INTERNATIONAL COFFEE ORGANIZATION

ICC 124-7

14 March 2019
English only

E

International Coffee Council
124th Session
25 – 29 March 2019
Nairobi, Kenya

Country Coffee Profile: Kenya

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 supported the Agriculture and Food Authority Coffee Directorate in the production of this Country Coffee Profile for Kenya.

Action

The International Coffee Council is requested to note this document.

INTERNATIONAL COFFEE ORGANIZATION

AFA
Our Crops, Our Wealth

AGRICULTURE AND FOOD AUTHORITY
COFFEE DIRECTORATE

COUNTRY COFFEE PROFILE
KENYA

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

AFA	Agriculture and Food Authority
CB	Coffee Board
CBK	Coffee Board of Kenya
CMB	Coffee Marketing Board
CRI	Coffee Research Institute
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GMP	Good Manufacturing Practices
KARLO	Agriculture Research and Livestock Organization
KCPA	Kenya Coffee Producers Association
KCTA	Kenya Coffee Traders Association
KEPHIS	Kenya Plant Health Inspectorate Services
Ksh	Kenya Shilling
MT	Metric Tonnes
NCE	Nairobi Coffee Exchange

PREFACE

Kenya's rich endowment of volcanic soils, altitude, rainfall and temperatures enables the country to produce high quality coffee that is rated among the best in the world. The sector contributes to the livelihoods of over 700,000 smallholder growers, as well as providing substantial foreign exchange earnings. However, as occurred in many other African coffee-producing countries, the end of the export quota system of the International Coffee Agreement coincided with a sharp decline in Kenyan coffee production from an annual average of 1.7 million bags in the 1980s to current levels of less than 1 million bags. I welcome the decision of the government to restructure the sector as one of the country's strategies to reduce poverty in rural communities and was particularly pleased by the request from Kenyan coffee authorities to prepare this country profile.

The publication of a series of country profiles is 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 development in coffee matters. These objectives have been reinforced in the Organization's Five-year Action Plan, approved by the International Coffee Council during its 120th Session, held in Yamoussoukro (Côte d'Ivoire) in September 2017.

In this regard, Member countries have been provided with guidelines to be used as a framework for a comprehensive report on the coffee sector in specific countries. Therefore, 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 policies can be developed and further analysis can be undertaken.

I would like to thank Mr Anthony Muriithi, Director General of the Agriculture and Food Authority (AFA) and his technical staff for the preparation of this report. Thanks are also due to Professor Joseph Kieyah, Chairman of the National Task Force on Coffee Sub-Sector Reforms, for his continued and invaluable support to the work of the International Coffee Organization. I sincerely hope that this profile will provide ICO Members and other stakeholders with relevant information on the coffee sector of Kenya and its new direction to regain its previous dynamism. Finally, the ICO Secretariat and I welcome any observations and suggestions that will contribute to improving future publications.

José Sette
Executive Director
International Coffee Organization

FOREWORD

Kenya is a country of great diversity, lying towards the East African coast and centrally located on the Equator, which splits the country into two almost equal parts. The various diverse features of Kenya have, in terms of physical, geographical and social economic attributes, given the country comparative advantages that have enabled it to grow and become the leading economic powerhouse within East Africa.

Agriculture is the backbone of Kenya's economy and the coffee industry has been one of the key pillars of the country's economic development for decades. The coffee sub-sector contributes annually an average of US$230 million in foreign exchange earnings and is ranked as Kenya's fourth most important export, after horticulture, tourism and tea. This key role is recognized in the Government's efforts to fight poverty and is central to the agricultural sector's contribution towards the realization of Kenya's Vision 2030, which is the country's blueprint premised on three pillars and in the Big 4 Government Agenda.

Kenya prides itself as a producer of superior quality coffee, largely due to positive attributes arising from favourable growing conditions: well-distributed rainfall, high altitude (1,500–2,000 metres above sea level), moderate temperatures and deep red volcanic soils. In addition, the method of processing the coffee for the market contributes significantly to the above-mentioned attributes.

The Kenyan coffee sector is under the auspices of the Coffee Directorate, one of eight Directorates of the Agriculture and Food Authority (AFA). The AFA is a government agency under the Ministry of Agriculture, Livestock, Fisheries and Irrigation and is responsible for the development, regulation and promotion of scheduled crops as provided for in the Crops Act of 2013.

The Kenya Constitution 2010 introduced two levels of governments: national and county. Subsequently, the agricultural sector was devolved to the county governments in order to ensure efficiency and effective service delivery. In this regard, collaboration between the national and county governments has given greater focus to the coffee sub-sector in the counties, through increased resource allocation for improved production and productivity. This is expected to change the future outlook of coffee to a more profitable enterprise and, thus, promote the sustainability of the coffee industry.

I take this opportunity to welcome all the delegates attending the 124th ICO Council session and meetings in Nairobi, Kenya. KARIBUNI

Anthony Muriithi
Director General,
Agriculture and Food Authority

SUMMARY

Kenyan coffee is grown on an estimated total area of 115,570ha in 32 counties out of a total of 47 counties in the country. The country has a dual production system with about 3,000 large estates and over 700,000 smallholder growers. Introduced in the end of the 1800s by the colonial government, coffee already played a crucial role in the economy of the country by the time of its independence in 1963. The sole type of coffee produced in the country is Arabica, which is planted during the rainy season from April to October with two harvest periods (from April to June and from October to December). Coffee is grown without shade and the average yield is estimated at 302kg/ha for smallholder farms and 556kg/ha for estate farms. The annual average production is below 900,000 bags.

After harvest, farmers deliver their cherries to their primary societies for processing. The timeframe until farmers are paid is largely dependent on the efficiency of the marketing agents and the availability of buyers. Cooperative societies are required by law to pay farmers at least 80% of the total upon delivery of their cherries. However, cherry repayment rates differ from region to region, ranging from 84.6% to 10.2%.

In Kenya coffee is marketed through a central auction system managed by the Nairobi Coffee Exchange Management Committee, which consists of representatives of the industry stakeholders. Direct sales to buyers from importing countries have been authorized as a second window. The main export destinations are Germany (15.8% of total exports in coffee year 2017/18), United States of America (15.7%), Belgium (14%), Republic of Korea (12.1%) and Sweden (8.2%). In terms of value addition, 25 registered local roasters process 138,500 bags of coffee, although domestic consumption is estimated at around 18,396 bags only.

Kenya has a strong research institution that developed two improved varieties, Ruiru 11 and Batian, which are expected to contribute to governmental efforts to promote sustainable coffee production. The stakeholders of the industry consist of government, coffee growers and the private sector. The regulatory body is the Agriculture and Food Authority (AFA), which is also in charge of the sector's development. The private sector supports the coffee industry at various stages in the value chain. The Kenyan coffee sector is mainly funded by national and local governments. One of the major challenges of the sector is climate change, which affects production due to unreliable and erratic rains with shorter seasons.

As part of the government's coffee revitalization programme, designed by the National Task Force on Coffee Sub-Sector Reforms, a number of challenges will be addressed in order to renovate the coffee sector in Kenya.

1. BACKGROUND

1.1. Geographical setting of Kenya

Kenya lies astride the Equator on the East coast of Africa. It is a medium-sized country by continental standards, covering an area of about 586,600km2. Inland water bodies cover some 10,700km2, the bulk of which in Lakes Victoria and Turkana.

To the East lies the Indian Ocean and the Republic of Somalia, to the North lie Ethiopia and South Sudan, to the West lies Uganda and to the South lies the Republic of Tanzania. The geographic coordinates of Kenya are: 1 00 N, 38 00 E.

The climate of Kenya varies from tropical along the coast to arid in the interior. The weather in Kenya is generally sunny year-round, with the main rainy seasons being from March to May and from November to December.

Figure 1: Kenya and its geographical setting

1.2. Economic setting

The major economic activities in Kenya include agriculture, tourism, forestry and fishing, energy and manufacturing. The sectors have contributed to an annual growth in national Gross Domestic Product (GDP) of about 5% over the last five years. According to estimates made in 2018, Kenya had a GDP of $86 billion, becoming the 69th largest economy in the world.

Agriculture continues to be a major contributor to the country’s economic growth and development, accounting directly for 24.5% and indirectly for 27% of the country’s GDP. In addition, the sector contributes to 65% of total exports and employs over 80% of Kenya’s rural workforce. The coffee sub-sector is one of the sub-sectors contributing to this growth in agriculture through foreign exchange earnings, family farm incomes, employment creation and food security. The value of coffee as a percentage of all export goods represented 5.5% in 2017, while its share of GDP is 0.22%. The coffee industry contributes an average of KShs 23 billion per year in foreign exchange earnings, ranking fourth after tourism, tea and horticulture. Therefore, the government recognizes the strategic role played by the sector in the economic empowerment of coffee farmers and service providers.

1.3. Summary of the history of coffee in Kenya

Coffee was first planted in Kenya at Bura in the Taita Hills in 1893 and later grown under irrigation at Kibwezi, in 1900, and at Kikuyu, near Nairobi, in 1904. In the 1930s, following the Devonshire White Paper report of 1923, the colonial government allowed controlled planting of coffee outside European-settled areas, particularly in Kisii and Meru.

When Kenya attained its independence in 1963 the coffee industry was already playing a significant role in the economy by, among other things, being the leading source of foreign exchange. At that time, there was no statutory control, in terms of crop husbandry, production, processing, grading and marketing. The marketing of coffee was handled by individuals and through rudimentary institutions between 1900 and 1933. At the request of coffee farmers, the colonial government enacted the Coffee Industry Ordinance in 1932, and established a Coffee Board (CB) in January 1933. The role of the Coffee Board was licensing, inspection and promotion.

On the other hand, the Kenya coffee auctions, as a mode of selling Kenyan coffee, were established in 1934 and the liquoring department of Coffee Board was created in 1935 to enhance the grading and selling of coffee. The first coffee auction was inaugurated in September 1935. The Coffee Marketing Board (CMB) was established under Coffee Marketing Ordinance No. 6 of 1946 and became fully operational on 1 July 1947 to cater for coffee marketing activities, with functions including central warehousing, sales of coffee at central auctions, liquoring and financing.

Ordinance No. 26 of 1960 consolidated the Coffee Industry Ordinance and the Coffee Marketing Ordinance into the Coffee Ordinance Cap 333. This measure came into effect on 5 July 1960, when the Coffee Board of Kenya (CBK) and the CMB were established under the same law.

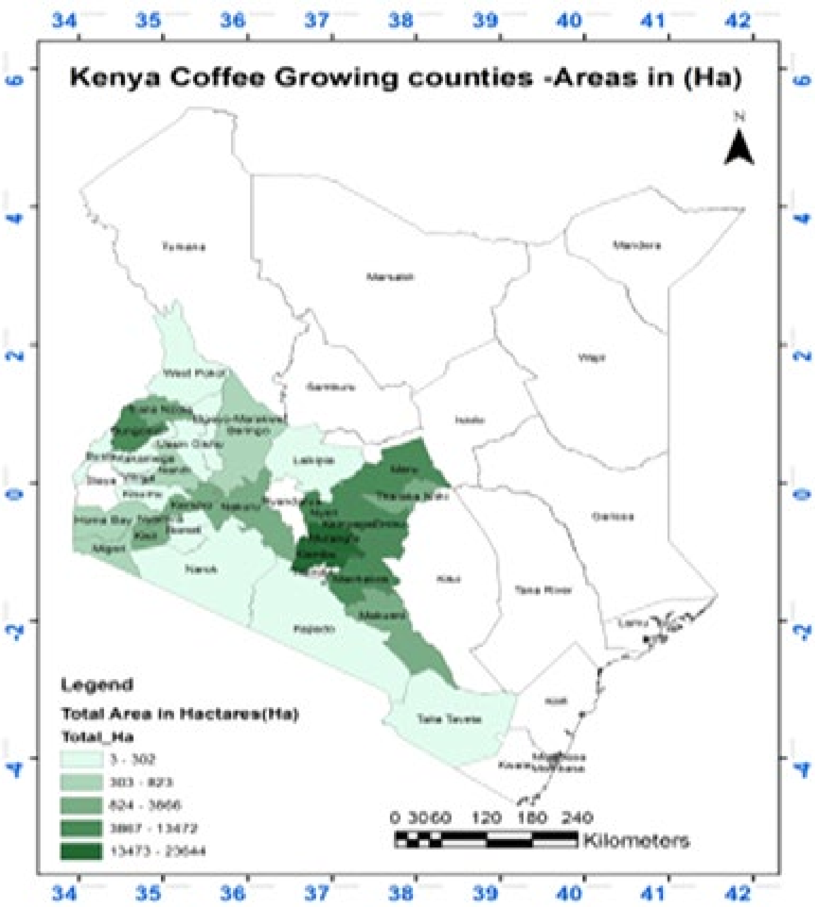
Act 13 of 1971 abolished the CMB and consolidated the function of coffee marketing within the regulatory functions of the CBK. Since then, the CBK controlled the coffee sub-sector up to July 2001, when a new Coffee Act 2001 was enacted that specified new roles for CBK as an industry regulator.

2. Coffee Production

2.1. Geographical Distribution of coffee production and types of coffee

Coffee-growing areas are located within the Western, Rift Valley, Central Kenya and Mt Kenya regions, as shown in figure 2 below. Coffee is grown in the high potential areas between 1,400 and 2,200 metres above sea level, with temperature ranging from 15 to 24° Celsius, in red volcanic soils that are deep and well drained. Over 99% of Kenyan coffee is Arabica, whose main varieties are SL 28, SL 34, K7, Ruiru 11, Batian and Blue Mountain.

Figure 2. Coffee-growing Areas



2.2. Coffee production systems

Kenya coffee is produced under two systems, comprising smallholder farmers affiliated to co-operative societies and coffee estates, which are individually managed coffee plantations. A total of 115,570ha of land is dedicated to coffee production in 32 counties, distributed as follows: co-operatives 88,278ha and estates 26,222ha.

Coffee is mainly grown under rain-fed conditions, with some large coffee estates having established irrigation systems. Most Kenyan coffee is grown without shade, but shaded coffee is becoming increasingly popular in order to mitigate the effects of climate change, although no attempt has been made to quantify the area under shade. Research is ongoing to determine the appropriate shade trees.

2.3. Coffee season

Coffee planting is usually done during the rainy seasons, in the months of April and October, while harvesting takes place during two periods every year, with the first crop from April to June and the second from October to December.

2.4. Smallholdings and estate farms

Coffee is grown by an estimated 800,000 smallholder farmers, clustered under 500 cooperative societies, and a total of about 3,000 coffee estates, categorized as small, medium and large, are involved in coffee production as indicated in Table 1.

Table 1: Distribution of coffee holdings

Sector	Size of acreage	Number of farmers	Share of total farmers
Small holder affiliated	**Varies**	**800,000**	**99.63%**
Estates holdings distributed as follows			
Small estates	5-20 acres	2,400	0.30%
Medium estates	20-50 acres	500	0.06%
Large estates	Over 50 acres	100	0.01%
Total number of coffee farmers		**803,000**	100%

2.5. Coffee Yields and Other Characteristics

The plant population per hectare of traditional coffee varieties with spacing of 2.74m x 2.74m is about 1,350 bushes, while the plant population of R11 spaced at 2m by 2m is 2500. The national average coffee yield is estimated at 302kg/ha, whereas the average yield in the estate sector is 556 kg/ha.

Coffee farmers use organic and inorganic fertilizers when establishing coffee. For sustained production, farmers apply recommended fertilizers after soil analysis by the Coffee Research Institute (KALRO-CRI). Coffee farmers also apply recommended agrochemicals to manage pests in coffee bushes. However, the use of inorganic chemicals has decreased due to the introduction of disease-resistant varieties, such as Ruiru11 and Batian.

2.6. Volume of coffee production

The trend of production of Kenyan coffee has oscillated between 40,000 to 50,000 Mt over the last six years. Table 2 illustrates Kenyan coffee production in the last six years.

Table 1: Kenya coffee production over the last five years

Year		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Production (MT)	Estates	13,773	16,805	14,808	15,267	14,151	10,997
	Co-operatives	26,092	32,652	27,230	30,758	24,468	30,381
	Total	39,865	49,475	42,038	46,121	38,620	41,375

2.7. Gender Gap

Land ownership is culturally dominated by men. However, women provide over 60% of the workforce in farms and coffee wet mills. This situation is gradually changing as a result of the affirmative action stipulated in the Kenya Constitution 2010. Women who own farms are largely those who have been widowed.

3. PRODUCTION COST OVER THE LAST FIVE YEARS

Production costs of coffee vary with levels of productivity and between the varieties under establishment. Below is a tabulation of an average cost of production per year:

Table 3: Average production cost during the last five years

	Cost of coffee production					
Production level	**Low Mgt**	**Medium Mgt**	**High Mgt**	**Sl Variety**	**Sl Variety**	**Ruiru 11/Batian**
Yield (tonne of clean coffee /ha)	0.27	0.4	0.81	0.95	2.00	3.57
Production/tree (kg of cherry)	1.42	2.11	4.26	5	10.53	10
Average price (USD/50 kg cc)	235.48	235.48	235.48	235.48	235.48	235.48
Gross revenue (Ksh/hectare)	128,708	194,030	389,995	459,671	967,729	1,727,396
Gross revenue (Ksh/tonne)	483,864	483,864	483,864	483,864	483,864	483,864
Cost of production/ha	98,367	148,853	258,741	271,678	136,735	106,931
Cost of production/tonne	369,801	371,204	321,018	285,977	68,368	29,953
Net Revenue per Tonne (Ksh)	17,291	15,887	66,073	101,115	318,724	357,139

Table 3: Average production cost during the last five years. Continued.

	Loss and profit analysis per kg of cherry					
Production level	**Low Mgt**	**Medium Mgt**	**High Mgt**	**Sl Variety**	**Sl Variety**	**Ruiru 11/Batian**
Production per tree in kgs of cherry	1.4	2.1	4.3	5	10.5	10
Cost per kg of cherry	52.83	53.03	45.86	50.16	40.85	9.77
Average price per kg of cherry	69.12	69.12	69.12	69.12	69.12	69.12
Loss/profit per kg of cherry	16.29	16.09	23.26	18.96	28.27	59.35

Source: Coffee Research Institute

Crop losses

Crop losses in coffee production can arise at the farm and in processing units. At the farm, coffee losses can arise from nutritional deficiencies, diseases and insect pest attacks that can reduce the volume and quality of coffee. Coffee processing starts during picking, in which selective sorting of cherries helps to maintain quality. In wet mills, the quality of coffee can be compromised as a result of poor pulping, grading, washing, drying and storage. Losses incurred at the farm level could be significant, but no figures are available to indicate their extent. From field visits during processing times, it is noted that farmers have taken great care to minimize losses by traveling short distances to the wet mills at which they are registered. Farmers are required to register in the wet mill stations nearest to their land.

4. FARM INCOMES AND COFFEE PAYMENTS TO GROWERS

Smallholder coffee farmers in Kenya harvest and deliver cherries to their respective mills for primary processing, comprising the removal of pulp and consequent transformation of the final product into parchment. Parchment coffee is then delivered to over twenty licensed millers for processing to produce clean coffee grades. Clean coffee grades are stored in warehouses, while samples are presented for marketing at the Nairobi Coffee Exchange. Upon sale of the coffee, growers get paid directly, if they are estate farmers, or through co-operative societies.

The timeframe until farmers are paid is largely dependent on the efficiency of the marketing agents and availability of buyers. Cooperative societies are required to pay at least 80% of sales proceeds to farmers. Table 4 below shows the highest and the lowest cherry payment rates per kilo of cherry. According to KALRO, the highest production cost is Kshs 52.30/kg while the lowest production cost is Kshs 10/kg depending on different varieties and management style.

Table 4: Cherry payment rates by region and county

Region/County	2015/16		2016/17		2017/18	
	Highest rate-KES	Lowest rate-KES	Highest rate-KES	Lowest rate-KES	Highest rate-KES	Lowest rate-KES
CENTRAL/MT KENYA WEST	**84.6**	**10.2**	**119.1**	**20**	**105**	**12.75**
KIAMBU	65	25	75.76	25.8	93.43	30
KIRINYAGA	78.7	30.7	119.1	47.72	103	30.95
MURANGA	70.75	10.2	90.1	20	88.1	18.1
NYERI	84.6	20	105	29	105	12.75
MT KENYA EAST	**74**	**14.2**	**104.88**	**12**	**97.45**	**9**
EMBU	74.2	14.2	104.88	26.87	97.45	17.4
MACHAKOS	74	15	75	12	51.00	9
MAKUENI	56	15	56.5	44.63	34.83	17
MERU	53.23	18	62.05	28	76.4	18.5
TAITA	25	25				
THARAKA NITHI	63	35	73	29.5	72	14.04
NORTH RIFT	**78**	**14**	**66.41**	**24.2**	**92.67**	**28**
ELGEYO MARAKWET	44.2	44	44.36	34.62	50	29
NANDI	53	14	53.3	37.5	72	28
TRANS NZOIA	78.2	24	66.41	24.2	92.67	24
UASIN GISHU	27	27	28.13	28.13	34	34
WEST POKOT	48	34	48	37.83	48	37.5
NYANZA	**50**	**10.7**	**55**	**17.19**	**55**	**9.55**
HOMA BAY	50	25	50	30	40	25
KISII	37.75	10.7	54.42	17.19	48.55	9.55
KISUMU	13.5	13.5	55	55	55	55
MIGORI	45	33	54.3	41.5	53	33.8
NYAMIRA	35	15	52.4	29.22	44	12.38
SOUTH RIFT	**55.92**	**14**	**81**	**25**	**78.9**	**17**
BARINGO	43	28.5	64.15	38	45.2	35.54
BOMET	37	14	70.7	25		
KERICHO	54.43	31.7	81	31.57	78.9	17
LAIKIPIA			30	30		
NAKURU	55.92	29.11	70	44.22	59.4	41
NAROK	23	23				
WESTERN	**55.7**	**14**	**71.31**	**27.5**	**77.5**	**31**
BUNGOMA	55.7	14	71.31	27.5	77.5	31
KAKAMEGA			30	30	48	48
VIHIGA						
Grand Total	**84.6**	**10.2**	**119.1**	**12**	**105**	**9**

5. RESEARCH AND EXTENSION

5.1. Coffee research

In Kenya, coffee research is undertaken by the Coffee Research Institute (CRI) of the Kenya Agriculture Research and Livestock Organization (KARLO). The Institute has made several recommendations with regard to Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP). In addition, the Institute has conducted major research aimed at ensuring the sustainability of production through an efficient value chain and climate mitigation measures.

The Coffee Research Institute has developed two improved varieties, namely Ruiru11 and Batian, which are part of the efforts to enhance production sustainability. The improved varieties are resistant to Coffee Berry Disease and Leaf Rust Disease, thus lowering the cost incurred in the control by fungicides. Over 300,000 farmers are estimated to have planted the new varieties.

5.2. Research on climate change and coffee

The Coffee Research Institute has undertaken research and made recommendations on various measures to mitigate the adverse effects of climate change. Some of these measures include use of suitable shade trees, mulching material, and the adjustment of spraying programmes to cope with changing trends in the manifestation of coffee pests and diseases.

5.3. Coffee extension services

Before the promulgation of the Kenya Constitution 2010, coffee extension services were the responsibility of the national government in collaboration with other stakeholders in the coffee sub-sector. However, following the promulgation of the Kenya Constitution 2010, certain functions related to agriculture, including provision of extension services, were devolved to the county governments. However, the Coffee Directorate of the Agriculture and Food Authority, in collaboration with other relevant stakeholders, provides capacity building to the counties' agricultural staff and other coffee value chain players. The collaborating private agencies include Technoserve, Solidaridad, certification bodies (UTZ, 4C, Fairtrade) and management services providers. The Coffee Research Institute develops technologies, releases new coffee varieties and carries out research on disease and pest management, while the Ministry of Agriculture sets policy guidelines.

6. Coffee Processing

Most Kenyan coffee (90%) is wet processed at washing stations owned by cooperative societies and estate farmers, whereas less than 10% of coffee is dry processed into *buni* (dried coffee that has not undergone pulping). The parchment coffee from washing stations is graded into Parchment 1, 2, 3 and lights, ready for onward transportation to a dry mill. Every coffee cooperative society has its own members and jurisdiction. Members should not move from one society to another because of commitments (e.g. loan recovery purpose) Therefore, movement from one society to another is discouraged since this may lead to loan defaults. In situations where mismanagement exists, members move without seeking permission from authorities.

Quality control

Coffee quality begins with selective picking on the farm, followed by sorting, pulping and careful sun-drying. Parchment coffee is analyzed for moisture content to ensure adequate drying before it is milled into seven primary grades of clean coffee and two grades of *buni* in conformity with the International Coffee Standard. Mills and exporters also carry out coffee cupping in order to ensure conformity with quality standards.

7. Stakeholders in the coffee sector

The coffee value chain comprises a variety of members, namely: Ministry, government agencies and departments, coffee growers, millers, marketing agents, management agents, warehouses, transporters and financial institutions. The following Table 5 contains categories and number of the stakeholders who have been registered by the Agriculture and Food Authority (AFA)-Coffee Directorate

Table 5: Categories and number of stakeholders

No	Category	Size
1.	Smallholder farmers	700,000
2.	Estates	3,000
3.	Co-operative societies	500
4.	Cooperative Unions	14
5.	Pulping stations-co-operatives	1,001
6.	Pulping stations-estates	3,000
7.	Coffee millers	17
8.	Commercial marketing agencies	10

No	Category	Size
9.	Nairobi Coffee Exchange	1
10.	Grower marketers	25
11.	Warehouses	24
12.	Management agents	4
13.	Coffee dealers	77

7.1. Farmers' associations/cooperatives

Coffee growers and some service providers are organized into associations for purposes of self-regulation and lobbying for facilitative policies and regulations. There are about ten growers' unions, a Commercial Coffee Millers and Marketing Agents Association, the Kenya Coffee Traders Association (KCTA) and the Kenya Coffee Producers Association (KCPA) within the coffee value chain.

7.2. National Coffee Authority

The former Coffee Board of Kenya was the sole regulator of the coffee sub-sector and was governed by the Coffee Act of 2001 and Coffee General Regulations of 2002. However, following reforms in the agricultural sector, there was a merger of former Boards of all commodity boards that show the repeal of the previous Acts and enactment of the Agriculture and Food Authority Act 2013 and the Crops Act 2013 that was operationalized in August 2014. This led to the establishment of the Agriculture and Food Authority with eight Directorates for different crops. Therefore, the Agriculture and Food Authority-Coffee Directorate is responsible for the regulation, development and promotion of the coffee sub-sector in Kenya. The Coffee Directorate ensures enforcement of the regulations and standards for coffee quality in the coffee industry.

The Authority is headed by a Director General, while the Directorate is led by the Head of the Coffee Directorate who is supported by a total of fifty staff with a countrywide network of field offices. The Directorate has three Departments, namely: Regulation and Compliance; Promotion; and Technical and Advisory Services.

The mandate of AFA-Coffee Directorate is to sustainably develop and promote the coffee value chain through effective regulation for economic growth. Its role is to: undertake formulation of the coffee sub-sector policy for general guidance and direction of the coffee industry in consultation with county governments; review Kenyan coffee standards in consultation with the Kenya Bureau of Standards, coffee industry stakeholders and county governments; enforce coffee industry standards and codes of practice; promote Kenyan coffee in the domestic and international markets in collaboration with county governments, the private sector and stakeholders; promote initiatives to add value to coffee; facilitate coffee exports, re-exports, and imports through issuance of relevant documents; represent Kenya in international forums of the coffee industry; and maintain a national industry database for research and planning.

7.3. Government's further involvement

The Ministry of Agriculture, Livestock, Fisheries and Irrigation is in charge of policy formulation for the coffee industry and overseas operations of the Authority, whereas the State Department of Co-operatives is in charge of cooperatives policy and regulates the cooperatives sector. Other Departments that support the coffee sub-sector include the State Department of Trade, Ministry of Foreign Affairs, the Treasury, Attorney General and other state organs. Agriculture is currently a devolved function under the authority of county governments, which are responsible for financing, technical support, enforcement of standards, regulation and extension services. The sub-sector is also, from time to time, supported by development partners, such as the World Bank and the European Union.

The Ministry of Agriculture supports the sub-sector by providing policy direction (policy formulation/development) and by building the capacity of county governments' staff on matters related to coffee, while the Ministry of Foreign Affairs provides coffee market linkages through foreign missions. The Treasury provides funds for running institutions responsible for the promotion, development and regulation of the sector. The Attorney General provides legal services to the government on coffee matters. Crop husbandry has been devolved to the counties, so county governments provide extension services through agricultural extension officers domiciled in their respective counties. They promote the expansion of coffee by providing subsidized inputs, such as fertilizers, and coffee seedlings. Some counties have designated coffee extension officers.

7.4. The private sector

The private sector supports the coffee sub-sector at various stages in the value chain with regard to the production, processing, milling, marketing and capacity building, among other services. The private sector comprises coffee millers, marketing agents and non-governmental organizations, among other players. The private sector supplies inputs and crop-processing materials, as well as training growers in Good Agricultural and Good Manufacturing Practices. Over 80% of the total milling infrastructure is owned by the private sector, which also carries out most of the marketing functions.

7.5. Financial institutions

The coffee sector is funded by the national government, county governments, banks, SACCOs and development partners. Specifically, the Commodities Fund (former Coffee Development Fund) was established to provide affordable credit to coffee farmers, which benefit has been extended to other crops since 2014, following the establishment of the AFA. It is estimated that 100,000 farmers have received loans since the credit facility was established.

8. MARKETING STRUCTURE

Kenyan coffee is marketed through a central auction and direct sales. The central auction is administered by the Nairobi Coffee Exchange Management Committee, which is drawn from industry stakeholders. Coffee marketing agents who have been contracted by coffee growers offer coffee for sale in a competitive auction to the highest bidders among coffee dealers (exporters). The AFA Coffee Directorate annually licenses the marketing agents and dealers who participate at the auction floor.

Direct sales entail engagement between the grower-marketer and overseas buyers. Grower-marketers are coffee growers who are licensed to market their own coffee directly to overseas buyers. However, in cases where growers do not have the capacity to market their product directly, commercial marketing agents facilitate the process by drawing up sales agreements between producers and buyers and handling other marketing logistics.

Table 6: Average auction price 1998/99-2017/18

Coffee Year	No. Bags	Weight Traded-kg	Value (US$)	Avg Price/50kg
1998/1999	1,119,790	67,406,795	159,633,152	118.41
1999/2000	1,424,087	85,862,945	144,043,500	83.88
2000/2001	1,080,171	65,163,902	89,063,020	68.34
2001/2002	785,897	47,427,241	73,683,754	77.68
2002/2003	970,706	58,612,490	76,827,524	65.54
2003/2004	875,328	52,873,632	87,992,443	83.21
2004/2005	822,182	49,753,670	120,403,162	121.00
2005/2006	782,482	47,495,275	128,290,188	135.06
2006/2007	878,580	53,368,337	143,006,663	133.98
2007/2008	648,031	39,461,673	139,878,939	177.23
2008/2009	853,428	51,881,026	160,459,376	154.64
2009/2010	595,156	36,197,159	171,347,974	236.69

Coffee Year	No. Bags	Weight Traded-kg	Value (US$)	Avg Price/50kg
2010/2011	551,334	33,633,235	221,468,088	329.24
2011/2012	712,132	43,366,142	190,810,778	220.00
2012/2013	625,185	38,141,308	127,164,403	166.70
2013/2014	671,438	40,927,603	174,151,188	212.76
2014/2015	568,766	34,754,166	142,507,244	205.02
2015/2016	628,733	38,375,591	148,927,012	194.04
2016/2017	557,544	34,090,505	159,201,866	233.50
2017/2018	582,887	35,675,449	145,220,024	203.53

The table above shows the performance of the Nairobi Coffee Exchange (NCE) over the last 20 years. Despite the decline in the volume of coffee marketed through this window, its value has been increasing over the years.

8.1. Farmers' associations/cooperatives exporting coffee

A few coffee farmers' associations and cooperatives export coffee directly to overseas coffee buyers, occasionally facilitated by contracted commercial marketing agents. These exports are conducted under the direct sales marketing system.

Table 7: Direct sales volume and value

Year	Direct Sales (DS)	
	Weight (kg)	Value (US$)
2007/08	2,045,280	8,106,791
2008/09	1,195,560	4,385,904
2009/10	3,784,154	19,492,410
2010/11	2,231,981	22,211,998
2011/12	5,701,514	33,580,664
2012/13	3,723,449	17,991,934
2013/14	8,282,060	42,988,034
2014/15	7,183,000	40,028,589
2015/16	7,543,758	41,048,102
2016/17	6,755,743	43,738,496
2017/18	7,962,253	44,980,154

Direct sales provide an alternative channel through which coffee is marketed in Kenya. The contracts are signed between overseas buyers and farmers directly, with facilitation by marketing agents.

8.2. Specification of coffee grades and indicative premiums.

Once coffee parchment and *buni* have been dry milled, the clean coffee is then graded into seven primary grades and two primary grades for parchment and *buni* respectively. The grades are: E, AA, AB, PB, C, T, TT and MH, ML; with grades E, AA, AB and PB being regarded as the premium grades. Some Kenyan coffees are also grown under certification schemes and fetch premiums prices that vary according to the scheme in question.

Table 8: Calibration of different grades of Kenyan coffee

Grade and description	Screen size
E (Elephant) Two beans joint together	Retained by screen 21 (8.3mm)
AA (Flat bean)	Retained by screen 18/17 (7.2mm)
AB (Flat bean)	Retained by screen 16 (6.35mm)
PB (Peaberry-Oval bean)	Retained by screen 12 (4.76mm)
C (Smaller beans)	Retained by screen 10 (3.96mm)
TT (Lights from AA and AB)	Gravity separated
T (Smallest beans, broken, chipped)	Passing through 7 (2.9mm)

9. VALUE ADDITION

Growers and private roasters are licensed to undertake the roasting, packaging and marketing of Kenyan coffee locally and internationally. Today, 25 roasters (of which four are grower-marketers) and one university are involved in coffee roasting and packaging. The coffee for roasting is purchased at the auction and, after roasting, is retailed in major urban centres and coffee shops. A survey conducted in 2017 showed that the number of coffee shops increased from 206 in 2015 to 278 in 2017.

9.1. Domestic coffee consumption during the last five years

Domestic coffee consumption has grown by 2% to 5% annually over the last five years. According to the latest survey conducted by the Coffee Directorate in 2017, the total number of coffee houses grew to 399, compared to 206 in 2015. This development is attributable to consumption by the growing middle class.

On the other hand, in its efforts to promote domestic coffee consumption, the Coffee Directorate has entered into partnerships with Kenyatta University, Jomo Kenyatta University of Agriculture and Technology, Multimedia University, Moi University and

University of Eldoret. Other partners are Egerton University, United States International University-Africa, Dedan Kimathi University, Machakos University and Mount Kenya University. The idea is based on targeting youth in order to promote a coffee-drinking culture in Kenya. Table 4 below shows coffee consumption volumes over the last nine years.

Table 9: Volumes of coffee consumed locally from 2009/10 to 2017/18

Year	Local consumption(MT)-GBE	No. Bags-60kg
2009/10	509.90	8,498
2010/11	566.60	9,443
2011/12	629.50	10,492
2012/13	716.00	11,931
2013/14	744.00	12,405
2014/15	756.00	12,591
2015/16	771.00	12,842
2016/17	1,051.20	17,520
2017/18	1,103.76	18,396

9.2. Inventories during the last five years

Once harvested, milled and warehoused, coffee in Kenya is all sold within the growing season, with the exception of minimal stocks held by exporters for periods not longer than six months. Therefore, no significant inventories can be reported.

10. COFFEE EXPORTS

Table 10 below contains a summary of Kenyan coffee exports in the last six years, and Table 11 reports coffee exports by destination.

Table 10: Performance of coffee exports from 2012/13 to 2017/18

Coffee year	Net Weight-kg	FOB Value (US$)	Value (Ksh)
2012/13	49,031,461.31	217,018,127.61	18,209,676,550.66
2013/14	47,175,294.11	228,426,961.63	19,733,013,644.91
2014/15	44,064,026.78	223,385,715.01	21,010,597,868.28
2015/16	44,342,470.01	205,674,854.90	20,893,006,028.47
2016/17	43,378,724.78	227,827,991.12	23,468,566,737.90
2017/18	43,289,615.31	229,514,404.53	23,307,949,319.83

Table 11: Coffee exports by destination, 2017/18

Destination	No. of 60-kg bags	FOB Value	%
Germany	113,636.96	36,502,289.25	15.75%
United States	113,421.78	42,026,682.39	15.72%
Belgium	101,235.22	31,370,405.96	14.03%
Korea, Republic of	87,111.00	25,129,162.36	12.07%
Sweden	58,823.83	20,020,999.94	8.15%
Australia	25,278.03	9,545,978.94	3.50%
Finland	23,076.00	6,667,018.26	3.20%
Norway	18,343.83	7,554,350.60	2.54%
United Kingdom	17,222.98	7,701,028.91	2.39%
Tunisia	15,945.33	2,364,784.63	2.21%
Canada	14,878.83	5,559,178.26	2.06%
Netherlands	13,411.82	4,764,372.73	1.86%
Japan	12,587.11	5,342,535.45	1.74%
Spain	10,637.00	3,641,816.71	1.47%
United Arab Emirates	10,454.00	1,303,651.22	1.45%
Romania	10,220.00	3,433,881.12	1.42%
Syrian Arab Republic	8,720.00	988,200.00	1.21%
Jordan	8,411.00	2,105,790.00	1.17%
France	7,747.00	1,289,510.33	1.07%
India	7,096.00	995,404.44	0.98%
Italy	6,750.87	1,223,143.75	0.94%
Switzerland	4,360.00	1,323,982.08	0.60%
New Zealand	4,051.80	1,359,062.68	0.56%
Taiwan	3,839.15	1,751,498.77	0.53%
Republic Of Djibouti	3,720.00	308,760.00	0.52%
Croatia	3,200.00	401,006.40	0.44%
Saudi Arabia	2,869.00	1,094,694.66	0.40%
China	2,446.78	921,103.90	0.34%
South Africa	1,843.22	565,870.15	0.26%
Madagascar	1,680.00	252,000.00	0.23%
Turkey	1,324.00	239,375.55	0.18%
Russian Federation	1,215.00	287,635.17	0.17%
Oman	989.00	155,106.90	0.14%
Poland	930.00	100,440.00	0.13%
Denmark	678.00	351,540.77	0.09%
Iran	646.67	139,405.00	0.09%
Malaysia	600.00	55,908.00	0.08%
Lebanon	462.45	79,675.24	0.06%
Hong Kong	414.00	157,228.28	0.06%
Bulgaria	320.00	121,339.33	0.04%
Greece	320.00	62,976.00	0.04%
Singapore	250.00	108,030.00	0.03%
Latvia	188.00	92,587.00	0.03%

Destination	No. of 60-kg bags	FOB Value	%
Philippines	100.00	36,068.40	0.01%
Czech Republic	18.17	7,537.00	0.00%
Belize	15.00	7,038.00	0.00%
Ireland	4.77	4,350.00	0.00%
Total	**721,493.59**	**229,514,404.50**	**100.00%**

11. EXPORT REGULATIONS

Kenyan coffee exports are regulated by the Coffee General Regulations 2002 and the Kenya Coffee Trading Rules 2012. All coffee dealers (exporters) must be licensed annually by the Coffee Directorate to be eligible to export Kenyan coffee.

Samples for all coffee on offer are submitted to the Central Sample Room, managed by the Nairobi Coffee Exchange and the Coffee Directorate, for quality checks and distribution to coffee dealers (exporters).

All coffee exports must obtain phytosanitary certification from the Kenya Plant Health Inspectorate Services (KEPHIS) and Certificates of Origin from the Coffee Directorate. The Directorate facilitates exports through a Single Window System, in which traders apply online for approval of consignments from the comfort of their offices, thus reducing the time required to process trade documents. All coffee dealers are expected to file returns of all coffee exports with the Coffee Directorate, for monitoring and data collection purposes.
An arbitration mechanism has been established to deal with disputes before other judicial processes, as stipulated in the law governing the sub-sector.

11.1. Export duty and taxes

Green coffee beans do not attract any export duty or tax, since they are considered to be a raw material. However, export sales of roasted coffee are subject to an additional 16% Value Added Tax on the value added to the coffee exported.

11.2. Other levies

No levies are imposed on coffee or coffee products in Kenya.

12. MACROECONOMIC ASPECTS OF THE COFFEE SECTOR

The coffee sub-sector continues to play a central role in the social-economic development of Kenya. It is a source of employment, a foreign exchange earner and a source of food security in the country.

However, a number of macroeconomic factors influence the performance of the coffee sector in Kenya. The high cost of production factors – fertilizers, spraying chemicals, irrigation water, electricity and labour – has made coffee farming an expensive venture. The high volatility of coffee prices also poses a challenge. Consequently, enterprises such as dairy, horticulture and real estate are now occupying land previously used for coffee production. The Kenyan Government has endeavored to improve coffee production and productivity by distributing coffee-specific fertilizers that are sold to farmers at subsidized prices.

12.1 Coffee and trade balance

Agriculture is the backbone of Kenya's economy, although the country is a net importer, especially of non-agricultural goods. In this regard, coffee exports contribute significantly to narrowing the gap between exports and imports.

12.2 Share of coffee in Gross Domestic Product

Coffee contributes about 0.5% to Kenya's GDP.

12.3 Employment generated by the coffee sub-sector:

The coffee sub-sector is estimated to employ 30% (five million people) of the labour force in the agriculture sector.

13. ENVIRONMENTAL CHALLENGES

The effects of climate change, such as unreliable and erratic rains with shorter seasons, are posing unanticipated challenges to coffee production. Extremely heavy rains lead to higher erosion levels, resulting in loss of soils, leaching of nutrients and consequent soil infertility. On the other hand, the dynamics of incidence of coffee pests and their management are evolving rapidly due to changing climatic conditions. The changing environment is also posing challenges to patterns of cherry ripening and drying of parchment because of unpredictable rainfall patterns.

The Coffee Research Institute has made various recommendations on approaches towards environmentally sustainable coffee production systems. One such system is integrated farming, in which mulching, conservation agriculture, organic fertilizers and use of bio stimulants are recommended.

14. PROSPECTS FOR COFFEE PRODUCTION

The country has developed a coffee revitalization programme anchored on a recent National Report Task Force Report on the Coffee industry.

The coffee revitalization programme seeks to support farm expansion, adoption of improved coffee varieties, increased usage of affordable/subsidized farm inputs, and training of farmers on best agricultural practices. The government is also keen to enhance availability of affordable credit to coffee growers. These efforts are projected to spur an increase in Kenyan coffee production to over 100,000 MT of clean coffee in five years.