa powder&Cake	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa beans	Import Value	1000\$														
Cocoa beans	Export Quantity	Mtonnes	7	20	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa beans	Export Value	1000\$	21	40	0	0	0	0	0	0	0	0	0	0	0	0
			<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Cocoa beans	Area Harvested	Ha	1100	1100	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Cocoa beans	Yield	Kg/Ha	45.4	45.4	50	50	50	50	50	50	50	50	50	50	50	50
Cocoa beans	Production Quantity	Mtonnes	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Cocoa beans	Import Quantity	Mtonnes											132	250		
Cocoa powder&Cake	Import Quantity	Mtonnes	0	0	0	14	2	0	0	0	10	2	14	32		
Cocoa beans	Import Value	1000\$											77	31		
Cocoa beans	Export Quantity	Mtonnes	0	0	0	0	37	0	0	0	18	0	0	0		
Cocoa beans	Export Value	1000\$	0	0	0	0	5	0	0	0	5	0	0	0		

Source: FAOSTAT

Table B-2: CAR Coffee

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	46967	47000	46100	25000	30000	21721	25434	29085	28534	34972	24097	25412	18000	22174
Coffee, green	Yield	Kg/Ha	357.8	361.7	368.7	616	613.3	612.3	790.2	733.9	857.9	594.9	594	693.5	502	411.4
Coffee, green	Production Quantity	Mtonnes	16808	17000	17000	15400	18400	13300	20100	21346	24482	20808	14314	17625	9036	9124
Coffee Roasted	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	1	2	2	1	4	1
Coffee, green	Import Quantity	Mtonnes	1	2	0	74	0	8	0	0	45	283	229	3	0	0
Coffee Green+Roast +	Import Quantity	Mtonnes	1	2	0	74	0	8	0	0	46	285	231	5	4	1
Coffee Roasted	Import Value	1000\$	0	0	0	0	0	0	0	0	10	7	4	5	14	3
Coffee, green	Import Value	1000\$	10	11	0	290	0	12	0	0	76	383	389	14	0	0
Coffee Green+Roast +	Import Value	1000\$	10	11	0	290	0	12	0	0	86	390	393	20	14	3
Coffee, green	Export Quantity	Mtonnes	10906	10517	19699	12562	11903	16516	10219	11154	14766	24964	13290	8523	6479	2934
Coffee, green	Export Value	1000\$	31611	18942	35208	27325	25026	36576	29393	20825	26843	40258	12711	4881	4843	1290

Source: FAOSTAT

Table B-2: CAR Coffee (continued)

			<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Coffee, green	Area Harvested	Ha	17647	19117	25000	25000	25000	25000	25000	25000	25000	12000	9000	9000	6500	6500
Coffee, green	Yield	Kg/Ha	821.6	470.7	720	600	481.4	450.4	516	492	520	460	480	366.6	396.9	369.2
Coffee, green	Production Quantity	Mtonnes	14500	9000	18000	15000	12037	11260	12900	12300	13000	5520	4320	3300	2580	2400
Coffee Roasted	Import Quantity	Mtonnes	26	22	6	27	24	16	0	33	13	2	19	12		
Coffee, green	Import Quantity	Mtonnes	0	5	5	17	1918	0	0	2	6	0	1129	1519		
Coffee Green+Roast +	Import Quantity	Mtonnes	26	27	11	44	1942	16	0	35	19	2	1148	1531		
Coffee Roasted	Import Value	1000\$	54	44	10	50	44	23	1	61	21	5	22	12		
Coffee, green	Import Value	1000\$	0	4	5	25	2713	0	0	1	6	0	598	745		
Coffee Green+Roast +	Import Value	1000\$	54	48	15	75	2757	23	1	62	27	5	620	757		
Coffee, green	Export Quantity	Mtonnes	5158	13698	5361	11805	6813	11528	12330	4691	5505	1533	1080	4055		
Coffee, green	Export Value	1000\$	1134	27396	7506	17708	4098	12995	8095	1890	1058	829	587	778		

Source: FAOSTAT

Table C-1: Côte d'Ivoire Cocoa

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Cocoa beans	Area Harvested	Ha	836700	901300	953000	952600	1028700	1099800	1173700	1233700	1566500	1373300	1566500	1412000	1450000	1450000
Cocoa beans	Yield	Kg/Ha	498.6	515.6	378.2	431.5	549.2	504.7	520.3	538.2	531.2	568.3	515.4	541.5	560.6	554.3
Cocoa beans	Production Quantity	Mtonnes	417222	464751	360445	411081	565042	555115	610680	664031	832177	780521	807501	764708	813009	803799
Cocoa beans	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa Butter	Import Quantity	Mtonnes														
Cocoa Paste	Import Quantity	Mtonnes														
Cocoapowder&Cake	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa beans	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa Butter	Import Value	1000\$														
Cocoa Paste	Import Value	1000\$														
Cocoapowder&Cake	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa beans	Export Quantity	Mtonnes	285058	438295	326307	286382	449070	419305	510622	511456	383154	714878	675525	701679	636309	789371
Cocoa Butter	Export Quantity	Mtonnes	13996	15604	15877	14447	18833	23977	24280	21425	20621	26583	34828	30407	30603	27008
Cocoa Paste	Export Quantity	Mtonnes	14236	17050	16126	18499	23022	24706	23600	29312	18615	17846	15497	19274	17539	24942
Cocoahusks;Shell	Export Quantity	Mtonnes	0	0	0	0	0	0	0	0	1220	3934	10596	2248	1000	0
Cocoapowder&Cake	Export Quantity	Mtonnes	14184	23343	22558	19591	21565	26994	32536	28810	25412	27604	32683	33206	31164	30993
Cocoa beans	Export Value	1000\$	797655	739149	499231	429121	910612	894222	1136593	1039235	697861	1020778	718152	702000	639500	798786
Cocoa Butter	Export Value	1000\$	74221	73315	62334	47555	73087	100103	100561	93931	75716	84285	100303	96863	103771	75791
Cocoa Paste	Export Value	1000\$	46133	37744	36224	39510	61066	66790	58748	70084	35420	29886	23508	29980	29039	35848
Cocoahusks;Shell	Export Value	1000\$	0	0	0	0	0	0	0	0	649	1689	3668	922	500	0
Cocoapowder&Cake	Export Value	1000\$	11856	12891	12052	17176	29561	32231	28768	17801	15429	16543	18290	14268	14224	11524

Source: FAOSTAT

Table C-1: Côte d'Ivoire Cocoa (continued)

		Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Cocoa beans	Area Harvested	Ha	1500000	1900000	1900000	1900000	1800000	1900000	2000000	1777550	1880000	2000000	2050000	1800000	1700000	1700000
Cocoa beans	Yield	Kg/Ha	539.1	589.4	650.1	589	667.2	612.1	700.5	682	672.7	675.7	686.4	714.6	737.9	764.7
Cocoa beans	Production Quantity	Mtonnes	808662	1120000	1235300	1119110	1201119	1163025	1401101	1212428	1264708	1351546	1407213	1286330	1254500	1300000
Cocoa beans	Import Quantity	Mtonnes	0	0	0	0	0	0	33	0	0	0	12484	0		
Cocoa Butter	Import Quantity	Mtonnes				18	0	0	0	5	0	0	0	0		
Cocoa Paste	Import Quantity	Mtonnes				0		5636	5636	0	0	0	0	0		
Cocoapowder&Cake	Import Quantity	Mtonnes	0	1	13	0	32	95	0	2	17	1	1	0		
Cocoa beans	Import Value	1000\$	0	0	0	0	0	0	25	0	0	0	1845	0		
Cocoa Butter	Import Value	1000\$				25	0	0	0	27	0	1	1	0		
Cocoa Paste	Import Value	1000\$				0		9704	9704	0	0	0	0	0		
Cocoapowder&Cake	Import Value	1000\$	0	3	12	1	41	106	0	3	35	4	2	0		
Cocoa beans	Export Quantity	Mtonnes	694611	741294	1053716	992939	895429	1113177	1113476	1025954	1004283	947858	1060641	990956		
Cocoa Butter	Export Quantity	Mtonnes	24104	24861	26763	29011	30337	38543	33550	44109	54221	59796	60281	58958		
Cocoa Paste	Export Quantity	Mtonnes	20291	25561	49189	58371	82860	87815	91059	116563	108957	94041	102021	111524		
Cocoahusks;Shell	Export Quantity	Mtonnes	1400	140	560	27677	34283	34600	34553	33995	37993	45070	46223	63794		
Cocoapowder&Cake	Export Quantity	Mtonnes	4700	1012	4895	4960	6397	9829	12638	20558	30926	34172	34274	35015		
Cocoa beans	Export Value	1000\$	778580	1062961	1407660	1283703	1337100	1284817	844829	1006452	1766575	1733079	1611309	1477264		
Cocoa Butter	Export Value	1000\$	73066	93857	86934	90245	114674	122762	62479	86277	146158	174953	166027	173562		
Cocoa Paste	Export Value	1000\$	34450	52869	86376	97859	173819	151588	98073	160175	246057	233553	210758	223875		
Cocoahusks;Shell	Export Value	1000\$	500	60	300	9046	15542	13893	12277	29194	64381	88553	73482	67951		
Cocoapowder&Cake	Export Value	1000\$	1735	529	1261	1268	2542	4454	11587	20633	56181	85869	63073	46287		

Source: FAOSTAT

Table C-2: Côte d'Ivoire Coffee

		Units	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Coffee, green	Area Harvested	Ha	1032700	1072700	1110500	1153400	1078600	1073400	1102200	1113400	1135200	1040000	1323900	1000000	800000	800000
Coffee, green	Yield	Kg/Ha	241.7	341.9	223	234.5	78.9	258.1	240.6	242.6	164.4	212.8	215.3	198.9	321.2	173.6
Coffee, green	Production Quantity	Mtonnes	249608	366839	247708	270581	85203	277082	265199	270130	186705	221350	285164	198909	257000	138937
Coffee Roasted	Import Quantity	Mtonnes	3	3	67	3	2	4	0	0	0	0	0	0	0	0
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes	0	2	9	0	3	1	0	0	0	0	0	0	0	0
Coffee, green	Import Quantity	Mtonnes	52	1	0	5	0	10	0	0	0	0	0	0	0	0
Coffee Green+Roast +	Import Quantity	Mtonnes	55	6	76	8	5	15	0	0	0	0	0	0	0	0
Coffee Roasted	Import Value	1000\$	15	18	109	22	16	14	0	0	0	0	0	0	0	0
Coffee Subst. Cont.Coffee	Import Value	1000\$	1	4	131	0	14	6	0	0	0	0	0	0	0	0
Coffee, green	Import Value	1000\$	232	5	0	16	0	35	0	0	0	0	0	0	0	0
Coffee Green+Roast +	Import Value	1000\$	248	27	240	38	30	55	0	0	0	0	0	0	0	0
Coffee Husks and Skins	Export Quantity	Mtonnes														
Coffee Roasted	Export Quantity	Mtonnes	136	181	150	272	177	210	200	144	98	128	85	0	0	56
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes	5	0	0	6	0	17	0	0	0	0	0	0	0	0
Coffee, green	Export Quantity	Mtonnes	206431	231107	272381	222795	187531	240566	229815	165135	203411	129434	232130	198504	203066	226339
Coffee Green+Roast +	Export Quantity	Mtonnes	206572	231288	272531	223073	187708	240793	230015	165279	203509	129562	232215	198504	203066	226395
Coffee Husks and Skins	Export Value	1000\$														
Coffee Roasted	Export Value	1000\$	382	402	361	364	348	462	596	535	408	502	368	0	0	347
Coffee Subst. Cont.Coffee	Export Value	1000\$	1	0	0	1	0	4	0	0	0	0	0	0	0	0
Coffee, green	Export Value	1000\$	645198	445418	465647	413847	421100	623340	674422	393220	389142	230858	239130	183348	166666	161047
Coffee Green+Roast +	Export Value	1000\$	645581	445820	466008	414212	421448	623806	675018	393755	389550	231360	239498	183348	166666	161394

Source: FAOSTAT

Table C-2: Côte d'Ivoire Coffee (continued)

		Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Coffee, green	Area Harvested	Ha	800000	920000	791708	819329	883279	819329	829319	602075	455090	410472	440000	440000	480000	480000
Coffee, green	Yield	Kg/Ha	181.9	211.9	211.9	340.7	352	375.1	458.2	500	399.9	341.1	350.1	217.2	346.2	356.2
Coffee, green	Production Quantity	Mtonnes	145576	194968	167786	279219	311000	307331	380000	301127	182001	140027	154081	95569	166200	171000
Coffee Roasted	Import Quantity	Mtonnes	0	11	23	12	18	31	22	26	37	44	102	54		
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	5	4		
Coffee, green	Import Quantity	Mtonnes	0	62	1	40	37	93	56	0	20	25	6	20		
Coffee Green+Roast +	Import Quantity	Mtonnes	0	73	24	52	55	125	79	26	57	69	113	78		
Coffee Roasted	Import Value	1000\$	0	57	84	49	38	72	50	73	83	176	469	407		
Coffee Subst. Cont.Coffee	Import Value	1000\$	0	1	0	0	0	0	1	1	0	0	8	9		
Coffee, green	Import Value	1000\$	0	270	5	159	98	193	111	0	17	26	5	33		
Coffee Green+Roast +	Import Value	1000\$	0	328	89	208	137	266	162	74	100	202	482	449		
Coffee Husks and Skins	Export Quantity	Mtonnes				305				0	0	0	0	0		
Coffee Roasted	Export Quantity	Mtonnes	111	175	228	109	109	111	193	171	136	180	95	103		
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes	0	0	0	24000	22866	11378	34461	11109	3404	3069	2967	1		
Coffee, green	Export Quantity	Mtonnes	122309	134659	144387	233106	214827	106114	308057	215483	144276	118350	143485	94555		
Coffee Green+Roast +	Export Quantity	Mtonnes	122420	134834	144615	257522	237803	117604	342712	226763	147816	121599	146547	94659		
Coffee Husks and Skins	Export Value	1000\$				276				0	0	0	0	0		
Coffee Roasted	Export Value	1000\$	222	513	624	235	221	338	563	333	274	343	232	205		
Coffee Subst. Cont.Coffee	Export Value	1000\$	0	0	2	20000	17638	7267	13054	2465	775	813	817	0		
Coffee, green	Export Value	1000\$	150000	339337	230000	296886	320182	141561	243893	101521	72516	77728	92174	69470		
Coffee Green+Roast +	Export Value	1000\$	150222	339850	230626	317398	338041	149168	257510	104319	73565	78884	93223	69675		

Source: FAOSTAT

Table D-1: DRC Cocoa

		Units	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Cocoa beans	Area Harvested	Ha	20500	21100	21700	22300	22900	23400	21700	18900	18700	21500	21750	22000	23000	24000
Cocoa beans	Yield	Kg/Ha	287.8	213.8	198.1	192.8	191.6	193.5	290.3	291	331.5	330.2	330.1	330.4	320	310.5
Cocoa beans	Production Quantity	Mtonnes	5900	4513	4300	4300	4388	4530	6300	5500	6200	7100	7180	7270	7361	7453
Cocoa beans	Export Quantity	Mtonnes	4177	4478	4137	4451	4274	4595	6327	5430	5103	5010	5384	4267	3049	3421
Cocoa beans	Export Value	1000\$	6941	5244	4221	7073	5182	8200	12000	9200	7600	6000	5400	3800	2700	2500
			1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Cocoa beans	Area Harvested	Ha	25000	26000	26679	24852	23148	23000	21724	20752	19167	19033	18900	18767	18633	19000
Cocoa beans	Yield	Kg/Ha	301.8	290.4	283.9	289.9	298.4	285.4	302.9	300.4	300	300	300	300	300	300
Cocoa beans	Production Quantity	Mtonnes	7547	7551	7576	7207	6909	6565	6582	6235	5750	5710	5670	5630	5590	5700
Cocoa beans	Export Quantity	Mtonnes	6224	2120	3466	3295	3131	2975	2827	1627	1381	636	1079	841		
Cocoa beans	Export Value	1000\$	6200	2100	3600	3500	3500	3300	3100	2382	1294	839	1387	827		

Source: FAOSTAT

Table D-2: DRC Coffee

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	240700	247700	254900	262400	269500	275800	292000	262700	270600	288900	290000	290000	290000	250000
Coffee, green	Yield	Kg/Ha	369.7	377	366.4	320.8	343.9	332.1	325.3	370	380.9	327.9	350.3	327.5	318.6	360.4
Coffee, green	Production Quantity	Mtonnes	89000	93400	93400	84200	92700	91600	95000	97200	103080	94740	101594	95000	92400	90109
Coffee Roasted	Import Quantity	Mtonnes														
Coffee, green	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	200	0
Coffee Green+Roast +	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	200	0
Coffee Roasted	Import Value	1000\$														
Coffee, green	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	110	0
Coffee Green+Roast +	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	110	0
Coffee, green	Export Quantity	Mtonnes	74123	67645	68004	63363	77261	65938	130380	89203	68000	98471	104268	83956	104268	55045
Coffee, green	Export Value	1000\$	166440	111610	116786	118000	201790	169640	327420	168186	116000	143200	108000	54757	60900	35000

Source: FAOSTAT

Table D-2: DRC Coffee (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Coffee, green	Area Harvested	Ha	250000	230000	232511	189997	155259	131000	114538	99649	82256	82179	82103	82026	81949	55000
Coffee, green	Yield	Kg/Ha	353.3	368.3	318.1	370	360.6	371	408.3	348.4	390	390	389.9	389.9	389.9	387.2
Coffee, green	Production Quantity	Mtonnes	88346	84714	73975	70299	55991	48605	46767	34723	32080	32050	32020	31990	31960	21300
Coffee Roasted	Import Quantity	Mtonnes				4	4	4	4	4	110	93	59	109		
Coffee, green	Import Quantity	Mtonnes	0	290	0	120	0	150	100	100	320	252	20	99		
Coffee Green+Roast +	Import Quantity	Mtonnes	0	290	0	124	4	154	104	104	430	345	79	208		
Coffee Roasted	Import Value	1000\$				7	7	7	7	7	185	260	320	557		
Coffee, green	Import Value	1000\$	0	290	0	160	0	310	100	100	468	453	70	258		
Coffee Green+Roast +	Import Value	1000\$	0	290	0	167	7	317	107	107	653	713	390	815		
Coffee, green	Export Quantity	Mtonnes	62552	60361	49263	23039	38183	23000	29200	9954	4923	5607	7478	7634		
Coffee, green	Export Value	1000\$	68400	100000	69000	39000	68000	31000	23100	3231	4614	5202	7387	9871		

Source: FAOSTAT

Table E-1: Ghana Cocoa

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Cocoa beans	Area Harvested	Ha	1200000	1200000	900000	800000	800000	900000	912000	739371	720071	700286	693249	720898	720898	702061
Cocoa beans	Yield	Kg/Ha	231	205.4	225	210.1	208.3	216	248.2	254.5	342.6	421.3	423.1	335.4	432.9	362.7
Cocoa beans	Production Quantity	Mtonnes	277200	246500	202500	168100	166700	194400	226400	188170	246700	295052	293355	241796	312122	254652
Cocoa beans	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa Butter	Import Quantity	Mtonnes														
Cocoa Paste	Import Quantity	Mtonnes														
Cocoahusks;Shell	Import Quantity	Mtonnes														
Cocoapowder&Cake	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa beans	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa Butter	Import Value	1000\$														
Cocoa Paste	Import Value	1000\$														
Cocoahusks;Shell	Import Value	1000\$														
Cocoapowder&Cake	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa beans	Export Quantity	Mtonnes	194679	192529	241531	153397	148875	171797	195774	197988	202964	250860	248970	243040	223770	255966
Cocoa Butter	Export Quantity	Mtonnes	11035	5765	7485	5440	5555	5971	5075	7234	6385	4800	7450	7725	6270	7650
Cocoa Paste	Export Quantity	Mtonnes	2365	850	805	1365	1850	1750	3525	4600	6765	4783	6350	7470	5600	7925
Cocoahusks;Shell	Export Quantity	Mtonnes	0	0	0	0	0	0	8000	11100	10000	5395	12000	3200	2100	1500
Cocoapowder&Cake	Export Quantity	Mtonnes	9764	7910	10310	6185	5785	8270	7045	9023	7150	5370	6956	6968	7458	6839
Cocoa beans	Export Value	1000\$	655921	398764	385650	242000	346956	358274	460851	475109	428938	386380	357000	315770	272310	246350
Cocoa Butter	Export Value	1000\$	69965	29011	28430	18000	23818	28264	22214	35236	23135	15626	24556	22650	17070	18860
Cocoa Paste	Export Value	1000\$	8941	2306	2088	2833	5733	4726	8819	12444	12570	8095	10127	9620	7250	11640
Cocoahusks;Shell	Export Value	1000\$	0	0	0	0	0	0	3000	4500	3800	2250	5000	640	400	240
Cocoapowder&Cake	Export Value	1000\$	5061	2450	2553	3000	3813	1989	1787	2650	2626	3150	2098	2100	2000	3540

Source: FAOSTAT

Table E-1: Ghana Cocoa (continued)

		Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Cocoa beans	Area Harvested	Ha	686531	1000000	1050000	1074970	1364530	1300000	1500000	1350000	1195000	1500000	2000000	1850000	1835000	1725000
Cocoa beans	Yield	Kg/Ha	419.6	403.9	383.8	300	300	334	291	288.5	284.9	331.3	368.5	400	400	400
Cocoa beans	Production Quantity	Mtonnes	288075	403900	403000	322490	409360	434200	436600	389591	340562	497000	737000	740000	734000	690000
Cocoa beans	Import Quantity	Mtonnes	0	0	13	0	51	10	0	0	1	0	840	0		
Cocoa Butter	Import Quantity	Mtonnes							0	0	0	0	0	11		
Cocoa Paste	Import Quantity	Mtonnes			1	0	0	0	0	0	6	6	6	12		
Cocoahusks;Shell	Import Quantity	Mtonnes												0		
Cocoapowder&Cake	Import Quantity	Mtonnes	0	0	0	0	0	14	0	1	1	204	1	17		
Cocoa beans	Import Value	1000\$	0	0	8	0	38	5	0	0	0	15	83	0		
Cocoa Butter	Import Value	1000\$							0	0	0	0	0	2		
Cocoa Paste	Import Value	1000\$			1	1	0	0	1	0	3	3	3	38		
Cocoahusks;Shell	Import Value	1000\$												0		
Cocoapowder&Cake	Import Value	1000\$	0	0	0	1	0	6	0	0	0	707	6	57		
Cocoa beans	Export Quantity	Mtonnes	238269	238841	429751	235648	292838	280914	360250	335500	310738	350971	640328	535298		
Cocoa Butter	Export Quantity	Mtonnes	3900	3475	33496	23131	17416	14913	16732	9517	17839	22000	17000	18000		
Cocoa Paste	Export Quantity	Mtonnes	5885	8757	5690	4970	3643	0	7538	3971	13127	15500	20384	18314		
Cocoahusks;Shell	Export Quantity	Mtonnes	6500	6500	3531	11534	9066	8845	6318	7930	13295	13988	18750	9693		
Cocoapowder&Cake	Export Quantity	Mtonnes	4365	2190	2350	23637	17414	21130	19599	12490	15781	21000	23800	16582		
Cocoa beans	Export Value	1000\$	295820	327000	610869	368311	465959	410652	404200	396000	480964	700200	850000	792151		
Cocoa Butter	Export Value	1000\$	12850	12200	88394	75400	41100	39673	31104	17286	38532	60000	63600	76150		
Cocoa Paste	Export Value	1000\$	10600	15460	11000	9877	5378	0	11594	5477	20953	31000	41600	35490		
Cocoahusks;Shell	Export Value	1000\$	240	1090	1003	2279	1075	3299	2204	2579	3987	4397	8834	3026		
Cocoapowder&Cake	Export Value	1000\$	1770	1000	1000	3481	4551	10240	5862	4081	12806	21000	20000	7788		

Source: FAOSTAT

Table E-2: Ghana Coffee

		Units	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Coffee, green	Area Harvested	Ha	8000	8000	10000	9000	5000	5000	5000	5000	10000	10000	10000	10000	10000	10000
Coffee, green	Yield	Kg/Ha	187.5	187.5	150	144.4	140	100	106.2	158.2	37.7	70	100	230	240	400
Coffee, green	Production Quantity	Mtonnes	1500	1500	1500	1300	700	500	531	791	377	700	1000	2300	2400	4000
Coffee Husks and Skins	Import Quantity	Mtonnes														
Coffee Roasted	Import Quantity	Mtonnes														
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes														
Coffee, green	Import Quantity	Mtonnes	0	55	4	14	0	0	0	0	0	0	0	0	0	0
Coffee Green+Roast +	Import Quantity	Mtonnes	0	55	4	14	0	0	0	0	0	0	0	0	0	0
Coffee Husks and Skins	Import Value	1000\$														
Coffee Roasted	Import Value	1000\$														
Coffee Subst. Cont.Coffee	Import Value	1000\$														
Coffee, green	Import Value	1000\$	0	141	40	70	0	0	0	0	0	0	0	0	0	0
Coffee Green+Roast +	Import Value	1000\$	0	141	40	70	0	0	0	0	0	0	0	0	0	0
Coffee Husks and Skins	Export Quantity	Mtonnes														
Coffee Roasted	Export Quantity	Mtonnes														
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes														
Coffee, green	Export Quantity	Mtonnes	104	1073	764	670	480	420	560	720	900	660	660	960	1900	2800
Coffee Green+Roast +	Export Quantity	Mtonnes	104	1073	764	670	480	420	560	720	900	660	660	960	1900	2800
Coffee Husks and Skins	Export Value	1000\$														
Coffee Roasted	Export Value	1000\$														
Coffee Subst. Cont.Coffee	Export Value	1000\$														
Coffee, green	Export Value	1000\$	270	1339	1423	1784	1194	964	1200	1600	1700	870	650	850	1700	1400
Coffee Green+Roast +	Export Value	1000\$	270	1339	1423	1784	1194	964	1200	1600	1700	870	650	850	1700	1400

Source: FAOSTAT

Table E-2: Ghana Coffee (continued)

		Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Coffee, green	Area Harvested	Ha	10000	10000	15000	7200	20930	19000	10000	8000	8000	5000	6500	7000	9000	10000
Coffee, green	Yield	Kg/Ha	300	300	422	400	400	208.6	195.6	172.3	183	180	175.3	171.4	166.6	165
Coffee, green	Production Quantity	Mtonnes	3000	3000	6330	2880	8370	3965	1956	1379	1464	900	1140	1200	1500	1650
Coffee Husks and Skins	Import Quantity	Mtonnes														255
Coffee Roasted	Import Quantity	Mtonnes			19	12	10	13	17	10	6	11	7	7		
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes			0	1	1	1	4	5	2	3	4	0		
Coffee, green	Import Quantity	Mtonnes	0	0	5	4	4	3	13	12	51	74	1	6		
Coffee Green+Roast +	Import Quantity	Mtonnes	0	0	24	17	15	17	36	27	59	88	12	268		
Coffee Husks and Skins	Import Value	1000\$														709
Coffee Roasted	Import Value	1000\$			49	53	45	56	50	42	19	96	71	51		
Coffee Subst. Cont.Coffee	Import Value	1000\$			2	2	3	5	13	8	3	8	17	0		
Coffee, green	Import Value	1000\$	0	0	11	8	10	16	56	44	144	60	4	19		
Coffee Green+Roast +	Import Value	1000\$	0	0	62	63	58	77	121	94	166	164	92	779		
Coffee Husks and Skins	Export Quantity	Mtonnes														76
Coffee Roasted	Export Quantity	Mtonnes			1	0	0	3	6	0	15	3	2	0		
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes							23	0	0	0	0	0		
Coffee, green	Export Quantity	Mtonnes	660	2300	1478	3427	6049	5736	5406	1795	1326	1263	689	698		
Coffee Green+Roast +	Export Quantity	Mtonnes	660	2300	1479	3427	6049	5739	5436	1795	1341	1266	691	774		
Coffee Husks and Skins	Export Value	1000\$														87
Coffee Roasted	Export Value	1000\$			3	0	0	12	9	0	17	9	8	0		
Coffee Subst. Cont.Coffee	Export Value	1000\$							20	1	1	0	0	0		
Coffee, green	Export Value	1000\$	730	4800	2498	4073	4369	5550	5943	965	643	1200	708	410		
Coffee Green+Roast +	Export Value	1000\$	730	4800	2501	4073	4369	5562	5973	966	661	1209	716	497		

Source: FAOSTAT

Table F-1: Liberia Cocoa

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Cocoa beans	Area Harvested	Ha	16000	25000	25000	25000	25000	25900	25900	29412	25900	30000	14000	5000	5000	4000
Cocoa beans	Yield	Kg/Ha	231.8	270	840	228.4	246	193	154.4	105.3	115.8	200	142.8	100	92	77.5
Cocoa beans	Production Quantity	Mtonnes	3709	6728	4600	5710	6150	5000	4000	3100	3000	6000	2000	500	460	310
Cocoa beans	Import Quantity	Mtonnes	8	2	2	0	7	0	0	0	0	0	0	0	0	0
Cocoapowder&Cake	Import Quantity	Mtonnes	2	0	0	0	1	2	6	0	0	0	0	0	0	130
Cocoa beans	Import Value	1000\$	7	2	6	0	6	0	0	0	0	0	0	0	0	0
Cocoapowder&Cake	Import Value	1000\$	5	0	0	0	3	4	13	0	0	0	0	0	0	155
Cocoa beans	Export Quantity	Mtonnes	3709	6728	4598	5706	6149	4977	3936	2360	2782	3074	3200	1530	460	310
Cocoa beans	Export Value	1000\$	10486	13771	8775	11482	15297	11177	8920	5047	4793	4000	3600	1500	460	290

Source: FAOSTAT

Table F-1: Liberia Cocoa (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Cocoa beans	Area Harvested	Ha	4000	5400	5400	5000	15000	15000	24000	10000	10000	15000	15000	17000	17000	17000
Cocoa beans	Yield	Kg/Ha	91.2	129.6	129.6	120	133.3	133.3	129	100	150	166.6	166.6	176.4	176.4	176.4
Cocoa beans	Production Quantity	Mtonnes	365	700	700	600	2000	2000	3100	1000	1500	2500	2500	3000	3000	3000
Cocoa beans	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	100	100	100		
Cocoapowder&Cake	Import Quantity	Mtonnes	15	0	0	0	0	0	0	0	0	4	16	25		
Cocoa beans	Import Value	1000\$	0	0	0	0	0	0	0	0	0	156	156	156		
Cocoapowder&Cake	Import Value	1000\$	25	0	0	0	0	0	0	0	0	10	84	59		
Cocoa beans	Export Quantity	Mtonnes	365	40	890	545	2090	1850	3100	932	1208	2133	1760	2670		
Cocoa beans	Export Value	1000\$	420	40	950	580	2200	2000	3400	800	1004	3948	2400	3750		

Source: FAOSTAT

Table F-2: Liberia Coffee

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	28000	25000	25000	20000	20000	20000	18800	18000	17000	18000	15000	13000	16000	15000
Coffee, green	Yield	Kg/Ha	455	336	469.3	375	575	450	478.7	233.3	211.7	266.6	106.6	100	187.5	200
Coffee, green	Production Quantity	Mtonnes	12742	8400	11734	7500	11500	9000	9000	4200	3600	4800	1600	1300	3000	3000
Coffee Roasted	Import Quantity	Mtonnes	10	4	1	2	4	1	0	0	0	0	0	0	0	60
Coffee, green	Import Quantity	Mtonnes	21	3	7	20	50	15	0	0	0	0	0	0	35	460
Coffee Green+Roast +	Import Quantity	Mtonnes	31	7	8	22	54	16	0	0	0	0	0	0	35	520
Coffee Roasted	Import Value	1000\$	24	11	3	7	16	13	0	0	0	0	0	0	0	120
Coffee, green	Import Value	1000\$	16	2	8	19	39	14	0	0	0	0	0	0	40	500
Coffee Green+Roast +	Import Value	1000\$	40	13	11	26	55	27	0	0	0	0	0	0	40	620
Coffee, green	Export Quantity	Mtonnes	12742	8305	10036	7417	4905	11090	8403	4750	3600	4800	1600	0	0	0
Coffee, green	Export Value	1000\$	32953	19351	22787	18164	13744	27289	16072	9989	6200	7600	1700	0	0	0

Source: FAOSTAT

Table F-2: Liberia Coffee (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Coffee, green	Area Harvested	Ha	15000	15000	15000	15000	15000	15000	16000	16000	16000	16000	16000	16000	16000	18000
Coffee, green	Yield	Kg/Ha	200	200	200	200	200	200	187.5	200	200	200	200	200	200	200
Coffee, green	Production Quantity	Mtonnes	3000	3000	3000	3000	3000	3000	3000	3200	3200	3200	3200	3200	3200	3600
Coffee Roasted	Import Quantity	Mtonnes	5	5	0	20	5	25	0	0	0	11	18	3		
Coffee, green	Import Quantity	Mtonnes	0	0	0	110	0	0	0	40	40	40	0	0		
Coffee Green+Roast +	Import Quantity	Mtonnes	5	5	0	130	5	25	0	40	40	51	18	3		
Coffee Roasted	Import Value	1000\$	20	15	0	85	15	85	0	0	2	32	100	19		
Coffee, green	Import Value	1000\$	0	0	0	160	0	0	0	25	25	25	1	0		
Coffee Green+Roast +	Import Value	1000\$	20	15	0	245	15	85	0	25	27	57	101	19		
Coffee, green	Export Quantity	Mtonnes	0	0	0	0	0	915	210	320	346	396	396	47		
Coffee, green	Export Value	1000\$	0	0	0	0	0	1185	180	280	192	338	338	54		

Source: FAOSTAT

Table G-1: Nigeria Cocoa

		Units	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Cocoa beans	Area Harvested	Ha	700000	700000	700000	700000	700000	700000	700000	700000	700000	708000	715000	726000	730000	735000
Cocoa beans	Yield	Hg/Ha	2185	2485	2228	2000	2297	2285	2114	2142	3614	3615	3412	3691	4000	4163
Cocoa beans	Production Quantity	Mtonnes	153000	174000	156000	140000	160800	160000	148000	150000	253000	256000	244000	268000	292000	306000
Cocoa beans	Import Quantity	Mtonnes	0	0	0	50	0	0	0	0	0	0	0	0	152	2567
Cocoa Butter	Import Quantity	Mtonnes									2	3	71	1	125	281
Cocoa Paste	Import Quantity	Mtonnes									0	0	0	0	0	92
Cocoahusks;Shell	Import Quantity	Mtonnes									0	196	25	0	72	350
Cocoapowder&Cake	Import Quantity	Mtonnes	0	0	1700	3317	550	0	36	128	715	0	45	163	174	400
Cocoa beans	Import Value	1000\$	0	0	0	73	0	0	0	0	0	0	0	0	119	2745
Cocoa Butter	Import Value	1000\$									4	9	128	1	114	245
Cocoa Paste	Import Value	1000\$									0	0	0	0	0	182
Cocoahusks;Shell	Import Value	1000\$									0	173	25	0	94	469
Cocoapowder&Cake	Import Value	1000\$	0	0	1500	4333	570	0	78	280	279	0	34	185	23	118
Cocoa beans	Export Quantity	Mtonnes	133861	194567	136656	206024	130800	92891	148426	106000	211766	138940	147915	155691	108024	152079
Cocoa Butter	Export Quantity	Mtonnes	8125	9643	10461	10299	7471	11218	8947	3930	5275	7539	3072	4344	1910	5586
Cocoa Paste	Export Quantity	Mtonnes	0	0	500	0	0	0	2774	1400	165	6	135	0	0	88
Cocoahusks;Shell	Export Quantity	Mtonnes									2	0	0	0	0	0
Cocoapowder&Cake	Export Quantity	Mtonnes	8800	9341	6960	11897	12912	12052	14453	5740	3116	2497	2398	360	815	2667
Cocoa beans	Export Value	1000\$	210842	145756	124272	132000	160540	134527	177167	189000	185000	142000	142426	77000	75000	39741
Cocoa Butter	Export Value	1000\$	28793	19660	13135	11170	9894	9624	20493	27410	17401	22213	13990	11000	4000	5476
Cocoa Paste	Export Value	1000\$	14700	9426	5800	2400	12000	11100	10000	11900	11100	12635	10779	6886	6250	8265
Cocoahusks;Shell	Export Value	1000\$	440	410	170	80	47	97	2078	3964	2978	4489	1698	0	0	10
Cocoapowder&Cake	Export Value	1000\$	18136	10082	3213	5900	8200	5700	5700	9000	6100	4500	1783	741	620	602

Source: FAOSTAT

Table G-1: Nigeria Cocoa (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Cocoa beans	Area Harvested	Ha	751000	788000	739000	739000	743000	744500	966000	966000	1030000	1002000	1062000	1062000	1104000	1110000
Cocoa beans	Yield	Hg/Ha	4300	2576	4370	4303	4979	3022	3498	3519	3514	3842	3879	4152	4393	4504
Cocoa beans	Production Quantity	Mtonnes	323000	203000	323000	318000	370000	225000	338000	340000	362000	385000	412000	441000	485000	500000
Cocoa beans	Import Quantity	Mtonnes	0	427	0	0	0	0	0	0	966	0	0	0		
Cocoa Butter	Import Quantity	Mtonnes		0	0	0	0	0	1	5	2	2	15	0		
Cocoa Paste	Import Quantity	Mtonnes		0	0	0	0	0	3	0	0	0	0	20		
Cocoahusks;Shell	Import Quantity	Mtonnes		63	63	63	63	63	0	0	0	0	0	39		
Cocoapowder&Cake	Import Quantity	Mtonnes	0	0	0	0	0	0	12	255	1577	1455	476	160		
Cocoa beans	Import Value	1000\$	0	442	0	0	0	0	0	0	1263	0	0	0		
Cocoa Butter	Import Value	1000\$		0	0	0	0	0	4	7	2	2	17	0		
Cocoa Paste	Import Value	1000\$		0	0	0	0	0	0	0	0	0	1	60		
Cocoahusks;Shell	Import Value	1000\$		57	57	57	57	57	0	0	0	0	0	12		
Cocoapowder&Cake	Import Value	1000\$	0	0	0	0	0	0	10	325	3110	3045	907	320		
Cocoa beans	Export Quantity	Mtonnes	142361	132713	170009	140000	128065	196377	139000	175272	180723	230560	255000	267700		
Cocoa Butter	Export Quantity	Mtonnes	4229	4267	6236	2775	1944	8500	22	5550	6759	8435	7622	9010		
Cocoa Paste	Export Quantity	Mtonnes	0	126	1986	1100	232	440	661	1100	1768	610	354	1530		
Cocoahusks;Shell	Export Quantity	Mtonnes		0	0	0	0	0	0	0	0	1155	422	20		
Cocoapowder&Cake	Export Quantity	Mtonnes	1307	1875	3834	3200	4800	3300	5138	2200	1587	1820	3031	3580		
Cocoa beans	Export Value	1000\$	92100	130920	151320	141674	145894	125283	73124	116733	187723	178936	230040	210884		
Cocoa Butter	Export Value	1000\$	2579	12529	10341	12447	11992	6344	6724	393	1311	1818	1227	490		
Cocoa Paste	Export Value	1000\$	4305	12801	19376	23294	29380	23525	19223	31359	41315	60991	34942	35212		
Cocoahusks;Shell	Export Value	1000\$	2	8	44	47	44	116	77	145	8	4	351	0		
Cocoapowder&Cake	Export Value	1000\$	343	1584	1121	953	2157	1240	4856	1	0	0	0	109		

Source: FAOSTAT

Table G-2: Nigeria Coffee

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	7000	6000	6000	6000	8000	12000	2400	3000	3000	3400	3400	3500	3600	3700
Coffee, green	Yield	Hg/Ha	5000	5000	5000	5000	5000	5000	5000	5000	5233	7558	8911	9142	9388	9675
Coffee, green	Production Quantity	Mtonnes	3500	3000	3000	3000	4000	6000	1200	1500	1570	2570	3030	3200	3380	3580
Coffee Husks and Skins	Import Quantity	Mtonnes														
Coffee Roasted	Import Quantity	Mtonnes									72	189	136	1055	237	329
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes									31	57	23	29	82	40
Coffee, green	Import Quantity	Mtonnes	0	18	10	18	110	68	202	0	81	10	206	78	211	669
Coffee Green+Roast +	Import Quantity	Mtonnes	0	18	10	18	110	68	202	0	184	256	365	1162	530	1038
Coffee Husks and Skins	Import Value	1000\$														
Coffee Roasted	Import Value	1000\$									88	167	110	710	181	428
Coffee Subst. Cont.Coffee	Import Value	1000\$									43	77	34	44	103	51
Coffee, green	Import Value	1000\$	0	64	28	64	282	158	183	0	47	21	112	52	201	660
Coffee Green+Roast +	Import Value	1000\$	0	64	28	64	282	158	183	0	178	265	256	806	485	1139
Coffee Roasted	Export Quantity	Mtonnes									72	138	90	125	170	246
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes									156	55	0	0	0	430
Coffee, green	Export Quantity	Mtonnes	2200	1550	1945	2848	149	72	482	1100	813	182	19	19	234	564
Coffee Green+Roast +	Export Quantity	Mtonnes	2200	1550	1945	2848	149	72	482	1100	1041	375	109	144	404	1240
Coffee Roasted	Export Value	1000\$									137	226	58	112	201	427
Coffee Subst. Cont.Coffee	Export Value	1000\$									288	72	0	0	0	265
Coffee, green	Export Value	1000\$	6800	2473	3148	5588	126	176	1200	1800	951	299	14	8	139	338
Coffee Green+Roast +	Export Value	1000\$	6800	2473	3148	5588	126	176	1200	1800	1376	597	72	120	340	1030

Source: FAOSTAT

Table G-2: Nigeria Coffee (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Coffee, green	Area Harvested	Ha	4000	4000	4000	4000	4000	3130	3190	3210	3330	3540	3580	3670	3710	3750
Coffee, green	Yield	Hg/Ha	9300	7725	9450	9250	9250	11980	12006	11993	12312	12316	13016	13596	14393	14400
Coffee, green	Production Quantity	Mtonnes	3720	3090	3780	3700	3700	3750	3830	3850	4100	4360	4660	4990	5340	5400
Coffee Husks and Skins	Import Quantity	Mtonnes									9	0	0	0		
Coffee Roasted	Import Quantity	Mtonnes		190	190	20	5	20	10	10	74	155	23	21		
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes		59	59	59	59	59	0	30	1	30	21	151		
Coffee, green	Import Quantity	Mtonnes	0	90	162	0	55	35	145	320	486	70	16	8		
Coffee Green+Roast +	Import Quantity	Mtonnes	0	339	411	79	119	114	155	360	570	255	60	180		
Coffee Husks and Skins	Import Value	1000\$									1	0	1	0		
Coffee Roasted	Import Value	1000\$		380	380	80	30	150	55	45	212	420	312	207		
Coffee Subst. Cont.Coffee	Import Value	1000\$		108	108	108	108	108	0	80	1	80	122	306		
Coffee, green	Import Value	1000\$	0	81	450	0	165	40	110	160	355	55	105	120		
Coffee Green+Roast +	Import Value	1000\$	0	569	938	188	303	298	165	285	569	555	540	633		
Coffee Roasted	Export Quantity	Mtonnes		131	15	0	0	15	0	0	0	0	0	0	11	
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes		0	0	0	0	0	0	0	0	0	0	0	1	
Coffee, green	Export Quantity	Mtonnes	480	773	786	750	580	400	305	335	316	520	48	276		
Coffee Green+Roast +	Export Quantity	Mtonnes	480	904	801	750	580	415	305	335	316	520	48	288		
Coffee Roasted	Export Value	1000\$		291	25	0	0	35	0	0	0	0	1	6		
Coffee Subst. Cont.Coffee	Export Value	1000\$		0	0	0	0	0	0	0	0	0	0	1		
Coffee, green	Export Value	1000\$	720	1193	1200	1700	1150	700	310	325	292	730	46	516		
Coffee Green+Roast +	Export Value	1000\$	720	1484	1225	1700	1150	735	310	325	292	730	47	523		

Source: FAOSTAT

Table H-1: Sierra Leone Cocoa

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Cocoa beans	Area Harvested	Ha	21000	22000	35000	30000	40000	45000	50000	55000	52000	55000	57500	62500	20000	20000
Cocoa beans	Yield	Kg/Ha	404.6	410.2	431.4	416.6	415	413.3	418	427.2	455.7	440	417.3	384	270	270
Cocoa beans	Production Quantity	Mtonnes	8497	9026	15100	12500	16600	18600	20900	23500	23700	24200	24000	24000	5400	5400
Cocoa beans	Import Quantity	Mtonnes														
Cocoa Butter	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoapowder&Cake	Import Quantity	Mtonnes	5	0	2	3	5	0	0	0	0	0	0	0	0	0
Cocoa beans	Import Value	1000\$														
Cocoa Butter	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoapowder&Cake	Import Value	1000\$	18	0	11	4	21	0	0	0	0	0	0	0	0	0
Cocoa beans	Export Quantity	Mtonnes	8497	9026	9043	8315	10289	10224	8586	8779	8531	8202	4700	12600	3900	3525
Cocoa Butter	Export Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	160	560	250	20
Cocoapowder&Cake	Export Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	300	80	350	0
Cocoa beans	Export Value	1000\$	22739	13662	14602	13579	23180	21318	23405	20893	12221	9168	6423	13000	4000	3665
Cocoa Butter	Export Value	1000\$	0	0	0	0	0	0	0	0	0	0	200	1670	630	40
Cocoapowder&Cake	Export Value	1000\$	0	0	0	0	0	0	0	0	0	0	150	30	110	0

Source: FAOSTAT

Table H-1: Sierra Leone Cocoa (continued)

		Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Cocoa beans	Area Harvested	Ha	32000	27000	27000	35000	35000	30000	30000	30000	30000	33000	33000	33000	38000	33000
Cocoa beans	Yield	Kg/Ha	366.7	370.3	370.3	371.4	371.4	364	366.6	366.6	366.6	363.6	363.6	363.6	366.8	363.6
Cocoa beans	Production Quantity	Mtonnes	11737	10000	10000	13000	13000	10920	11000	11000	11000	12000	12000	12000	13940	12000
Cocoa beans	Import Quantity	Mtonnes									1433	0	0	72		
Cocoa Butter	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	23	23	23	23		
Cocoapowder&Cake	Import Quantity	Mtonnes	0	0	0	0	0	0	10	10	69	15	30	17		
Cocoa beans	Import Value	1000\$									1213	0	0	101		
Cocoa Butter	Import Value	1000\$	0	0	0	0	0	0	0	0	48	48	48	48		
Cocoapowder&Cake	Import Value	1000\$	0	0	0	0	0	0	17	17	63	46	67	34		
Cocoa beans	Export Quantity	Mtonnes	3400	2800	4000	2900	2730	2870	1500	2453	2566	4608	7387	11088		
Cocoa Butter	Export Quantity	Mtonnes	30	0	0	0	0	0	0	0	0	0	0	0		
Cocoapowder&Cake	Export Quantity	Mtonnes	0	10	0	0	0	0	0	0	0	0	0	0		
Cocoa beans	Export Value	1000\$	4300	3600	5000	4000	3800	3500	1700	2586	3605	8065	10428	14078		
Cocoa Butter	Export Value	1000\$	60	0	0	0	0	0	0	0	0	0	0	0		
Cocoapowder&Cake	Export Value	1000\$	0	5	0	0	0	0	0	0	0	0	0	0		

Source: FAOSTAT

Table H-2: Sierra Leone Coffee

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	8000	8000	8000	9000	10000	11000	11000	11000	10500	10200	11200	11500	11304	10739
Coffee, green	Yield	Kg/Ha	1268.2	1161	1082.2	1833.3	1800	2363.6	2100	2200	2409.5	2509.8	2303.5	2260.8	2300	2300
Coffee, green	Production Quantity	Mtonnes	10146	9288	8658	16500	18000	26000	23100	24200	25300	25600	25800	26000	26000	24700
Coffee Husks and Skins	Import Quantity	Mtonnes														
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes														
Coffee Green+Roast +	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee Husks and Skins	Import Value	1000\$														
Coffee Subst. Cont.Coffee	Import Value	1000\$														
Coffee Green+Roast +	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee, green	Export Quantity	Mtonnes	9909	9288	8658	5562	1924	10237	7383	5681	8026	5246	8200	6200	4323	3255
Coffee Green+Roast +	Export Quantity	Mtonnes	9909	9288	8658	5562	1924	10237	7383	5681	8026	5246	8200	6200	4323	3255
Coffee, green	Export Value	1000\$	27891	16982	14559	9983	4410	27813	19577	17312	14243	7997	8072	5900	2782	2551
Coffee Green+Roast +	Export Value	1000\$	27891	16982	14559	9983	4410	27813	19577	17312	14243	7997	8072	5900	2782	2551

Source: FAOSTAT

Table H-2: Sierra Leone Coffee (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Coffee, green	Area Harvested	Ha	15000	14000	14000	14000	14000	14000	9000	9000	9000	10000	11000	11000	11000	11000
Coffee, green	Yield	Kg/Ha	1853.6	1787.5	1785.7	2192.8	1785.7	1096.4	1666.6	1666.6	1666.6	1700	1636.3	1636.3	1636.3	1636.3
Coffee, green	Production Quantity	Mtonnes	27805	25025	25000	30700	25000	15350	15000	15000	15000	17000	18000	18000	18000	18000
Coffee Husks and Skins	Import Quantity	Mtonnes									21	0	0	0		
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes									3	3	6	6		
Coffee Green+Roast +	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	24	3	6	6		
Coffee Husks and Skins	Import Value	1000\$									19	0	0	0		
Coffee Subst. Cont.Coffee	Import Value	1000\$									5	18	28	28		
Coffee Green+Roast +	Import Value	1000\$	0	0	0	0	0	0	0	0	24	18	28	28		
Coffee, green	Export Quantity	Mtonnes	3778	4700	1600	2900	2500	1350	2100	1237	3156	2038	950	634		
Coffee Green+Roast +	Export Quantity	Mtonnes	3778	4700	1600	2900	2500	1350	2100	1237	3156	2038	950	634		
Coffee, green	Export Value	1000\$	4339	9300	2600	6500	4400	1850	2000	1701	1601	1337	592	547		
Coffee Green+Roast +	Export Value	1000\$	4339	9300	2600	6500	4400	1850	2000	1701	1601	1337	592	547		

Source: FAOSTAT

Table I-1: Sao Tomé and Príncipe Cocoa

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Cocoa beans	Area Harvested	Ha	33000	33000	30000	30000	25000	25000	25000	25000	26000	25262	24162	24162	24162	24162
Cocoa beans	Yield	Kg/Ha	1727	1970	1700	1567	1351	1539	1613	1583	1942	1467	1158	1185	1733	1859
Cocoa beans	Production Quantity	Mtonnes	5700	6500	5100	4700	3378	3848	4032	3957	5050	3707	2799	2862	4188	4492
Cocoa beans	Export Quantity	Mtonnes	7335	3756	4870	3488	4852	3005	4150	3550	6415	3313	3245	4759	4363	3725
Cocoa beans	Export Value	1000\$	10087	5867	7997	6871	10403	6277	8132	7676	10414	4043	3249	4414	3685	3838
			<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Cocoa beans	Area Harvested	Ha	24000	20000	19000	16000	20000	22000	24000	24000	24000	24500	24500	24500	22000	22000
Cocoa beans	Yield	Kg/Ha	1875	1836	1975	1961	1964	1908	1424	1333	1333	1429	1429	1429	1363	1590
Cocoa beans	Production Quantity	Mtonnes	4500	3671	3753	3138	3928	4197	3418	3200	3200	3500	3500	3500	3000	3500
Cocoa beans	Export Quantity	Mtonnes	3160	4577	4415	2935	2698	3700	3500	3265	3182	3356	2601	2631		
Cocoa beans	Export Value	1000\$	5168	5200	2637	3916	3293	4900	3600	3323	4615	6351	4006	4113		

Source: FAOSTAT

Table I-2: Sao Tome and Principe Coffee

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	500	500	500	500	450	120	200	100	300	100	300	110	110	170
Coffee, green	Yield	Kg/Ha	120	120	120	120	120	116.6	110	90	103.3	80	123.3	100	118	117.6
Coffee, green	Production Quantity	Mtonnes	60	60	60	60	54	14	22	9	31	8	37	11	13	20
Coffee Roasted	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee, green	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee Green+Roast +	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee Roasted	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee, green	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee Green+Roast +	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee, green	Export Quantity	Mtonnes	20	20	40	30	13	11	9	5	0	0	6	4	0	5
Coffee, green	Export Value	1000\$	55	57	98	60	39	36	30	20	0	0	14	12	0	19

Source: FAOSTAT

Table I-2: STP Coffee (continued)

		Units	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Coffee, green	Area Harvested	Ha	190	180	200	330	300	450	180	180	200	200	220	225	180	180
Coffee, green	Yield	Kg/Ha	115.7	94.4	105	136.3	200	128.8	100	122.2	125	125	122.7	124.4	111	111
Coffee, green	Production Quantity	Mtonnes	22	17	21	45	36	58	18	22	25	25	27	28	20	20
Coffee Roasted	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	1	1	2	2		
Coffee, green	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	51	0	261	0		
Coffee Green+Roast +	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	52	1	263	2		
Coffee Roasted	Import Value	1000\$	0	0	0	0	0	0	0	0	4	9	15	20		
Coffee, green	Import Value	1000\$	0	0	0	0	0	0	0	0	52	0	195	2		
Coffee Green+Roast +	Import Value	1000\$	0	0	0	0	0	0	0	0	56	9	210	22		
Coffee, green	Export Quantity	Mtonnes	6	5	0	5	6	11	14	95	11	0	0	1		
Coffee, green	Export Value	1000\$	33	25	0	24	16	50	53	370	34	0	0	9		

Source: FAOSTAT

Table J-1: Togo Cocoa

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Cocoa beans	Area Harvested	Ha	36000	36000	36000	36000	36000	36000	36000	36000	36000	36000	34000	28000	30000	32000
Cocoa beans	Yield	Kg/Ha	452.7	305.5	272.2	461.1	272	396.4	349.5	307.1	229.5	212.3	200.4	146.4	200	225
Cocoa beans	Production Quantity	Mtonnes	16300	11000	9800	16600	9795	14272	12585	11057	8265	7646	6814	4100	6000	7200
Cocoa beans	Import Quantity	Mtonnes	0	0	0	0	4200	0	0	0	0	0	0	0	0	1
Cocoa Butter	Import Quantity	Mtonnes														
Cocoa Paste	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Cocoapowder&Cake	Import Quantity	Mtonnes	0	0	0	0	0	0	0	1	1	0	29	18	3	1
Cocoa beans	Import Value	1000\$	0	0	0	0	8000	0	0	0	0	0	0	0	0	0
Cocoa Butter	Import Value	1000\$														
Cocoa Paste	Import Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	2	0	1
Cocoapowder&Cake	Import Value	1000\$	0	0	0	0	0	0	0	3	3	0	39	23	3	1
Cocoa beans	Export Quantity	Mtonnes	14507	18252	10113	9200	21301	6719	12787	13285	10825	6537	7820	6279	6142	5446
Cocoa Butter	Export Quantity	Mtonnes														
Cocoahusks;Shell	Export Quantity	Mtonnes	0	0	0	0	0	0	0	0	10	22	0	0	0	0
Cocoa beans	Export Value	1000\$	38705	29120	17163	14571	48300	13098	27477	27763	22030	12348	15185	10966	10205	5146
Cocoa Butter	Export Value	1000\$														
Cocoahusks;Shell	Export Value	1000\$	0	0	0	0	0	0	0	0	4	9	0	0	0	0

Source: FAOSTAT

Table J-1: Togo Cocoa (continued)

		Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Cocoa beans	Area Harvested	Ha	21000	21400	21400	15000	28000	21400	21400	21400	18000	19000	35000	90000	104000	104000
Cocoa beans	Yield	Kg/Ha	261.9	280.3	663.5	386.6	435.7	327.1	308.4	303.7	3333	415.7	620	655.5	701.9	673
Cocoa beans	Production Quantity	Mtonnes	5500	6000	14200	5800	12200	7000	6600	6500	6000	7900	21700	59000	73000	70000
Cocoa beans	Import Quantity	Mtonnes	0	0	0	0	0	17	5	0	0	279	910	845		
Cocoa Butter	Import Quantity	Mtonnes		0	0	0	0	0	1	2	0	0	0	0		
Cocoa Paste	Import Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	0		
Cocoapowder&Cake	Import Quantity	Mtonnes	10	11	15	1	0	6	1	0	5	91	5	2		
Cocoa beans	Import Value	1000\$	0	0	0	0	0	3	0	0	0	105	361	357		
Cocoa Butter	Import Value	1000\$		0	0	0	0	0	0	0	0	0	0	0		
Cocoa Paste	Import Value	1000\$	0	1	0	0	0	0	0	0	0	0	0	0		
Cocoapowder&Cake	Import Value	1000\$	5	5	10	1	1	7	1	0	6	85	37	6		
Cocoa beans	Export Quantity	Mtonnes	6138	4196	11423	12828	5166	7652	5582	5787	4698	8401	28812	29123		
Cocoa Butter	Export Quantity	Mtonnes														14
Cocoahusks;Shell	Export Quantity	Mtonnes	0	0	0	0	0	0	0	0	0	0	0	626		
Cocoa beans	Export Value	1000\$	7170	5994	15599	13947	8385	7921	4674	4670	7097	10570	24822	20162		
Cocoa Butter	Export Value	1000\$														5
Cocoahusks;Shell	Export Value	1000\$	0	0	0	0	0	0	0	0	0	0	0	214		

Source: FAOSTAT

Table J-2: Togo Coffee

		Units	<i>1980</i>	<i>1981</i>	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Coffee, green	Area Harvested	Ha	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000	38000	40000	40000
Coffee, green	Yield	Kg/Ha	494.5	422.7	439.8	282.9	128	478.2	389.4	648.1	690.4	577.1	609.5	655.2	157.5	275
Coffee, green	Production Quantity	Mtonnes	10385	8878	9237	5941	2689	10044	8179	13611	14500	12121	12800	24900	6300	11000
Coffee Roasted	Import Quantity	Mtonnes	3	2	0	6	15	0	0	13	7	14	9	24	13	23
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes	0	0	0	0	0	0	0	1	0	3	1	4	41	20
Coffee, green	Import Quantity	Mtonnes	1	0	0	0	0	0	0	0	0	0	0	1	12	0
Coffee Green+Roast +	Import Quantity	Mtonnes	4	2	0	6	15	0	0	14	7	17	10	29	66	43
Coffee Roasted	Import Value	1000\$	20	13	0	25	42	0	0	31	31	21	38	52	28	33
Coffee Subst. Cont.Coffee	Import Value	1000\$	0	0	0	0	0	0	0	3	0	14	4	14	41	20
Coffee, green	Import Value	1000\$	5	0	0	0	0	0	0	0	0	0	0	3	12	0
Coffee Green+Roast +	Import Value	1000\$	25	13	0	25	42	0	0	34	31	35	42	69	81	53
Coffee Roasted	Export Quantity	Mtonnes	0	0	0	6	1	0	0	0	0	0	0	0	0	0
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes														
Coffee, green	Export Quantity	Mtonnes	9020	10105	9549	5880	2592	10011	8179	13611	11146	12783	14330	9290	18791	13100
Coffee Green+Roast +	Export Quantity	Mtonnes	9020	10105	9549	5886	2593	10011	8179	13611	11146	12783	14330	9290	18791	13100
Coffee Roasted	Export Value	1000\$	0	0	0	15	2	0	0	0	0	0	0	0	0	0
Coffee Subst. Cont.Coffee	Export Value	1000\$														
Coffee, green	Export Value	1000\$	23602	17922	18935	12844	6960	26683	26430	30795	22428	22146	17809	9050	18010	10604
Coffee Green+Roast +	Export Value	1000\$	23602	17922	18935	12859	6962	26683	26430	30795	22428	22146	17809	9050	18010	10604

Source: FAOSTAT

Table J-2: Togo Coffee (continued)

		Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Coffee, green	Area Harvested	Ha	45000	48200	48200	48200	48200	48200	48200	30000	60000	48000	48000	28000	34000	33600
Coffee, green	Yield	Hg/Ha	235.5	250.6	464.7	219.9	414.9	352.6	315.3	233.3	300	281.2	281.2	300	297	300
Coffee, green	Production Quantity	Mtonnes	10600	12080	22400	10600	20000	17000	15200	7000	18000	13500	13500	8400	10100	10080
Coffee Roasted	Import Quantity	Mtonnes	3	10	2	8	2	5	125	5	115	35	3	3		
Coffee Subst. Cont.Coffee	Import Quantity	Mtonnes	6	2	0	0	1	27	2	1	2	0	11	4		
Coffee, green	Import Quantity	Mtonnes	0	0	4	1	0	0	1040	1	55	55	31	7		
Coffee Green+Roast +	Import Quantity	Mtonnes	9	12	6	9	3	33	1168	7	172	90	45	14		
Coffee Roasted	Import Value	1000\$	7	73	9	16	3	10	29	10	108	66	10	8		
Coffee Subst. Cont.Coffee	Import Value	1000\$	0	1	0	0	14	88	0	6	1	0	4	2		
Coffee, green	Import Value	1000\$	0	0	9	1	0	0	294	0	23	23	16	8		
Coffee Green+Roast +	Import Value	1000\$	7	74	18	17	17	98	324	16	132	89	30	18		
Coffee Roasted	Export Quantity	Mtonnes	0	51	1	0	0	0	0	0	0	0	5	8		
Coffee Subst. Cont.Coffee	Export Quantity	Mtonnes	0	0	0	0	0	3	75	0	529	781	711	138		
Coffee, green	Export Quantity	Mtonnes	9368	12544	5009	18613	8054	18575	13496	7676	4538	1489	3980	6512		
Coffee Green+Roast +	Export Quantity	Mtonnes	9368	12595	5010	18613	8054	18579	13572	7676	5067	2270	4696	6658		
Coffee Roasted	Export Value	1000\$	0	81	4	0	0	0	0	0	0	0	13	29		
Coffee Subst. Cont.Coffee	Export Value	1000\$	0	0	0	0	0	6	61	0	315	647	439	88		
Coffee, green	Export Value	1000\$	9056	20865	9234	24785	15600	25495	11490	4716	2853	1076	2764	4309		
Coffee Green+Roast +	Export Value	1000\$	9056	20946	9238	24785	15600	25502	11552	4716	3168	1723	3216	4426		

Source: FAOSTAT