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Country Coffee Profile: Ghana

Background

In accordance with the objectives of the International Coffee Agreement 2007, the International Coffee Organization is required to act as a centre for the promotion, collection, dissemination and publication of economic, technical and scientific information, statistics and studies, as well as the results of research and development relating to coffee matters. With regard to those provisions, the Secretariat has worked in conjunction with the Ghana Cocoa Board to produce the Country Coffee Profile for Ghana.

Action

The International Coffee Council is requested to note this document.



COUNTRY COFFEE PROFILE

GHANA



GHANA COCOA BOARD (COCOBOD)



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LIST OF ACRONYMS

CHED	Cocoa Health and Extension division
COCOBOD	Ghana Cocoa Board
CRIG	Cocoa Research Institute of Ghana
CRP	Coffee Rehabilitation Project
(CSSVDCU)	Cocoa Swollen Shoot Virus Disease Control Unit
GAP	Good Agricultural Practices
GCCSFA	Ghana Cocoa, Coffee and Sheanuts Farmer's Association
LBCs	Licensed Buying Companies
MOFA	Ministry of Food and Agriculture
QCC	Quality Control Company
SPD	Seed Production Department
SPU	Seed Production Unit

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PREFACE

This profile on the coffee sector in Ghana is the third in a series of country coffee profiles. It meets one of the objectives of the International Coffee Agreement 2007, specifically collecting, disseminating and publishing economic, technical and scientific information, statistics and studies, as well as the results of research and development in coffee matters. These objectives have been reinforced by the Five-Year Action Plan approved by the International Coffee Council during its 120th Session held in Yamoussoukro (Côte d'Ivoire) in September 2017.

On this basis, guidelines have been provided to be used as a framework for this series, which aims to provide comprehensive and current information on the coffee sector in specific countries. These profiles are extremely important in improving the visibility of the world coffee economy and identifying key trade flows. They should also serve as a reference point from which policy can develop and further analysis can be undertaken.

I would like to thank Dr Yaw Adu-Ampomah, Deputy Chief Executive of the Ghana Cocoa Board, and its technical staff for preparing the first draft of this Country Coffee Profile, and to continue to work together with the ICO Secretariat to finalize the Profile.

I sincerely hope that this profile will be of interest and value to our Members, as well as to all sectors of the coffee industry that may have dealings with the country. The agro-ecological diversity of Ghana presents a potential for the production of high quality coffee varieties based on the characterization of terroirs. Finally, the ICO staff and I remain open to any observations and suggestions that will assist us in increasing the accuracy and value of the document in the future. I am confident that the wealth of information contained in this publication, and those to follow in this series, will provide delegates, researchers and readers with a better understanding of the dynamic nature of the coffee industry worldwide.

José Sette

Executive Director

International Coffee Organization

FOREWORD

Coffee is an important global export commodity and is one of the most consumed beverages in the world. Government's efforts to diversify export commodities have brought about the need to revive the coffee industry in Ghana.

Similar to many other West African countries, Ghana solely produces *Coffea Canephora*, commonly called Robusta coffee, because of ecological limitations of growing the other most important commercial species, *Coffea Arabica*.

The history of Robusta coffee production in Ghana dates back to the mid-eighteenth century. It grows in almost all parts of the country where cocoa grows, as well as in areas that are marginal to cocoa production. However, despite its history and the immense potential that the country has to produce and generate considerable revenues to the nation, coffee has never been given due attention at any time in the past unlike cocoa.

The Annual General Assembly of the InterAfrican Coffee Organization (IACO) held in Accra, Ghana, in November 2009 was a great impetus to re-emphasize coffee, as a result of which the government, through the Cocoa Board, allocated around US\$4.5 million for a four-year period to double the production.

Unfortunately, low coffee prices and the withdrawal of State assistance over the past two decades have deprived farmers of all the advantages that made the sector so attractive, bringing about a gradual decline in the activity. This situation has gradually undermined interest in this crop, that provided work for the populations of whole regions, causing a virtually irreversible loss of dynamism, despite the considerable efforts that have been increasingly made since the structural adjustment point was reached.

This profile of Ghana is the aftereffect of work from a multidisciplinary group comprising all stakeholders in the entire supply chain of the Ghanaian coffee sector. I would like to thank the Executive Director of the International Coffee Organization and his staff for their hard work on this publication.

Dr Yaw Adu-Ampomah
Deputy Chief Executive
Ghana Cocoa Board

SUMMARY

The main characteristics of the coffee sector in Ghana are presented in this report. Although coffee cultivation was introduced in the mid-eighteenth century, it represents a small sector with an average production below 1,000 metric tonnes, compared to over 900,000 tonnes for cocoa. Robusta coffee is the type of coffee grown in the country with a growing season that runs from October to September. Coffee production covers 17,000 hectares and the average yield is 300kg per hectare for small-scale farmers and over 1.5 tonnes per hectare for large farms. As the sector is the main source of income for over 8,000 households of small-scale farmers from six regions of the country, the Government approved in 2014 a Coffee Rehabilitation Program (CRP) that includes research, extension services and high yield varieties to increase national production to 100,000 tonnes in the next 10 years. The project provided technical and financial supports to over 4,500 small scale farmers of which 22% are women. Coffee farming is a profitable activity for small scale farmers and it should be noted that the coffee sector is regulated by the Ghana Cocoa Board (COCOBOD), a public institution in charge of cocoa. The main destinations of exports are Togo (57% of total exports), Italy (28%), India (7%) and Belgium (5%). With the undergoing revitalization of the sector, based on strong support of the government, it is expected that the share of coffee in GDP, and in total exports will increase in the near future, as well as domestic coffee consumption.

1. BACKGROUND

1.1 Geographic and demographic background of the country

Capital:	Accra
Population Estimate (2017):	28.9 million
Geographic Location:	Latitude 4° 44'N and 11° 11'N; Longitude 3 ° 11' W and 1° 11'E
Area of the country:	238,538sq. km
Coastline:	550km long

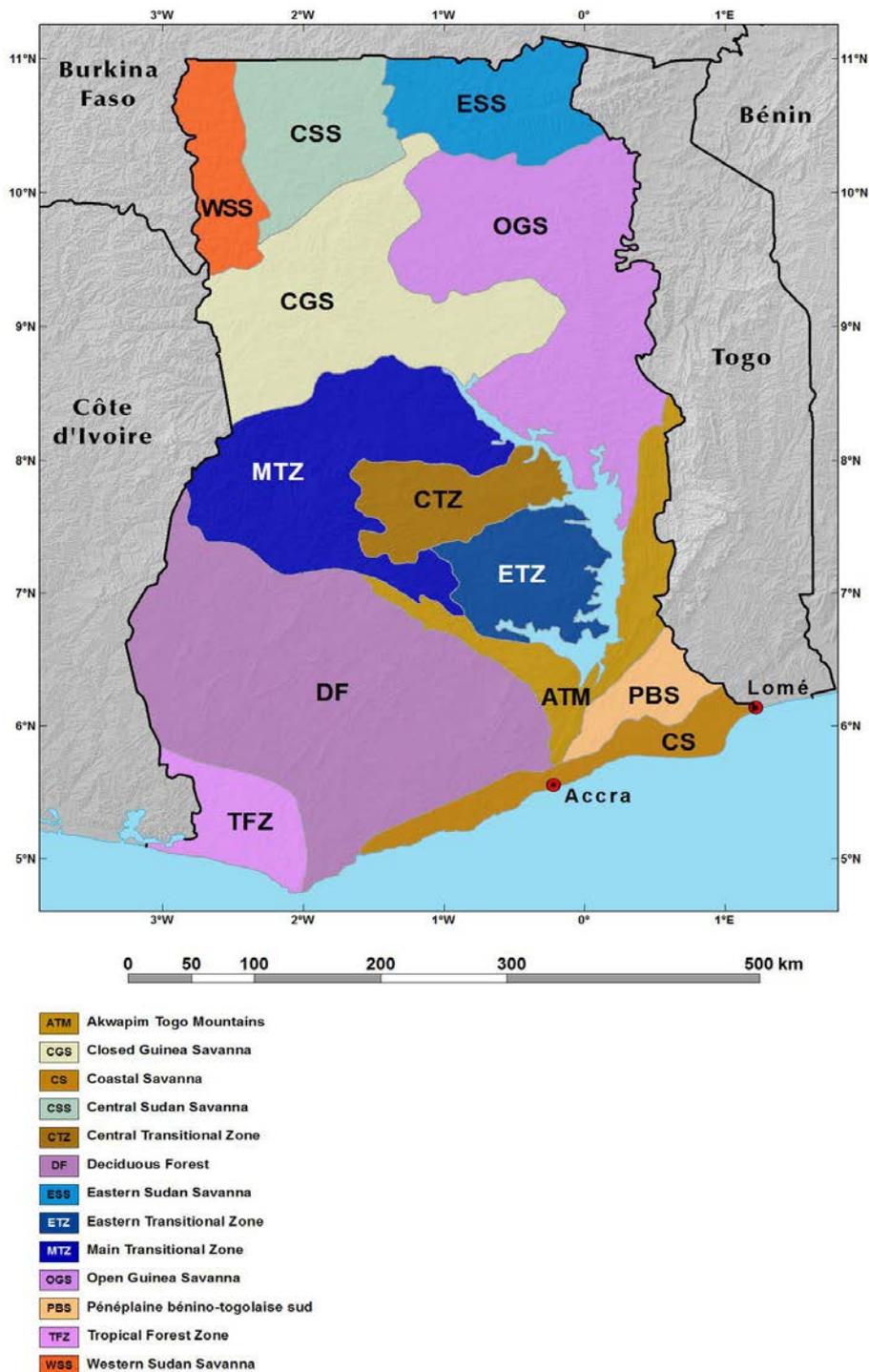
Ghana is located on West Africa's Gulf of Guinea only a few degrees north of the Equator. With a total area of 238,538 sq. km, the country is bounded by Côte d'Ivoire to the west, Burkina Faso to the north, Togo to the east, and the Atlantic Ocean to the south. The country is known for being the second largest producer of cocoa in the world.

1.2 Agro-ecological zones

Ghana is divided into six major agro-ecological zones: Sudan Savannah, Guinea Savannah, Coastal Savannah, Forest/Savannah, Forest zone and the Rain Forest zone. Total annual

rainfall ranges from 780mm in the dry eastern coastal belt to 2,200mm in the wet south-west corner of the country. The rainfall determines largely the type of agricultural enterprise carried out in each zone. The bimodal rainfall pattern in the Forest, Deciduous Forest, Transitional and Coastal Savannah zones gives rise to major and minor growing seasons. In the Northern Savannah the unimodal distribution results in a single growing season.

Figure 1: Agro-ecological zones



1.3 Geographic regions

Ghana has three main geographic regions:

1. The coastal belt is traditionally a region of fishing and small-scale farming.
2. The forest zone occupies around a third of the country and is the main agricultural area. Cocoa beans are grown as the major export crop. Farmers also grow coffee, rubber, sugar cane and palm oil, as well as foods for local consumption.
3. The northern savannah is suitable for livestock rearing, as well as for crops such as yams, rice and millet. Shea and kola nuts are also harvested here.

1.4 Climate

The climate of Ghana is tropical. The eastern coastal belt is warm and comparatively dry, the south-west corner of Ghana is hot and humid, and the north of Ghana is hot and dry. Ghana is located on the Gulf of Guinea, only a few degrees north of the Equator, giving it a warm climate.

Climatology

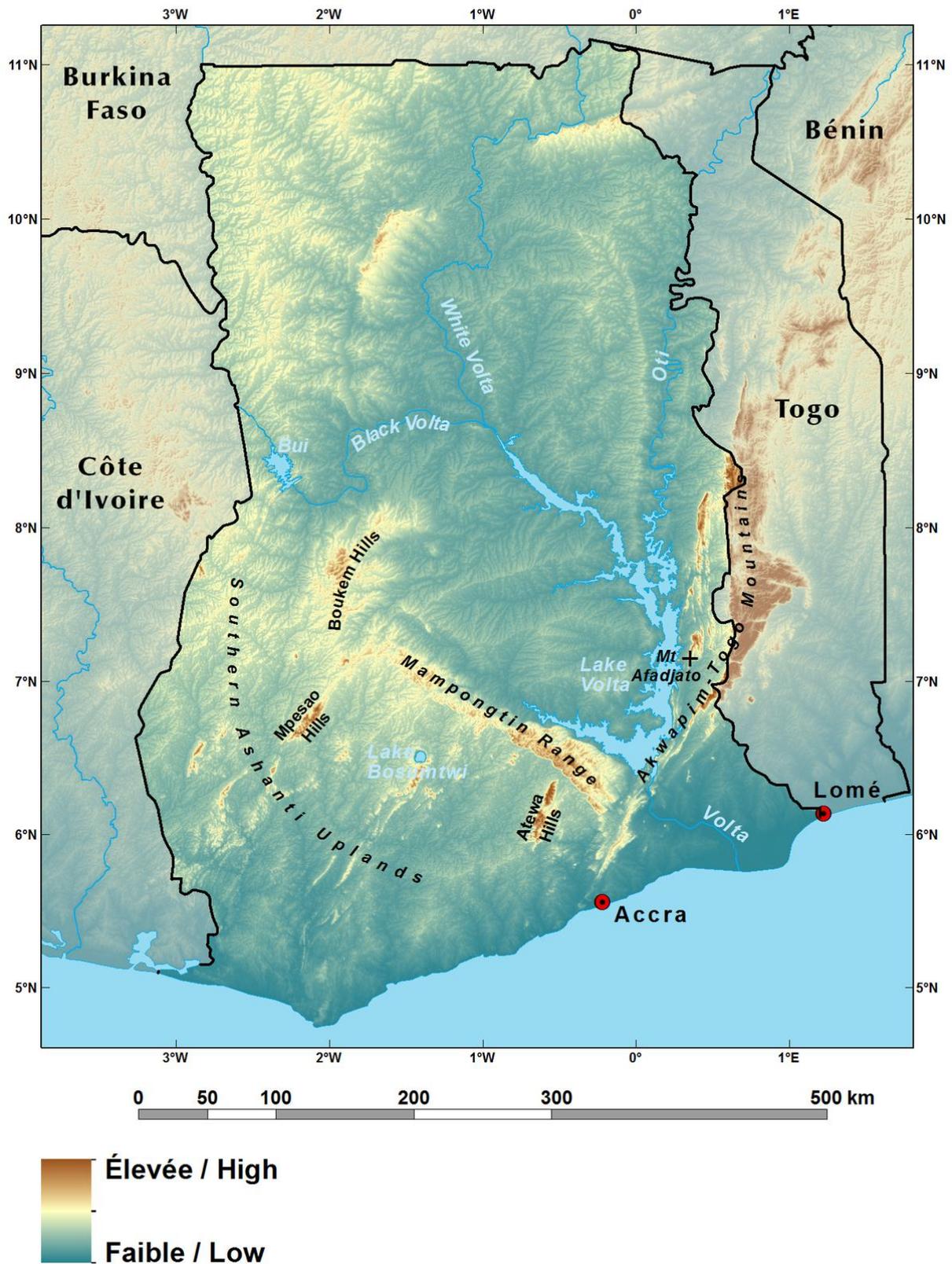
There are two main seasons: the wet and the dry seasons. North Ghana experiences its rainy season from April to mid-October while South Ghana experiences its rainy season from March to mid-November. The climate is relatively mild for its latitude. The harmattan, a dry desert wind, blows in north-east Ghana from December to March, lowering the humidity and causing hotter days and cooler nights in the northern part of Ghana.

Average daily temperatures range from 30°C (86°F) during the day to 24°C (75°F) at night with a relative humidity between 77% and 85%. In the southern part of Ghana, there is a bi-modal rainy season: April through June and September through November. Squalls occur in the northern part of Ghana during March and April, followed by occasional rain until August and September, when the rainfall reaches its peak. Rainfall ranges from 780mm to 2160mm a year.

1.5 Topography

The topography of Ghana is predominantly undulating, with slopes less than 1%. Even though the slopes are gentle, about 70% of the country is subject to moderate to severe sheet and gully erosion (fig 1).

Figure 2: Topography



2. STRUCTURE OF THE ECONOMY

2.1 Economic setting

Principal Agricultural Exports: Cocoa, timber, horticultural products, fish/sea foods, game & wildlife

Principal Mineral Resources: Petroleum, gold, bauxite, manganese and diamond

The major activities of the economy of Ghana are the agricultural, mining, tourism and the financial sectors. Agriculture, considered as the pillar of Ghana's economy, is estimated to account for about 18.3% of the country's gross domestic product (GDP), employing 60% to 70% of the labour force. Oil and gas, gold, cocoa exports, and individual remittances, are major sources of foreign exchange.

The structure of the economy is characterized by continued dominance of the service sector. The share of services in overall output is estimated at 56.2% in 2017 compared with 56.8% in 2016. The share of industry is estimated at 25.5% in 2017, compared with 24.3% in 2016, while that of Agriculture is estimated at 18.5% compared with 18.9% in 2016.

Table 1: Ghana economic data

	2010	2011	2012	2013	2014	2015	2016	2017*
Population estimate (million)	24.66	25.24	25.82	26.43	27.04	27.67	28.31	28.96
Average exchange rate (c/\$)	1.43	1.51	1.81	1.92	2.94	3.78	3.92	4.36
GDP current (million US\$)	32,186	39,517	41,656	48,654	38,612	36,264	42,685	47,269

Source: Ghana Statistical Service

*Provisional

Table 2: Sector growth performance (percentage)

	2010	2011	2012	2013	2014	2015	2016	2017*
Agriculture	29.8	25.3	22.9	22.4	21.5	20.3	18.9	18.3
Industry	19.1	25.6	28.0	27.8	26.6	25.1	24.3	25.5
Services	51.1	49.1	49.1	49.8	51.9	54.6	56.8	56.2

Sources: Ghana Statistical Service, "Provisional 2017 Annual Gross Domestic Product", April 2018

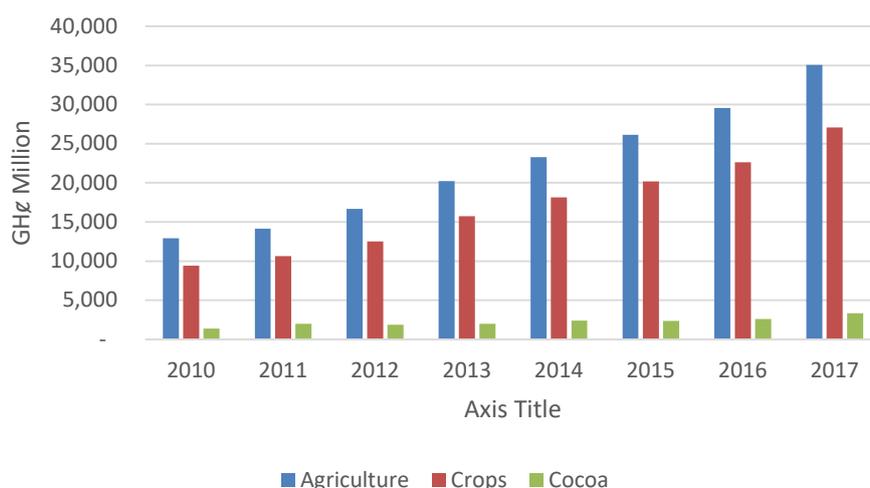
* Provisional

2.2 Ghana GDP from agriculture (2010-2017)

GDP from Agriculture in Ghana increased from GH¢12,910 million in 2010 to GH¢35,047 million in 2017. An increase of 171%. GDP from the crop sector increased by 187% from

GH¢9,422 million in 2010 to GH¢27,084 million in 2017. GDP from cocoa over the same period increased by 141% from GH¢1,393 million in 2010 to GH¢3,357 million in 2017. The crop sector accounted for 77% of the GDP from agriculture, while cocoa accounted for 10% of the GDP from agriculture in 2017. Figure 3 shows Ghana's GDP from agriculture, crops and cocoa from 2010 to 2017.

Figure 3: GDP from agriculture (million Ghana Cedis)



Source: Ghana Statistical Service

3. HISTORY OF COFFEE PRODUCTION IN GHANA

The active cultivation of coffee started in Ghana in the mid-eighteenth century when the early missionaries settled in Ghana. It is mostly cultivated by smallholder farmers and in a few plantations scattered in the cocoa growing regions of Ghana.

Coffee cultivation in Ghana has lagged behind cocoa for many years although it is less demanding than cocoa in its requirements for good soil, rainfall distribution and high humidity. Coffee grows where cocoa grows well, as well as, in areas marginal to cocoa cultivation. Despite its immense potential to generate wealth, it has not been given much attention as cocoa. However, coffee cultivation received a major boost in 1991 when the government of Ghana embarked on the agricultural diversification project to revamp the coffee industry through interventions such as improved pricing, liberalized markets, improved research and extension services which resulted in the highest level of coffee production in 1999/2000. Despite these interventions, the low prices and poor marketing system that followed resulted in coffee farmers losing interest in the cultivation of the crop. Coffee farmers therefore abandoned their farms or cut them down and cultivated other crops.

Additionally, between 2001 and 2004, the price of the crop on the international market suffered a major decline that seriously affected the internal coffee trade. Most coffee farmers responded by switching to other cash crop farming, especially cocoa.

Coffee Rehabilitation Project

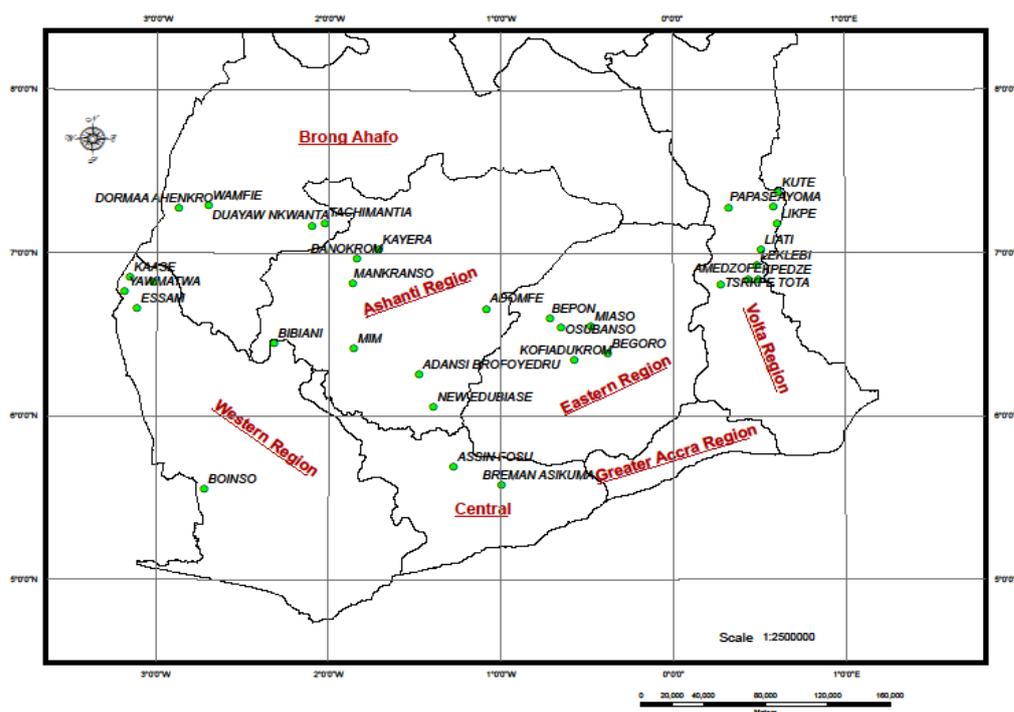
In February 2008, a coffee stakeholders meeting was held to map out strategies to revive the coffee industry. This resulted in the roll out of the Coffee Rehabilitation Project (CRP) in 2011 which sought through innovative strategies and stakeholder engagements and presented coffee as alternative source of household livelihood. The government of Ghana through the Ghana Cocoa Board (COCOBOD) implemented the four years CRP in order to promote the production of coffee. The main goals of the CRP were to increase coffee production for export and local consumption and enhance the livelihoods and standard of living of farmers in coffee growing communities in Ghana. The Programme focused on areas where coffee production had competitive advantage over cocoa with a national production target of 10,000 metric tonnes of coffee within the four-year period and 20,000 metric tonnes within the next 10 years. With these targets both old and abandoned coffee farms were rehabilitated while new farms were established by assisting beneficiary farmers with various inputs in kind and in cash. The four-year CRP that ended in 2015 explored various opportunities to raise the interests of Ghanaian farmers and present coffee as an alternative livelihood crop. With a budget of GH¢4.2 million, the project operated in 13 operational areas located in six regions (Figure 4). The project sought to cover 2,000 hectares which included 1,000 hectares each of new and coppiced farms. In addition, the project sought to increase national coffee production from 1,760 tonnes in 2011 to 10,000 tonnes of coffee by 2014.

The project undertook various strategies and employed other innovative ways as it evolved. Key among these were distribution free planting material and inputs, provision of extension services, effective monitoring and communication strategies, digitization of reporting and effective data management systems, bi-annual extension agents' training, farmer group mobilization and formation, development of model farms and public-private partnerships. The project covered a total area of 2,714 hectares engaging about 4,567 farmers which included 22% women. The project supplied motor bikes to the extension agents on credit, developed 13 model farms, 22 community nurseries and supplied 93,370 clones and 1,821,100 hybrid seedlings.

With an estimated production level of 12,650 tonnes at the end of 2015, the average productivity was over 1.5 tonnes per hectare. The project recorded farm gate prices increased from GH¢35 per 64kg per bag in 2011 of unhulled coffee, to GH¢270 per 64kg per bag in 2016.

Key challenges identified included weak institutional support, poor marketing, unregulated and unstructured sector and weak research and extension support. However, favorable weather, high economic returns and growing interest towards production and consumption presents great opportunities for the development of the sector.

Figure 4: Project areas



Source: COCOBOD

3.1 Coffee production

COCOBOD is mandated to oversee the coffee sector in Ghana. COCOBOD runs the coffee sector in similar ways as the cocoa sector until diversification in 1989.

COCOBOD provides most of the services and inputs required by various stakeholders in the sector. Particularly, COCOBOD and its subsidiaries and divisions are involved in the following operations:

- Internal and external marketing of coffee beans
- Quality assurance
- Evacuation/transportation
- Research and extension
- Crop diseases & pest control
- Crop rehabilitation projects

In efforts to revamp the coffee sector, the government of Ghana established through the COCOBOD 19 coffee plantations in the country in the 1980s. However, in 1991, the coffee sector was completely liberalized and COCOBOD left the sector and all services were discontinued.

The coffee plantations were divested to private enterprises. Currently, the majority of the former COCOBOD plantations have been abandoned or grubbed to pave way for other crops. This unfortunate situation was as a result of inadequate strategies and measures to support the sector following liberalization of the sector.

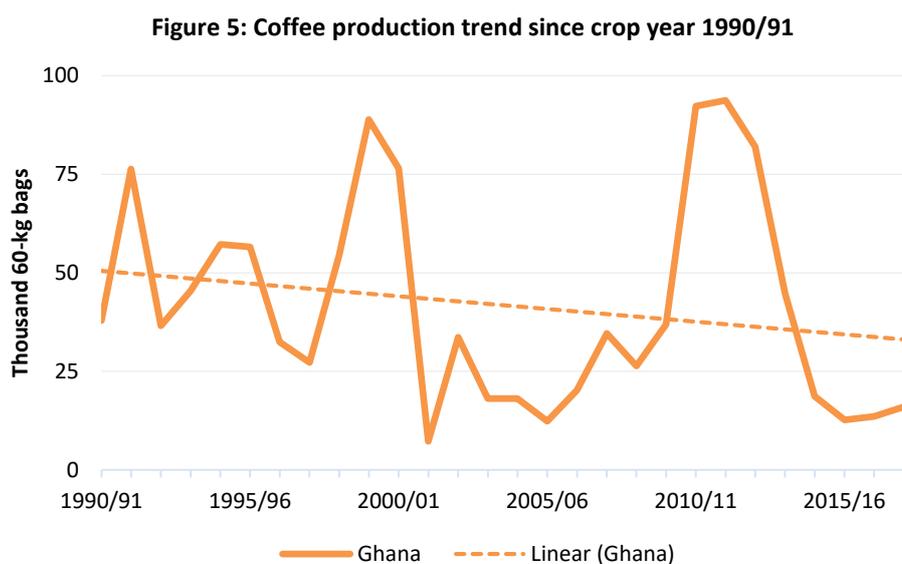
Countrywide surveys taken in the period 1970-1980 showed that the area under coffee cultivation was 13,346ha. This was reduced to about 3,170ha as at 1985 by the 1983 bush fires. Sample-surveys by the defunct Cocoa Services Division of COCOBOD in 1996 indicated that the area under coffee cultivation increased to 8,723ha under the Agricultural Diversification Project (ADP).

Production of coffee beans in Ghana has been generally low, ranging from a peak of 6,700 tonnes in 1967/68 to a low of 123 tonnes in 1983/84. This occurred after the severe drought and bush fires of 1983. Production hereafter increased gradually, reaching a second peak of 5,700 tonnes in 1999, and declining again thereafter.

Table 3: Volume of coffee production in Ghana ('000 64-kg bags)

Crop year	2010	2011	2012	2013	2014	2015	2016	2017*
	92.31	93.71	82.01	44.74	18.68	9.38	7.88	16

*Provisional



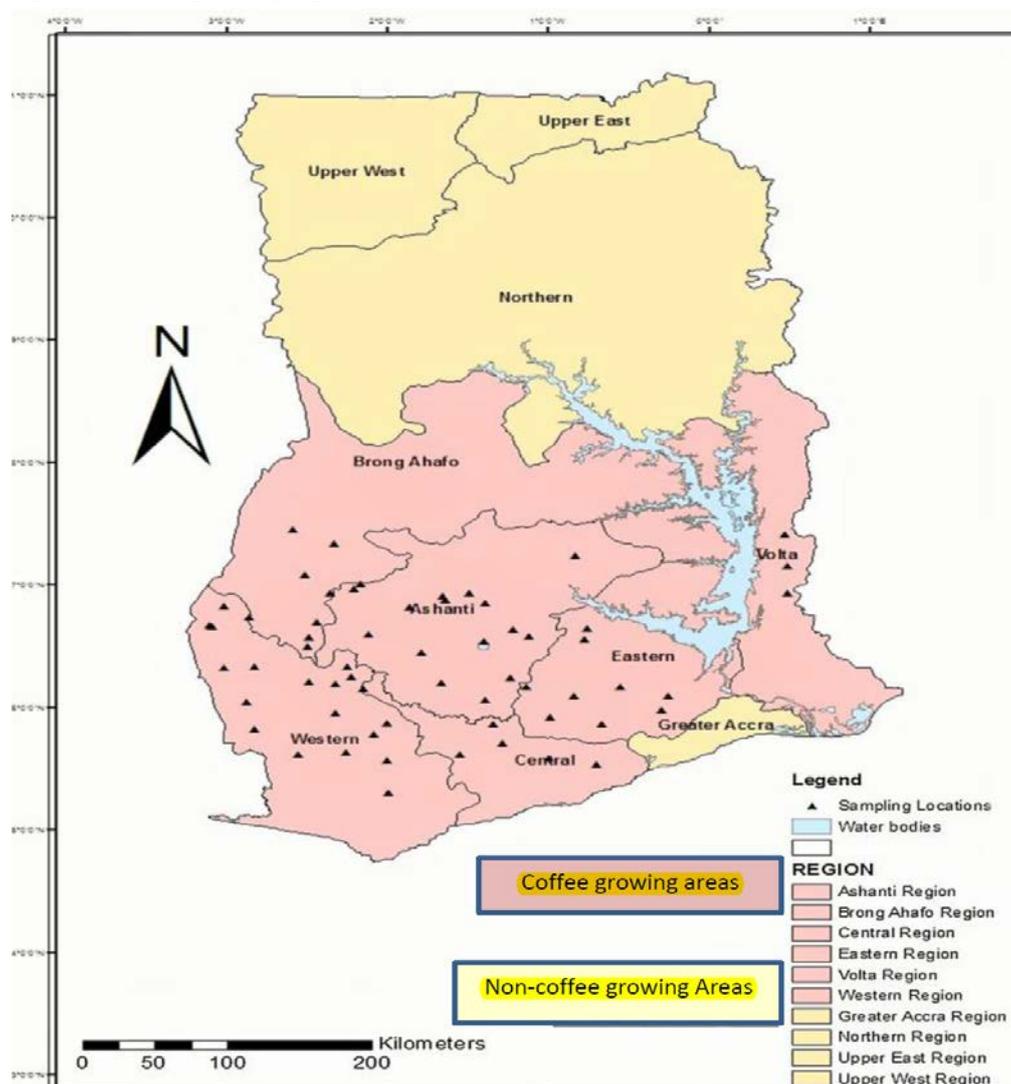
Production instability has been mainly due to poor agricultural and management practices, lack of marketing opportunities and lack of inputs, extension and government support. There

are currently no records of production with barely any exports due to an increase in local processing. The processed products are mainly exported to neighboring countries such as Burkina Faso and Mali without any records at the ports and borders. Processed coffee exported is not captured in the national database. As such data on coffee exports has dwindled as shown in Table 3.

3.2 Types of coffee and areas of coffee production

Robusta coffee is the main variety grown in Ghana due to ecological limitations. It is cultivated mainly in six out of the ten regions namely Ashanti, Brong-Ahafo, Eastern, Central, Western and Volta Regions (Figure 6). The coffee season in Ghana runs from October to September. The planting period starts in May at the onset of the rains and harvesting starts in September.

Figure 6: Coffee growing regions in Ghana



3.3 Production systems

Agriculture is predominantly on a smallholder basis in Ghana. About 90% of farm holdings are less than 2 hectares in size, although there are some large farms and plantations, particularly for rubber, oil palm and coconut and to a lesser extent, rice, maize and pineapples. Agricultural production varies with the amount and distribution of rainfall. Soil factors are also important. Most food crop farms are intercropped. Mono cropping is mostly associated with larger-scale commercial farms.

Robusta, although grown mostly in forest areas, is produced mainly under shade as recommended by COCOBOD with an average of 16 shade trees per hectare. Post-harvest operations follow the dry method.

3.4 Crop year

According to the Ghanaian regulations on the organization of the cocoa and coffee trade, coffee purchase and sales operations are carried out according to the annual crop season which is from October to September.

3.5 Plantations: smallholdings

Unlike cocoa, coffee has generally been grown in smallholdings, scattered throughout the cocoa-growing areas, with only a few large plantations.

Table 4: Annual area planted with coffee and cocoa ('000 Ha)

CROPS	2010	2011	2012	2013	2014	2015
Coffee	0.4	0.4	0.4	0.5	0.46	0.47
Cocoa	1,600.20	1,600.30	1,600.80	1,650.80	1,683.77	1,717.44

Source: Statistics, Research and Information Directorate (SRID), MoFA (2015).

3.6 Yields

Coffee yield in Ghana was estimated at 1.6 tonne per hectare in 2014 as estimated during the Coffee Rehabilitation Program (CRP). Some coffee farms have yields of 2 tonnes per hectare whilst some smallholders have yields as low as 0.3 tonne per hectare.

3.7 Gender gap in acquisition of land

Land in Ghana is held by various stool/skin lands, families or clans, which are the allodial owners. These lands are known as customary lands and, make up about 80% of all land in Ghana. There are also public lands, forming the remaining 20%, which are made up of state

lands and vested lands. State lands mean that the state holds this area by acquisition from traditional allodial owners. Land tenure system is one of the militating challenges confronting the agricultural sector in Ghana. Few women in farming communities own farm lands big enough to cultivate cash crops. The lands are usually owned by their husbands. Land litigation cases are common in the Ghanaian courts slowing down agricultural activities.

3.8 Crop losses due to pests and diseases

Crop losses are not entirely attributable to all pests, as it is with diseases. In fact, some insects such as bees are beneficial to coffee, it aids in pollination. Some predators or parasitoids such as praying mantis, spiders and ladybird beetle serve as defense mechanisms against berry borers, leaf eaters, stem borers and termites.

Ghana has not been specifically affected by coffee disease pandemics in decades past, however there has been a resurgence of pests, for example, coffee berry borers and leaf-eating caterpillars.

3.9 Crop losses due to adverse weather

Weather is an important component in the growth and development of coffee seedlings. Coffee farms under severe rains and heavy winds suffer losses due to falling leaves and flowers.

Environmental change can influence coffee production and further undermine the financial circumstance of producing nations. It is as of now difficult to evaluate the effect of environmental change on Ghana. Continuous research by the Cocoa Research Institute of Ghana (CRIG) and other bodies might bring out any effect, if any, in future.

4. RESEARCH AND EXTENSION

4.1 Research institution

The main institution responsible for coffee research in Ghana is the CRIG, a subsidiary of COCOBOD. Its main function is to undergo scientific research that will help improve the production of coffee and cocoa in Ghana.

At its inception and the early years, CRIG was mandated by COCOBOD to focus on the diseases and pests, soil fertility, agricultural practices to boost the yield of cocoa in Ghana. In 1966, a committee which reviewed the operations of the Ghana Academy of Sciences which then was

the oversight body of CRIG recommended that coffee be included as a mandate by COCOBOD crop of the CRIG. Research activities have focused on, but have not been limited to developing high yielding clonal and hybrid varieties, soil and fertility requirements, disease and pest problems, quality of beans and the economics of production and market dynamics of the coffee industry in Ghana.

Research has also focused on transfer of CRIG developed technologies to coffee farmers. CRIG currently has ten researchers who are dedicated to coffee research in the area of coffee breeding, soil science, agronomy, entomology, pathology, biochemistry and economics. Apart from the ten scientists who lead coffee research at the CRIG, other research scientists offer research support and expertise on research projects geared towards improvement of coffee in Ghana. This is evident in the multidisciplinary nature of research activities undertaken at CRIG. The coffee improvement programme at CRIG aims at developing Robusta coffee genotypes with good agronomic characteristics for higher productivity and good bean quality in addition to tolerance to biotic (diseases) and abiotic (mainly drought) stresses.

The ten coffee researchers include six PhD holders, and four Msc holders. Each of the research scientists works with at least one technical officer and technical assistants.

4.2 Extension services

Currently, the provision of extension services in the coffee sector is lacking. The former Cocoa Services Division of COCOBOD was responsible for both coffee and cocoa extension delivery until the split into the Cocoa Swollen Shoot Virus Disease Control Unit (CSSVDCU) and Seed Production Unit (SPU) and the institution of the unified Agricultural Extension System under the Ministry of Food and Agriculture (MOFA). Subsequent liberalization of the sector removed COCOBOD's interest in coffee. This led to the total collapse of extension services in the coffee sector. Coffee farmers were left on their own. They had no access to training or advisory services on provision of planting material, husbandry practices, inputs, processing and produce marketing. This also affected supply of credit and inputs. Coffee farms were therefore poorly managed, grubbed to pave way for other crops or neglected. These resulted in low output and quality and no interest of the youth in coffee farming.

However, coffee extension picked up once again under the CRP where coffee producers in Ghana benefited from extension services from the Cocoa Health and Extension division (CHED) and the Seed Production Department (SPD) of COCOBOD. They provided extension services in the form of pest and disease control on various farms, and fertilizer application.

After the project ended, SPD was mandated by COCOBOD to continue to provide extension services to coffee farmers. Unfortunately, SPD does not have the capacity to provide extensive extension services. SPD lacks adequate human and technical capacity, as well as training and all other resources. SPD however, continues to supply free hybrid seedlings to farmers who are interested in coffee farming and extension on a very limited scale.

Enhancing the coffee sector is in line with the government's efforts to diversify the rural economy with a view of alleviating poverty. As such, a manual on coffee cultivation to provide advice to coffee farmers was first produced in 1988 and revised in 2009. The current version produced in 2016 covers essentials of propagating coffee, farm husbandry practices and the identification and control of pests and diseases, post-harvest practices and grading of coffee.

5. LACK OF CREDIT FACILITIES

Farmers find it difficult to access credit facilities from financial institutions. They mostly finance their farm establishment or management from their meagre subsistence farms or borrow from private lenders who charge exorbitant interest rates on the loans. Financial institutions also demand proof of collateral securities from farmers to grant them credit facilities. Their lands which do not have land title registrations are unable to meet the financial requirements of these institutions. COCOBOD is therefore encouraging farmers to acquire land titles by availing their lands to their extension officers, for mapping and registration of farms to enable them to access credit from financial institutions.

6. COFFEE PROCESSING AND QUALITY ASSURANCE

6.1 Field processing (post-harvest processing)

Sun-drying method is used in Ghana. Drying of coffee after harvesting is a very critical stage in determining the final quality of coffee. Drying reduces the moisture content of the coffee berries. During the dry phase of coffee processing, freshly picked coffee cherries are spread in thin layers on mats or drying grounds. They are frequently turned with rakes so that the sun will dry them evenly. This drying process can take 2-4 weeks depending on the intensity of the sun. When the cherries are fully dried, they are put into hullers which remove the dried pulp. After hulling, farmers carry out a careful picking to remove unwanted particles.

6.2 Quality control

The Quality Control Company of COCOBOD is mandated to inspect, grade and certify all coffee produced in the country for local consumption or export. Due to the liberalization of the

coffee sector, it has become difficult to undertake this activity. However, coffee exporters do grade and certify their coffee beans at the ports as a requirement for coffee exportation. Some exporters engage the services of private companies such as SGS for grading and certification.

7. PRICING OF COFFEE

7.1 Producer price

The farm gate prices were regulated by COCOBOD under the 1984 Act until the coffee sector was liberalized. COCOBOD purchased coffee directly from farmers, undertook warehousing, quality assurance and export.

During the CRP, the government set an annual coffee indicative price to serve as a guide during negotiations between farmers and buyers. Currently, there is no pricing regime for coffee in Ghana. Farmers and buyers negotiate the farm gate price based on both external factors (world price) and other local conditions such as demand.

7.2 Farmers' Income

To ensure farmers are paid a remunerative producer price, COCOBOD announces indicative farm gate prices at the beginning of each season to guide price negotiations between the producers and the buyers. Through effective regulations and stakeholder engagements, average farm gate price of coffee rose from GH¢ 40 per 64kg bag in 2010 to GH¢ 250 per 64kg bag in 2016. In addition, under good farm management practices, an average net income of about GH¢ 6,988.30 (US\$ 1,767.50) per hectare is estimated to be obtained by the farmer.

Table 5: Average prices per 64-kg bag unhulled Robusta coffee versus cocoa (Cedis)

Year	Average farm gate price of					
	2011	2012	2013	2014	2015	2016
Coffee	40	60	55	100	200	250
Cocoa	205	212	212	310	425	475

Source: COCOBOD

8. STAKEHOLDERS IN THE COFFEE SECTOR

8.1 Private sector

The Ghanaian coffee sector has private firms involved in production, roasting, processing and distribution for domestic consumption and export. These include farmers, Licensed Buying Companies (LBCs), roasters/processors and exporters.

8.2 Associations

There are associations formed by farmers, licensed buyers, roasters/processors and exporters. These represent the various private stakeholders in the Ghanaian coffee sector.

8.3 Coffee producers' cooperatives

There are various producers' cooperatives who champion the interest of its members. The farmers' associations receive inputs either from COCOBOD or from the government on behalf of coffee farmers and distribute it to the farmers. Examples include the Ghana Cocoa, Coffee and Sheanuts Farmer's Association (GCCSFA), Dormaa Area Coffee Farmers Association, etc.

8.4 Public sector – Ghana Cocoa Board

According to the regulations, COCOBOD is mandated to:

- Statistically monitor cocoa and coffee marketing seasons.
- Monitor export product quality control activities.
- Protect and promote the brand image of Ghanaian coffee.
- Monitor International Cocoa and Coffee Agreements and represent Ghana at the International Cocoa Organization and the International Coffee Organization, in cooperation with the inter-trade association.
- Carry out studies entrusted to it by the government concerning the cocoa and coffee sectors.

8.5 Other government involvement

The Ministry of Food and Agriculture have overall responsibilities on the activities of COCOBOD.

9. FINANCIAL INSTITUTIONS

The Agricultural Development Bank (ADB) and the Ghana Commercial Bank (GCB) are some financial institutions available to the coffee sector. ADB provides almost 80% of financing to the sector. The bulk of ADB's funding for coffee is secured via the Ministry of Finance. Other institutions which give credit in rural areas are credit unions and savings and loans companies.

9.1 Financing of domestic marketing

Buyers finance the costs linked to the purchase, transport and stocking of products by means of their own funds or by bank credit for those who file a deposit accepted by the commercial banks. Otherwise, they resort to the multinational enterprises for assistance.

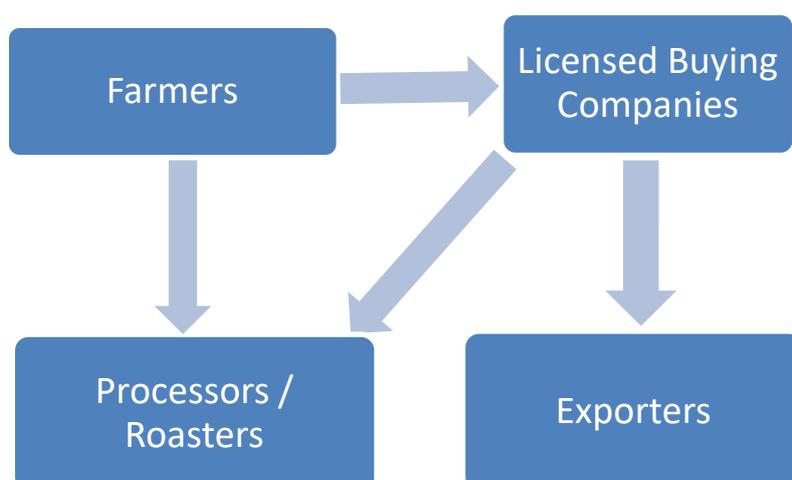
9.2 Financing of export operations

Like domestic marketing, expenditures linked to exports are financed via exporters' own funds or by bank financing against a guarantee. Otherwise, they must resort to the multinational enterprise they represent.

10. MARKETING STRUCTURE

Coffee is purchased from farmers after drying. It may be hulled or unhulled in homogenous batches, at a price differentiated by type and quality negotiated and jointly agreed.

Figure 7: Marketing structure of coffee in Ghana



10.1 Farmer associations/cooperatives exporting coffee

Ghana has a registered association known as the Coffee Buyers and Exporters association (COBEA) who coordinates activities of its members.

10.2 Specification of coffee grades

Coffee prior to liberalization was graded according to three grades; Grade I, II and a third 'sub-standard' grade which was prohibited from being exported. Beans were not sorted by screen size. Following liberalization, Grades I and II continue to be the main exported grades but there are now exports of 100% black bean consignments and what are known as 'pickings' or defective beans (Table 6). There continues to be no sorting for screen size and most exports are sold on a sample basis.

Table 6: Coffee quality standards (Post Liberalization)

Superior (Grade I)	Defects 20% maximum	4% black beans maximum
Fair Average (Grade II)	Defects 25% maximum	8% black beans maximum
Sub-standard (Pickings)	Defects 50% maximum	8% black beans
Black Beans	100% black beans	

Source: COCOBOD

Table 7: Export taxes and duties levied on coffee

Commodity Description	Rates					Export Duty	Standard Unit of Quantity
	Imports						
	Import Duty	VAT/NHIS/GET FUND	Ecowas Levy & Others	Import Excise	Overage Penalty		
Grade I	20%	17.5%	5%			0%	Kg
Grade II	20%	17.5%	5%			0%	Kg
Grade III	20%	17.5%	5%			0%	Kg
Green coffee	20%	17.5%	5%			0%	Kg
Broken							
Black Coffee	20%	17.5%	5%			0%	Kg
Robusta	20%	17.5%	5%			0%	Kg
Roasted Coffee	20%	17.5%	5%			0%	Kg

Source: Harmonized System and Customs Tariffs Schedules (2012), Ghana Revenue Authority

10.3 Internal marketing of coffee

Until the coffee sector was liberalized for complete participation of the private sector, COCOBOD purchased coffee directly from farmers, undertook warehousing, quality assurance and export.

Currently, coffee produced in Ghana is purchased by local processors, private exporters and even foreigners from neighbouring countries who buy directly from farmers. There are also a few companies licensed by COCOBOD to purchase Ghanaian coffee. However, COCOBOD has no capacity or structures to take delivery or take over coffee purchased for domestic or external trade.

In an attempt to create a market ready for farmers, COCOBOD shall establish marketing centres in all identified coffee districts to buy coffee produced in the district.

Current regulations and guidelines shall be reviewed to streamline the internal marketing of coffee. Only licensed buying companies shall be mandated by COCOBOD to buy Ghanaian coffee directly from farmers at the minimum farm gate price.

COCOBOD shall assist in providing warehousing and logistical support at marketing centres.

10.4 External marketing of coffee

The internal and external marketing of coffee is guided by Regulations and Guidelines for the privatization of coffee marketing under COCOBOD. Regulations concerning the external marketing of coffee shall be reviewed to bring food safety into the sector. COCOBOD through CMC shall take delivery of coffee from LBCs and have the sole mandate to engage in external marketing of coffee.

11. COFFEE ROASTING AND DOMESTIC CONSUMPTION

In Ghana, consumption and processing/roasting of coffee is on the rise. The roasted coffee market is developing favorably in Ghana, as an increasing demand for coffee is observed in public offices, private companies and households. This is a move to make coffee consumption part of the national culture. Currently, around 2,000 bags are consumed per annum by Ghana.

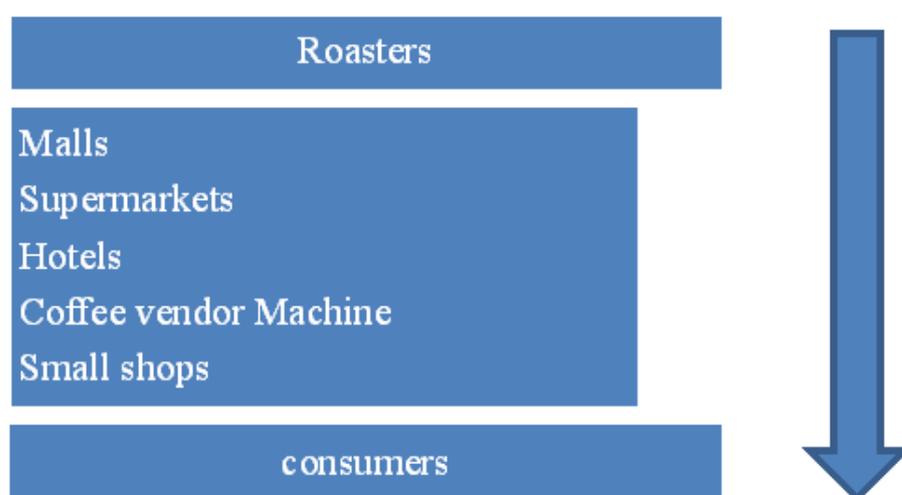
To process coffee is to add value to the raw harvested berries from the farms. Inadequate or lack of hulling machines or centers can be attributed to the low domestic processing of coffee.

New coffee shops chains, such as Second Cup and Café Vitale, have opened shops in the major urban centers in Ghana.

11.1 Distribution channels

Though the consumption of coffee is concentrated in the larger cities in Ghana, there are new outlets leading to an increase in patronage. Figure 8 depicts the distribution channels of coffee in Ghana.

Figure 8: Distribution channels of coffee in Ghana



12. REGULATIONS

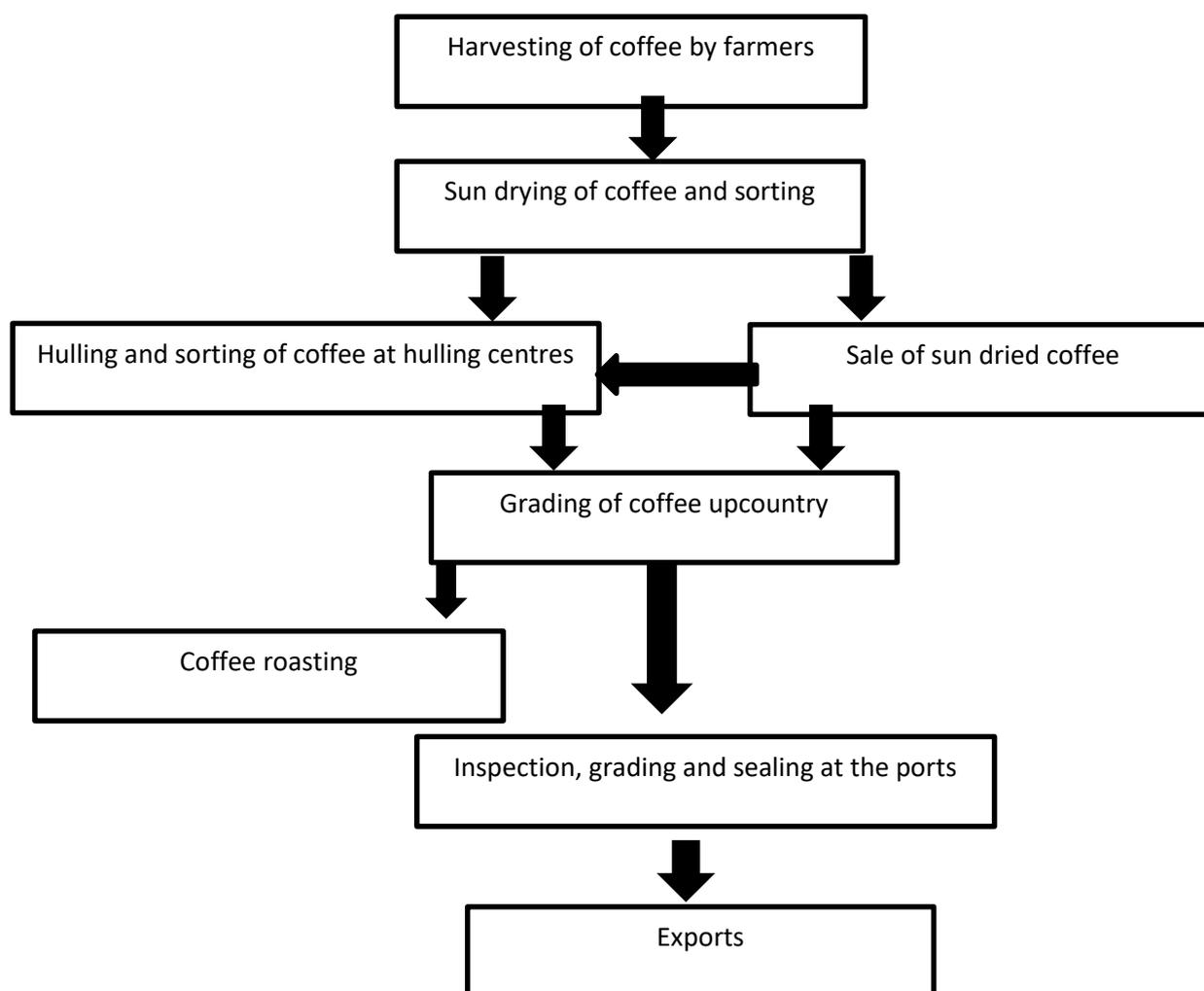
12.1 Export regulations

Coffee marketing both internal and external (exports) in Ghana was solely handled by the state until 1991 when the government embarked on the Agricultural Diversification Project where the coffee market was liberalized.

Coffee exports in Ghana are governed by:

- COCOBOD Act 1984 (PNDCL 81) which established the COCOBOD and mandates it to regulate the cocoa, coffee and shea industries.
- Regulations and guidelines for the privatization of coffee marketing

The coffee value chain follows the process shown in Figure 9.

Figure 9: Coffee value chain in Ghana

Ghanaian coffee farmers harvest their coffee for sorting and hulling, LBCs buy both hulled and unhulled coffee from farmers after it has undergone grading and sealing by the Quality Control Company (QCC). The graded coffee is certified and sealed for exports from the ports of Tema and Takoradi.

12.2 Regulations related to quality standards

The QCC, a subsidiary of COCOBOD is the sole institution responsible for ensuring that only quality coffee is produced and exported in Ghana. According to the rules and regulations for the privatization of coffee marketing, the following pertains to quality standards:

- Coffee can be purchased from farmers in either hulled or unhulled form. However, only hulled coffee or standard quality shall be exported.
- The role of the QCC shall include grading and sealing, inspection of facilities and produce, certification of storage facilities and other quality control roles.

13. MACROECONOMIC ASPECTS OF THE COFFEE SECTOR

13.1 Basic current coffee statistics

Records from the Ghana Statistical Service indicate that 8,164 individual households harvested coffee in 2014 as depicted in Table 8. Women comprised 22% of the Ghanaian coffee farmer population.

Table 8: Selected analysed variables in the Ghanaian coffee sector

Variable	Value
Number of households that harvest coffee (20% estimate)	8,164
Average household size	8
Estimated percentage of farmers by gender	78% (M): 22% (F)
Estimated area under cultivation (ha)	17,000
Average yield (tonne/ha)	2.5
Yield per farmer	4.66
Average farm gate price of hulled (GHc/64kg)	540.00
Producer price (GHc/tonne)	8, 640.00
Gross income (GHc/ha)	21,600.00
Net income (GHc/ha)	16,800.00
Average farm size (ha)	4.8
Annual net average revenue (GHc)	80,640.00
Total export (tonnes)	42,230.00
Share of GDP (2015)	0.12%
Number of roasters identified; number registered	11 (0)
Number of LBCs registered in 2016; active ones	32 (5)

Source: GSS (2014), RM&E Dept. (2016)

13.2 Income and livelihood

Referring to Table 8, with the current farm gate price of GHc540 per 64kg of hulled green coffee, it is estimated that the Ghanaian coffee farmer receives a net income of GHc16,800 per hectare and an annual average net revenue of GHc80, 640.

13.3 Coffee and trade balance

Coffee has traditionally not been a very important source of foreign currency for the economy of Ghana.

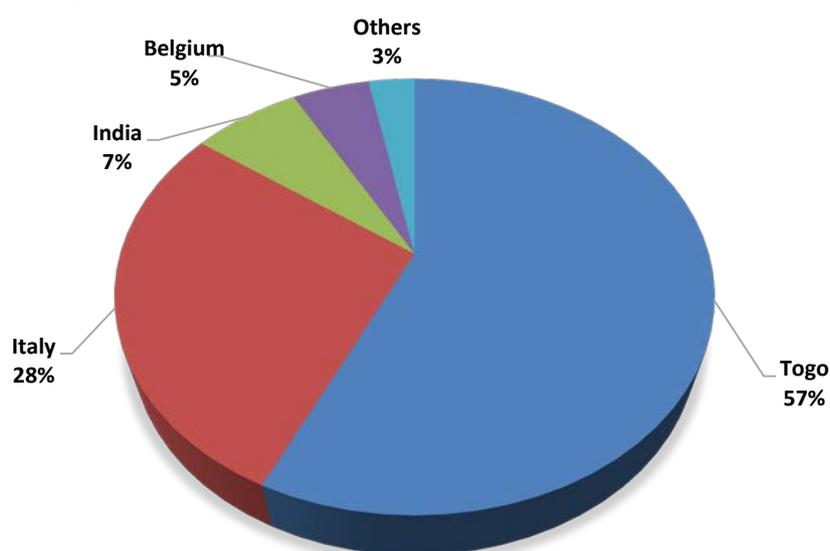
13.4 Share of GDP

The current contribution of the coffee sector to Ghana's GDP is very small and almost insignificant. It has always been less than 0.2% of GDP.

13.5 Export

The six-year export analysis show that Togo remains Ghana's major export destination of coffee, 57% of Ghana's coffee is exported to Togo, followed by exports of 28% to Italy.

Figure 10: Major export destinations of coffee from Ghana



Source: GcNET/Ghana Investment Promotion Centre

Table 9: Volume of coffee exports from Ghana ('000 64-kg bags)

Crop year	2010	2011	2012	2013	2014	2015	2016
Total	93.31	93.71	81.01	42.74	16.68	7.38	5.88
Green	93.31	93.71	80.99	42.73	8.91	0.63	.17
Soluble	0	0	0.01	0	7.77	6.75	5.71

14. ENVIRONMENTAL CHALLENGES

14.1 Impact of coffee production on the environment

Coffee grows in the forest and transition belt of Ghana. Together with cocoa, rubber and palm oil, these products have been responsible to a large extent, for deforestation in Ghana. COCOBOD has put in place several programmes and policies such as the Environmental Sustainability Programme, Forest Investment Project (FIP), Climate Smart Production and a few small initiatives with third party organizations to either mitigate or prevent further deforestation.

Use of agrochemicals in the coffee sector in Ghana is very minimal as most coffee farmers naturally cannot afford to purchase the chemicals.

14.2 Contribution to carbon footprint

In Ghana, most of the waste from coffee is used as mulch on the farm or gardens. There is no government policy at the moment for the use or disposal of coffee waste as the volumes are quite small.

14.3 Environmentally sustainable coffee production

One of the objectives of the CRP was to ensure sustainable coffee production and consumption. The CRP ensured the following:

- Provision of high yielding planting material that can withstand drought to a great extent.
- Good production practices that were environmentally friendly.
- Provision of trees for shade.
- Safe use of agrochemicals.
- Protection of water bodies.
- Regular training of extension personnel on Good Agricultural Practices (GAP).
- Post-harvest practices.

15. PROSPECTS FOR COFFEE PRODUCTION

The Ghanaian coffee sector is undergoing a revitalization phase. COCOBOD is in the process of developing a new project proposal for a 10-year period. This will place emphasis on planting material development, expansion of area under cultivation, provision of extension services to all coffee farmers and marketing of coffee. The objectives of the project are to enhance the structures of the coffee sector, streamline production, marketing and processing activities with a view to increasing output and enhancing quality. It is expected that coffee output will reach 100,000 tonnes in 10 years after project inception.

The project, which is a flagship of the government, will institute a coffee unit within COCOBOD with the aim of developing a Ghana Coffee Development Board in 10 years. The Coffee Development Board will oversee all aspects of the coffee sector from research and development, production, pricing, quality assurance and both internal and external marketing as well as processing (roasting) of coffee.

16. COFFEE PRODUCTION TARGETS IN GHANA

Coffee production was at its peak in the mid-1960s, hovering around 6,700 tonnes. However, in 2009, coffee production recorded its lowest production of 1,140 tonnes. As part of efforts to diversify sources of national revenue as well as provide additional income to farmers, the government, through COCOBOD, intends to increase Ghana's annual coffee production from the current level of about 6,000 tonnes to 100,000 tonnes in the short to medium term. Government support for COCOBOD's Pilot Coffee Rehabilitation Project instituted in 2010 resulted in a gradual increase in production to 6,000 tonnes by 2015.

It is anticipated that parts of the Volta, Eastern, Central and the transitional areas of Ashanti and Brong Ahafo Regions are being targeted for aggressive promotion of the cultivation of coffee.

In addition, the coffee breeding programme of the Cocoa Research Institute of Ghana has developed high-yield varieties of coffee that, under good management, can start bearing in a year and a half after planting, with average yields of 2 to 3 tonnes per hectare in five years. With a projected planted area of 100,000 hectares over the next six years, it is estimated that from 2021, about 10,000 tonnes of coffee can be produced annually which will subsequently increase to a minimum of about 200,000 tonnes over the next decade.

In the next few years, over five million improved, early maturing and high yielding coffee seedlings are to be raised and supplied to farmers. This number will be substantially increased annually to ensure that Ghana achieves the 200,000 hectares of coffee farms in the targeted locations by 2029. The efforts being made to increase coffee production will be backed with readily available marketing channels for farmers.

17. FURTHER OUTLOOK – PLANTING FOR EXPORT AND RURAL DEVELOPMENT (PERD)

As part of the Government of Ghana's flagship programmes to support the Ghana Beyond Aid Agenda the Planting for Export and Rural Development (PERD) programme has been rolled out. The PERD is through the joint effort by the Ministry of Local Government and Rural Development and Ministry of Food and Agriculture to roll out the national tree crop programme to create a legacy towards the realization of the Ghana Beyond Aid Agenda. This five-year PERD programme will support free planting materials for eight commodity value chains namely cashew, coffee, cotton coconut, citrus, palm oil, mangoes and shea to create sustainable raw material base to spur up the decentralized industrialization drive through One-District-One-Factory initiative.

Through the collaboration with COCOBOD, about 4 million seedlings of coffee, will be distributed to farmers by 2019.