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**Sustainability of the coffee sector in Africa**

### **Background**

In accordance with Article 34 of the International Coffee Agreement 2007, the International Coffee Organization is required to provide Members with studies and reports on relevant aspects of the coffee sector. This document contains a revised report on the sustainability of the coffee sector in Africa.

### **Action**

The Council is requested to take note of this document.

## SUSTAINABILITY OF THE COFFEE SECTOR IN AFRICA

### INTRODUCTION

1. Agriculture continues to be the main employer of Africa's increasingly young population of 1.1 billion inhabitants. The rural population continues to rise, exacerbating the problems of poverty. Africa's 25 coffee-producing countries are home to over 716 million people, and in some of those countries coffee is an important commodity in terms of both export earnings and generating income for smallholder farmers. This document is an update to the previous study on Sustainability of the coffee sector in Africa (document [ICC-114-5](#)) and seeks to analyse the dynamics of the coffee sector in Africa and the huge challenges to its sustainability.

2. In addition, a sustainable coffee economy is based on the well-being of the various actors in the chain, particularly the producers who are the weakest link in this relationship. More precisely, a sustainable coffee farmer will meet long term environmental and social goals while being able to compete effectively with other market participants and achieve prices that cover his/her production costs and allow him to earn an acceptable profit margin. The question that needs to be addressed is whether coffee growing is sustainable in Africa.

3. The following points will be covered:

- I. Dynamics of the African coffee industry
- II. Challenges facing the coffee sector in Africa
- III. Conclusion

## I. DYNAMICS OF THE AFRICAN COFFEE INDUSTRY

4. The coffee plant is indigenous to Africa, and it was in Ethiopia that the habit of drinking coffee first developed. The two botanical varieties, Arabica and Robusta, originate from Africa. Robusta coffee is cultivated at lower altitudes while Arabica coffee is cultivated at higher altitudes and often on volcanic soils. Arabica coffee is more difficult and costly to grow than Robusta. The first phase in the coffee value chain encompasses the process from germination to production of coffee beans including the construction of nurseries, planting, maintenance and harvesting of mature beans (primary phase in the value chain). The second phase comprises primary post-harvest processing of mature beans. This phase can generate significant added value depending on whether the red cherries undergo wet or dry processing. The third phase consists of marketing and packaging. The fourth comprises all activities involved in roasting and distribution for final consumption. This final phase in the value chain takes place only in a limited number of exporting countries and rarely occurs in Africa.

### I.1 Coffee production in Africa

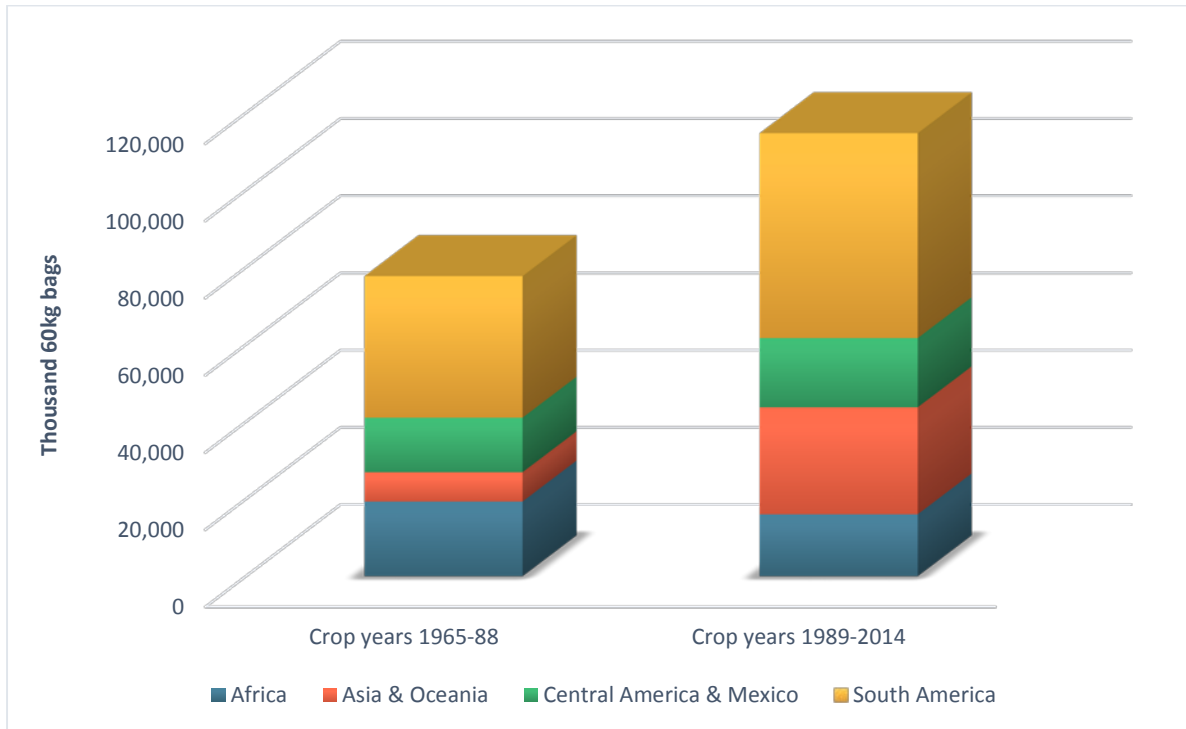
#### I.1.1 Past and current production trends

5. Africa is the region with the largest number of coffee producing countries: 25 as opposed to 11 in Asia & Oceania, 12 in Mexico & Central America and 8 in South America. Production in Africa has exhibited negative growth over the last 49 years. Average production was 19.4 million bags per crop year in the period between 1965/66 and 1988/89 when the coffee market was regulated under the export quota system. During the period between 1989/90 and 2014/15 under the free market, average production per crop year was 16 million bags (Graph 1). During those two periods, Africa's share of world production has hence decreased from 24.9% to an average of 14% (Graph 2). Production in crop year 2014/15 is around 16.9 million bags, or 12% of the estimated world production of 141.7 million bags. Of this, an estimated 10.4 million bags were expected to be produced by just two countries (Ethiopia and Uganda)<sup>1</sup>.

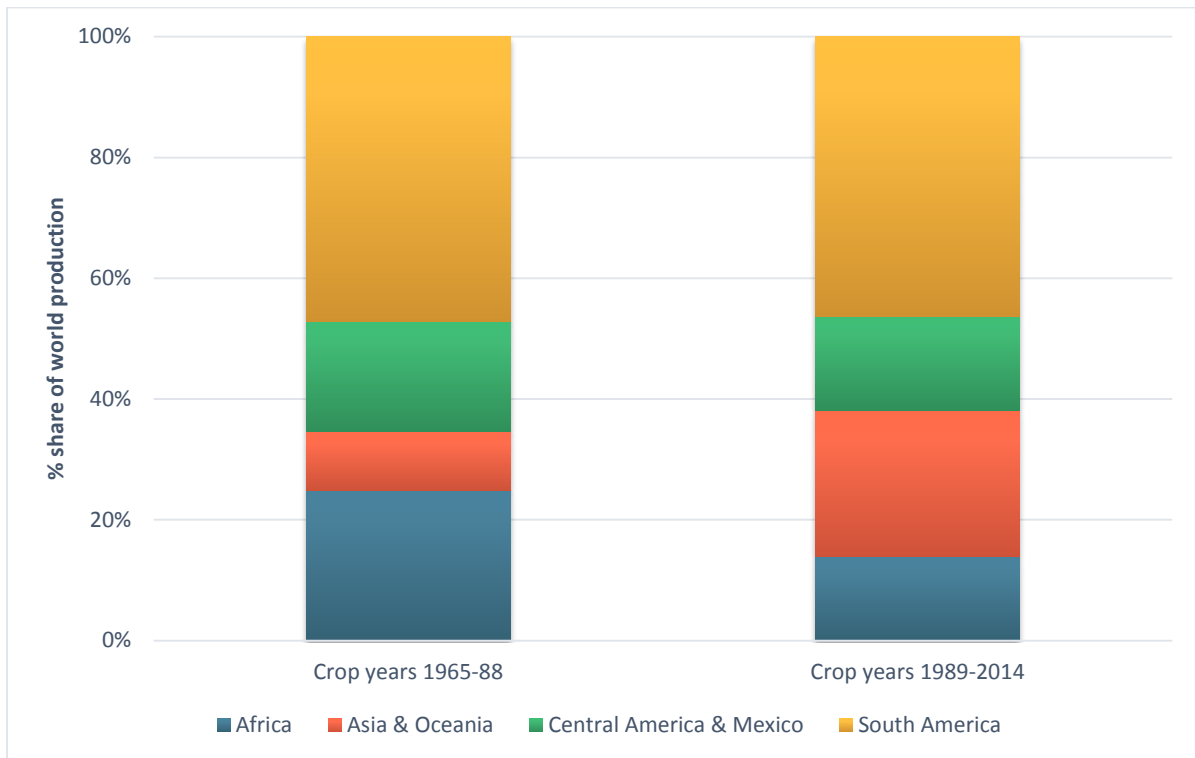
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<sup>1</sup>The production statistics used in this study are as at July 2015.

**Graph 1: Average world production by region**



**Graph 2: Shares of world coffee production by region**



### I.1.2 Performance by country

6. During the period from 1965/66 to 1988/89, 8 African countries were among the top 20 producing countries that accounted for 91% of world production (Annex Table 1). Additionally, the average volume produced by those 8 countries accounted for 21.5% of world production. The countries are Côte d'Ivoire (5.1% of world production), Ethiopia (3.7%), Uganda (3.6%), Angola (2.2%), Cameroon (2%), Democratic Republic of Congo (1.8%), Kenya (1.8%) and Madagascar (1.4%). By contrast, in the period between 1989/90 and 2014/15, only 4 African countries ranked among the top 20 producing countries that account on average for 93.7% of world production. The four African countries in question, which account for only 9.9% of world production, are Ethiopia (3.9%), Uganda (2.6%), Côte d'Ivoire (2.5%) and Kenya (0.9%). Annex Table 2 shows the recent performance of all African countries starting in crop year 2009/10 and their world ranking.

7. It is clear that all African countries except Ethiopia and Uganda experienced declining coffee production after the period from 1965/66 to 1988/89. The main countries affected include **Angola**, which accounted for on average 5% of annual world production until the mid-1970s, and has lost its place among the region's leading producers, with an estimated production of just 35,000 bags in the crop year 2014/15 compared to 3.5 million bags in 1970/71. The **Democratic Republic of Congo** and **Madagascar** have also lost significant market share, with 335,000 and 621,000 bags respectively. However, coffee rehabilitation programmes being carried out in these countries, particularly in Angola, may help to reverse the downward trend.

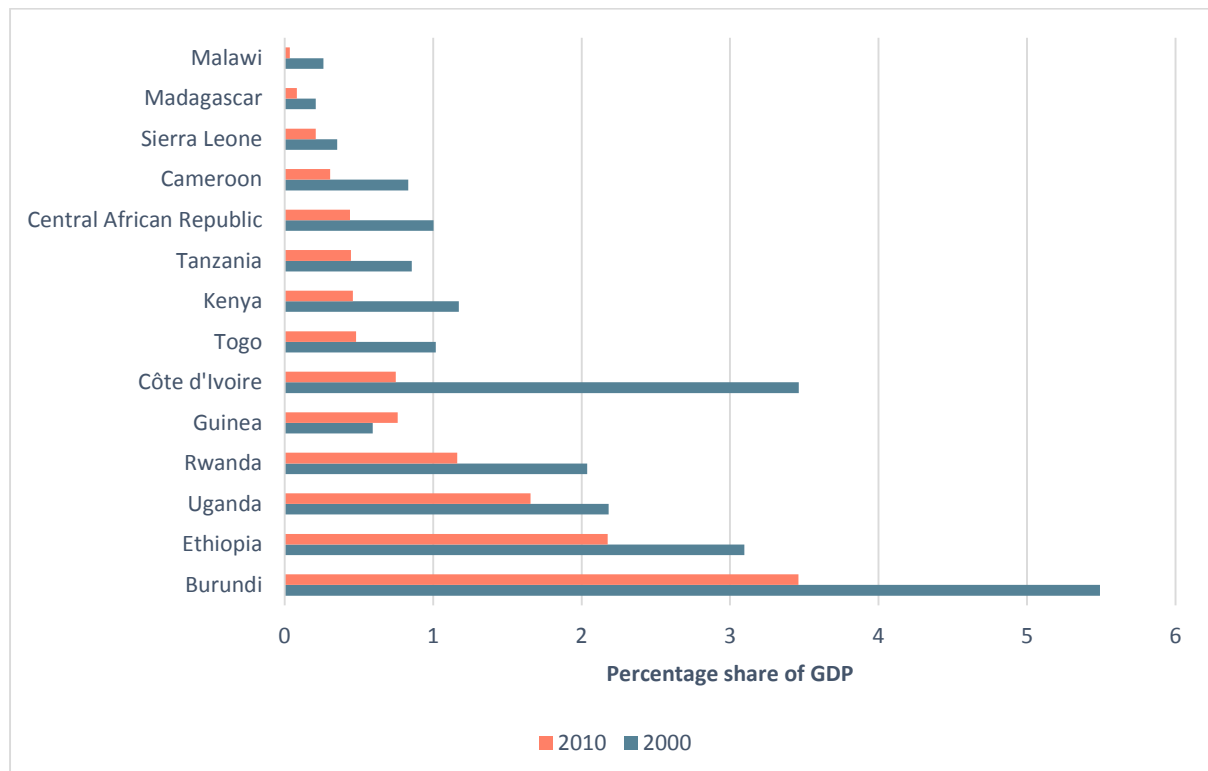
8. **Côte d'Ivoire** and **Cameroon** are still significant producers but their production has fallen substantially. In **Côte d'Ivoire** production fell from an annual average of around 4 million bags until 1988/89 to 2.8 million bags under the free market. Its production for the crop year 2014/15 is estimated at 2.2 million bags. **Cameroon** has been producing fewer than one million bags a year since 2000 compared to 1.5 million bags in the 1980s and 1990s. Its production for the crop year 2014/15 is estimated at only 475,000 bags. It should be noted that the private-sector-led 'New Generation' programme to rehabilitate the coffee sector could relaunch production in the near future provided that the programme continues to receive support from the government on the basis that it helps to reduce youth unemployment and to bring women into farming.

9. A steady decline in production has also been observed in **Kenya** as average production since 2000/01 has fallen below 800,000 bags compared to 1.5 million bags from 1970/71 to 1999/2000. In crop year 2014/15 Kenya's total production is estimated at 850,000 bags. Until the 1980s coffee was the leading foreign exchange earner before being overtaken by tea, horticulture and tourism. **Tanzania** is the fourth largest African coffee producing country with

an average annual production of around 800,000 bags. There has been substantial improvement since crop year 2012/13, and production for 2014/15 was estimated at above 1 million bags after slipping back to 809,000 bags in 2013/14.

10. The most dynamic growth in African production was observed in **Ethiopia**, which has recorded an average annual growth rate of 2.2% over the past 50 years, increasing to 2.7% since crop year 1989/90. The country's production trend is generally upward despite some downward interruptions, reaching around 6.6 million bags in 2014/15. Ethiopia is also unique in Africa in so far as it has a strong domestic coffee consumption culture, which frequently accounts for over half of production. To a lesser extent, **Uganda** has recorded sustained growth in its production, with an annual average fluctuating between 2.7 and 3 million bags since the 1970s. Its production level is estimated at 3.8 million bags in 2014/15. The other African producing countries again recorded low production levels that were exacerbated by the introduction of the free market, particularly as a result of reduced government involvement. Nonetheless, coffee is still a vital contributor to foreign exchange earnings and also accounts for a significant proportion of tax revenue and gross domestic product for many countries in Africa (Graph 3).

**Graph 3: Share of coffee in the GDP of selected producing countries in Africa**



### I.1.3 Main characteristics of coffee farming

#### i) Area under coffee and number of farmers

11. In almost all African countries coffee farming is dominated by smallholdings varying in size from half a hectare to 10 hectares per farm<sup>2</sup>. Large plantations or coffee estates represent only a tiny proportion of farms. Malawi and Zambia are the exceptions as their coffee farming is dominated by estate holdings. In Kenya, estate farms contribute 40% of the total production. The total number of coffee farmers directly involved in production activities in Africa is estimated at between 10 and 12 million. This figure may differ from other sources depending on the strict definition of the concept of individual farmers and farmer households. The total number of households involved in coffee growing activity is estimated at 7 million and the average size of a household is two adults (husband and wife). In some cases both husband and wife are registered as coffee farmers but in a number of cases it is only the men that are considered to be coffee farmers. Annex Table 3 shows the estimated number of farmer households per country and areas planted with coffee.

12. For comparison, Table 1 below shows a summary of the estimated number of coffee farmers and workers in the four coffee growing regions as well as the percentage share of rural population.

**Table 1: Number of farmers and average share of rural population**

	Numbers of farmers	Number of workers	TOTAL	% share of rural population in the total population	% share of rural population growing coffee
<b>Total Africa (25 countries)</b>	11 663 353	437 165	12 100 518	64	53
<b>Asia &amp; Oceania (11 countries)</b>	4 011 390	614 600	4 625 990	64	24
<b>Central America &amp; Mexico (12 countries)</b>	585 866	2 036 960	2 622 826	28	12
<b>South America (8 countries)</b>	1 409 000	810 500	2 219 500	32	11
<b>TOTAL (56 countries)</b>	17 669 609	3 899 225	21 568 834		

<sup>2</sup> In certain countries such as Burundi, Rwanda, Malawi and Zimbabwe, smallholding coffee farms can consist of just 100 trees.

13. Coffee land holding patterns in Africa vary from country to country and from region to region within the same country. Land used for coffee is significant in areas where the choice of crops grown for export is limited. By contrast, areas which offer the possibility for significant crop diversification, have less land devoted to coffee. It should be noted that the key decisions on coffee issues in Africa are largely made by men as the majority of the households are headed by men. As a result, a family of a married couple with both man and wife farming coffee is generally considered as one farmer instead of two. However, the number of farmers and farm hired workers in Africa can be reasonably estimated between 10 and 12 million men and women.

14. Another important characteristic of coffee farming in Africa is the ageing population. The average age of farmers is over 60 despite the continent being dominated by a huge number of young people. Indeed, the young and educated do not engage in coffee production due to the low returns.

*ii) Farming systems*

15. With a few exceptions, smallholdings are generally poorly developed owing to a lack of equipment, which is in turn due to limited capital investment to increase efficiency. Many of these smallholder farmers grow additional cash and food crops. In many countries, particularly in West Africa, these crops have been managed on an extensive system with minimum inputs giving low yields. This extensive farming system has had a negative environmental impact in terms of deforestation and water use. Family labour is generally used for crop maintenance with the assistance of hired labour in some cases. Mixed farming (coffee trees intercropped with food crops such as bananas, beans, potatoes, and others) is generally practiced throughout Africa. Most coffee plantations were established several decades ago and their average age is now over 30 years. However, in some countries improved planting materials have been introduced, particularly in East African producing countries. Coffee research institutions supply planting materials to farmers, but due to the institutions' limited resources, the needs of farmers in a number of countries are not always satisfied.

*iii) Production costs*

16. Costs of production are difficult to assess as small scale farmers rely on family labour and occasional hired labour. The lack of record keeping is also a limiting factor in assessing costs of production. In almost all countries, coffee farmers do not have structured production cost control systems. There are no reliable indicators to benchmark the performance of farmers on the various factors normally used to assess economic competitiveness. Production costs include land, water, coffee trees, fertilizers, pesticides and labour. These costs vary



widely from one country to another due to the differing marketing systems, physical infrastructure (roads, transports, etc.), land ownership and available credits. Labour and fertilizers are the most critical factors in determining production costs. As both mechanization and the use of fertilizers are rare in Africa, labour costs represent more than 70% of the total production cost. Indeed, in some countries in East Africa a demographic shift is being observed as smallholder farmers move to using hired labour for their farm management, an area traditionally handled by family labour.

17. The production costs of Robusta coffee tend to be lower than Arabica due to Arabica requiring more inputs and processing to prepare it for the market. In addition, fertilizers are more widely used by Arabica producers than Robusta producers. In East Africa, the use of fertilizers and pesticides requires an average expenditure of over US\$600 per hectare. Disease control accounts for over 30% of this cost. Costs of production are generally lower for smallholding farms than estate farms. In Burundi, for example, the average cost of production for a farmer who adopts good agricultural practices (fertilizers and labour) varies between 50.1 US cents to 57.6 US cents per tree. The average size of a farm is 100 trees.

*iv) Finance for the coffee sector*

18. Despite the importance of agriculture in the African economy, its funding has been marginalized as the banking sector has traditionally shied away from lending to agriculture due to the perceived and real inherent risks. In many countries, the agricultural sector receives less than 4% of bank financing compared to the secondary and tertiary sectors which absorb over 30% and 60% respectively. Estate farmers are generally able to obtain credit more easily or raise finance through the banking sector than smallholder farmers. Moreover, operations connected with crops and livestock production are of less interest to the banks than commercial activities. Since liberalization, many state-owned development and agricultural banks have been dismantled in a number of coffee producing countries.

19. Nonetheless in some countries, notably Kenya, recent initiatives have helped to plug the funding gap for the coffee sector in particular and all agricultural production in general. Additionally, the Coffee Development Fund (CoDF) was established in 2006 to act as a governmental channel to finance agricultural development and production. It seeks to achieve this goal by providing farmers with sustainable and affordable credit facilities to finance agricultural inputs and operations to speed up the production of high quality coffee and improved farmer incomes. The CoDF has recently been merged into one large fund known as the Commodities Fund. Its mandate has extended to cover several agricultural products, including sugar, tea, horticulture, sisal, cotton, cereals, tubers and many others<sup>3</sup>.

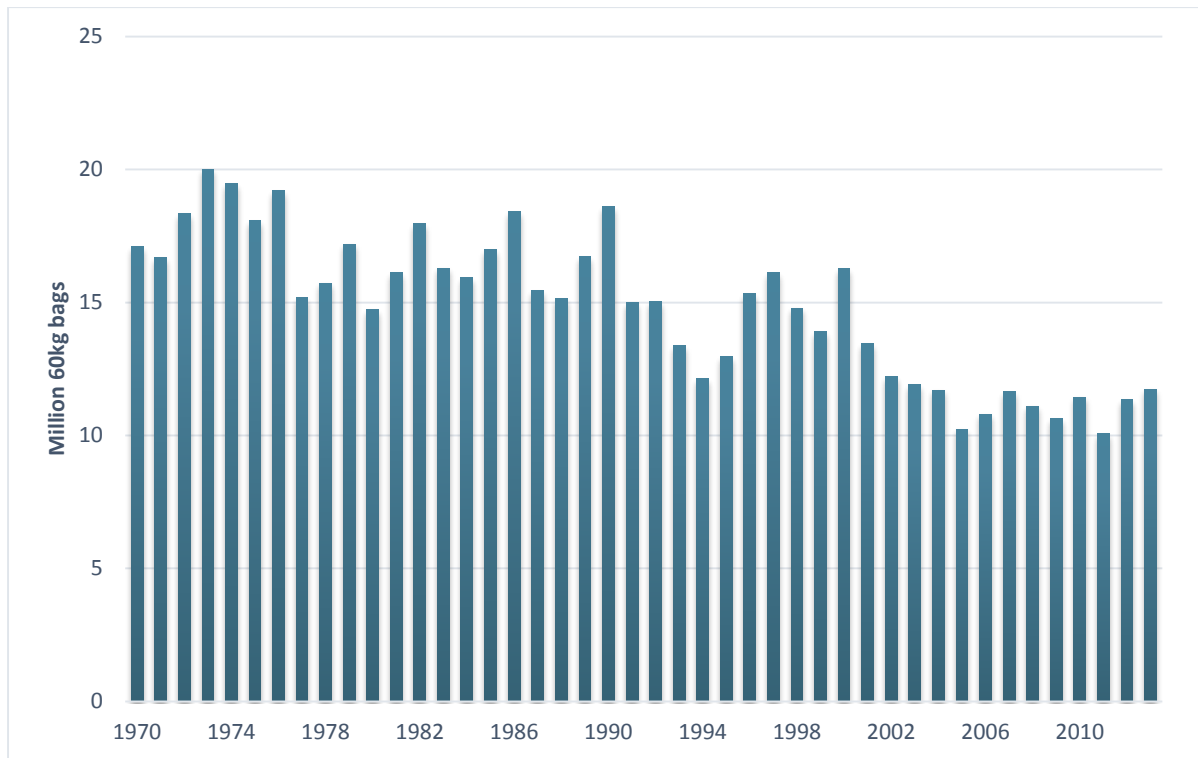
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<sup>3</sup> For information on the operation of the Commodities Fund in Kenya, see [www.CoDF.co.ke/](http://www.CoDF.co.ke/).

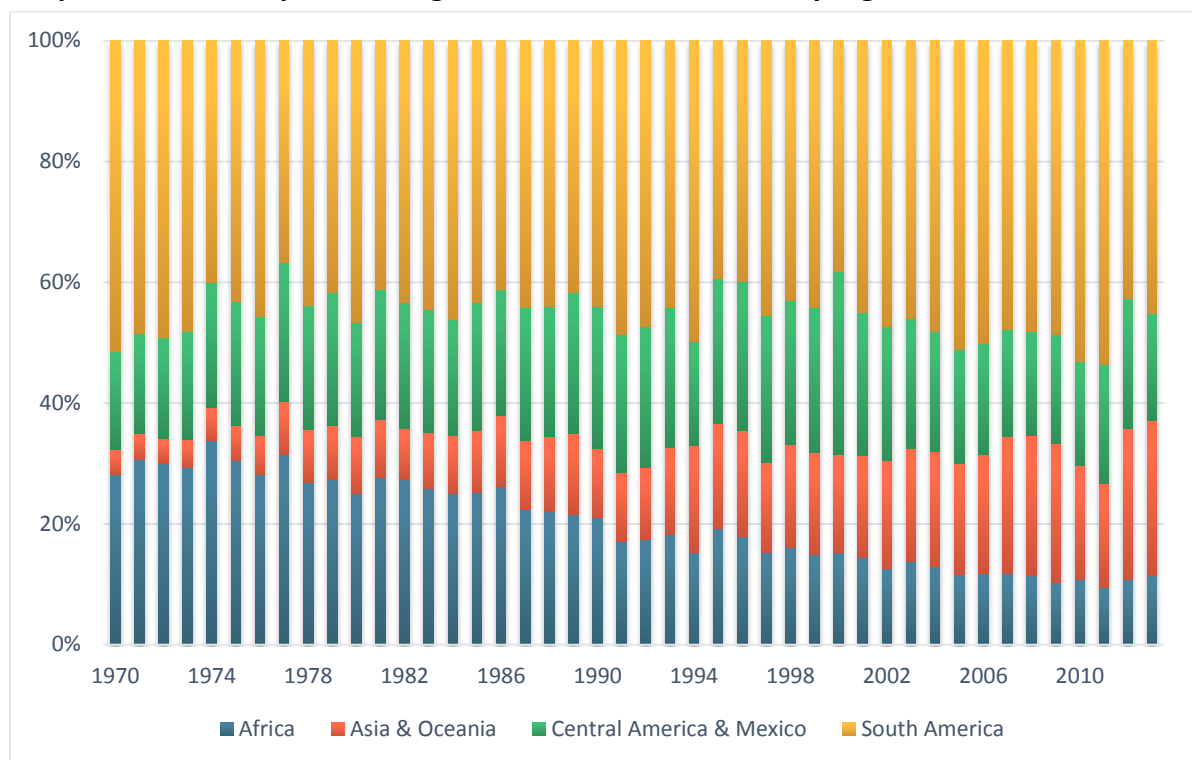
## 1.2 African coffee exports performance

20. Declining production in several countries meant that during the free market period between 1990 and 2014 exports from Africa fell by over 22% (Graph 4). Recent developments since the year 2000 to date show that Uganda has become the leading exporter of coffee in Africa with an average of 2.8 million bags, followed by Ethiopia (2.5 million bags) and Côte d'Ivoire (2.4 million bags). The total value of exports of Green coffee from African exporting countries is estimated at 1.8 billion dollars in 2014, compared to a total value of 15.9 billion dollars, or 11.4% compared to 21% in 1990 (Graph 5).

**Graph 4: Green coffee exports by Africa since 1970**



**Graph 5: Share of export earnings from all forms of coffee, by region**



### I.3 Processing and domestic consumption

21. Domestic coffee markets are growing despite the lack of reliable data across countries. Ethiopia remains the leading country in terms of domestic consumption with 3.7 million bags in 2013/14, representing 71.6% of the total domestic consumption of Africa and 8% of all exporting countries. A number of other countries including Cameroon, Côte d'Ivoire, Kenya and Uganda have recently recorded booming domestic consumption and there is a dominant culture of coffee consumption in a number of African countries even though the quality of ground coffee is still poor. The Central African Republic is a small producing country but coffee consumption is widespread among both rural and urban populations. With a growing population in Africa, there is huge potential to increase domestic consumption. However, this potential has not yet materialized, as per capita consumption is still very low at 466 grams on average (Annex Table 4). It is expected that the improvement of the living standards of the growing population will lead to an increase in coffee consumption as in the case of emerging markets.

### I.4 The institutional framework of the industry in Africa

22. Although there are country specific cases, institutions forming part of the coffee value chain include coffee sector government regulatory bodies, private sector organizations (cooperatives, farmers' unions, processors/exporters), research institutions and extension services institutions.

#### I.4.1 Coffee sector regulatory bodies

23. The reforms in the parastatal sector that occurred within the context of the World Bank and the International Monetary Fund's structural adjustment programmes have led to the dismantling of marketing boards and the creation of regulatory bodies in a number of African producing countries. The main responsibilities of these public sector institutions include licensing exporters, tax collection, quality control, price information services, development of the sector as a whole and the representation of the sector to international and regional coffee organizations. However, and despite liberalization, some countries continue to influence internal and external marketing (e.g. Côte d'Ivoire).

#### I.4.2 Private sector

24. The reforms of the coffee marketing system brought many new exporters and intermediaries into the sector. The sector has organized itself into associations to improve the marketing environment. Farmers are also organized into cooperatives and unions but they are relatively weak in many African countries. As was the case in Uganda and in many other producing countries, the earlier success of these cooperatives was undermined by political interference and mismanagement. Kenya has a long tradition of coffee farmer organizations as farmers are required by law to form cooperative societies to manage their business. In West Africa cooperative movements are relatively new.

#### I.4.3 Market organization

25. Since the liberalization that began in the early 1990s, government intervention has been limited to the regulation of the sector while the marketing function is carried out by the private sector. However, there are some countries, such as Côte d'Ivoire, that continue to exert limited control over the marketing through the enforcement of guaranteed minimum prices for growers and the approval of export prices obtained by exporters (*Prix de débloccage*). In countries where a free marketing system applies, prices are dictated by the international market and transmitted locally through either an auction system (Ethiopia, Kenya, and Tanzania) or direct sales (Rwanda, Uganda, etc.). In Uganda and Rwanda the private sector operates freely both in the internal and external marketing of coffee while some level of control does exist within the auction system in Ethiopia, Kenya and Tanzania. In some countries, smallholder farmers are organized into cooperatives to market their coffee better but their capacity is limited due to low capital investment in infrastructure and financial resources. A similar situation has also been observed in countries that have the tradition of a cooperative movement such as Kenya and Tanzania.

## II. CHALLENGES FACING THE COFFEE SECTOR IN AFRICA

26. The key question is whether Africa is ready for a sustainable coffee sector. Although some positive progress has been made in some countries, the coffee sector still faces numerous challenges to its sustainability. Sustainability in the coffee sector refers to a way of assessing the well-being of coffee farmers in addition to a good policy to protect the environment and promote social equality. In other words, a sustainable coffee farmer will meet long term environmental and social goals, and will at the same time be able to compete effectively with other market participants and achieve prices that cover his production costs and allow him to earn an acceptable profit margin. The development of a sustainable coffee industry in Africa therefore faces a number of challenges at all stages in the value chain from production to final consumption.

### II.1 Challenges associated with production

#### II.1.1 Farm productivity

27. As the international market price is beyond the control of coffee growers, an increase in yield is expected to mitigate their cost of production, thus contributing to improving their income. High yields are therefore an important factor in achieving a sustainable coffee production. However, average yields are generally poor and have even declined in some countries (Annex Table 5). They range from 0.1 to 0.8 tons per hectare. Estimates for crop years 2011/12 to 2014/15 indicate an average of 408.7 kg/ha. It should be noted that the yields from estate farms are slightly higher. Generally, African agriculture is characterised by low productivity due to under-fertilization of soil and the lack of regular husbandry. In Rwanda for example, only 25% of farms are treated with fertilizer. The lack of agricultural intensification has led to the expansion of the agricultural frontier with the opening up of less favourable land for cultivation. Limited demand for fertilizers from small-scale farmers is also due to higher fertilizer prices while farm gate prices are relatively low. In other words, the use of fertilizers such as agro-chemicals is limited due to the high cost associated with them.

#### II.1.2 Low adoption of new technologies

28. African production has been seriously undermined by the continued reliance on outdated and often unproductive coffee varieties in the face of the widespread prevalence of pests and diseases, including coffee leaf rust, coffee berry borer, coffee stem borer, and coffee wilt disease among others. Most varieties which are grown at present in the different countries are susceptible to coffee leaf rust and/or coffee borer. Despite the crucial role

played by research in technological development, many African countries pay it little attention because the research institutions' resources are limited. The producing countries of the continent are still regarded as marginal developers of technologies. Their share of the world research and development effort is tiny compared to producing countries in Asia, Central and South America.

29. Generally, research programmes in African institutions have generated only limited technologies or innovations. Recent improvements have been recorded in research institutions such as the National Agricultural Research Centre (CNRA) in Côte d'Ivoire, the Jimma Agricultural Research Centre (JARC) in Ethiopia, the Coffee Research Institute (CRI) in Kenya, the Tanzania Coffee Research Institute (TaCRI) in Tanzania and the National Crops Resources Research Institute (NaCRRI) in Uganda. These research institutions have succeeded in developing new high yield and disease-resistant planting materials. However, their dissemination and adoption by farmers have been limited. The Coffee Research Foundation in Kenya (now known as the Coffee Research Institute) has developed a new variety known as 'Batian' with a high yield potential and which is also resistant to major coffee diseases such as leaf rust and berry diseases. Positive measures have been taken in a number of countries to improve productivity through coffee development strategies (Cameroon, Côte d'Ivoire, Tanzania, Uganda, etc.).

30. It has also been observed that a significant number of farmers and farmers' associations have benefitted from sustainable coffee programmes in countries such as Ethiopia, Kenya, Rwanda, Tanzania and Uganda although compared to the size of the farming communities, these initiatives cover a tiny proportion of coffee growers. Despite the current potential to support production and quality, many producing countries in Africa continue to practise subsistence farming and make only very limited use of modern techniques.

### II.1.3 Absence or reduction in support services for small farmers

31. The transfer of technology to farmers, the provision of training and other agricultural advisory services generally fall under the responsibility of the government through national extension services organizations or research institutions. In any case, research and development efforts have had little impact on socio-economic and technological development across the continent. Moreover, agriculture in some countries such as Angola, the Democratic Republic of Congo, Equatorial Guinea, Gabon and Nigeria, has traditionally been overshadowed by more attractive economic sectors such as mining and oil extraction. In contrast, some countries including Ethiopia, Kenya, Rwanda, Tanzania and Uganda have made substantial progress but the challenge remains as the provision of support services is an ongoing process that requires significant financial and human resources. For example in

Ghana only 41% of coffee farmers have access to technical support services, yet that figure is apparently much higher than the figure for many other countries. In many countries the government no longer supplies extension services and instead allows the private sector to bridge the gap.

#### II.1.4 Poor organization of farmers

32. The promotion of sustainability requires efficient farmer organizations that can act as conduits to supply essential support services and other initiatives to develop the coffee sector. Indeed, farmers' organizations are a potential means of delivering access to agricultural inputs, finance and risk management services.

#### II.1.5 Ageing of the farming population/absence of young people in coffee farming

33. The problems of farming generally and of coffee farming in particular tend to deter young people from envisaging a future for themselves in agriculture. The fact that farmers are ageing is reflected in an unwillingness to embrace modern growing techniques and ideas for farm management. Getting young people involved is therefore a major factor in the sustainability of the coffee industry.

#### II.1.6 Gender equality in coffee farming

34. Gender equality in agriculture is a complex issue in the context of African sociology. Generally, the household is headed by the husband but the wife participates in all decisions relating to family issues, including farming. A single woman who is a coffee farmer has the same land rights as a single man. However, it has been observed that in many African countries, the wife has limited control of agricultural resources even though she plays an important role in farm maintenance and harvesting. Moreover, it should be noted that in the case of married couples the ownership of land and farms by women is unclear because where a couple divorces, the divorced woman is left without any property rights at all in some countries. Women's access to family resources has a significant positive impact on living conditions in rural areas, particularly where the education of children, health, and poverty reduction in families are concerned.

#### II.1.7 Limited access to finance

35. Many challenges remain in the field of financing because interest rates are too high (20-28%) while access for smallholder farmers to credit is limited. Due to the nature of

unpredictability in agricultural production as a result of high dependency on exogenous factors, credits from commercial banks are rare in many African countries. Estate or commercial farms have their own financing channels, generally commercial banks. Banks prefer lending to other sectors. However, credits to farmers are relatively well developed in Kenya through cooperative societies. The experience of rural credit in many countries in West Africa ended in failure due to a significant number of non-repayments. With the absence of credit facilities, smallholder farmers minimize their expenditure through the reduction of farm husbandry or pest and disease management. In some countries the majority of coffee farmers continue to depend on local village lenders for credit. These lenders apply very high rates of interests to the debts which are settled through the supply of harvested coffee.

### II.1.8 – Absence/weakness of measures to adjust to climate change

36. In addition to the many constraints referred to above, farmers in Africa, as in other continents, must also address the challenges posed by climate change. Changes in annual rainfall patterns or erratic changes in temperature impact negatively on agricultural production, including through the proliferation of disease and pests and the subsequent drop in productivity. The negative consequences are all the more severe given the paucity of irrigated farms in Africa.

## II.2 Challenges associated with marketing

### II.2.1 Market access for small farmers

37. It is difficult for coffee farmers to access the best markets for their produce because of the absence or weakness of the farmer organizations that should act as their route to market. The direct consequence of this is low prices because of the many intermediaries within the marketing chain. The low prices discourage farmers and they relinquish or neglect their farms, leading to falls in production. The challenge is how to structure these organizations to become commercially creative to enable them to compete on an equal footing in the current environment. Until then, farmers will remain more vulnerable to exploitation by intermediaries. Having farmers organized into structured groups facilitates access to market and reduces transaction costs. It also reduces the cost of input through group purchases at bargained prices. Very few exporting countries in Africa have well-structured producer cooperatives with the necessary financial and managerial capacity. With the exception of a few countries that have a wealth of experience in the rural cooperative movement, most cooperatives or primary societies are weak and need strengthening. A small number of farmer associations have been reported to have established market linkages



through development programmes supported by donors and NGOs. Although noticeable progress has been made, market access by farmer associations remains generally weak in almost all African producing countries.

### II.2.2 Limited commercial exploitation of diversity based on place of origin or the concept of terroir

38. The way the marketing system is organized is not conducive to promoting the various qualities of coffee on the basis of the characteristics of their production areas. Additionally, except for Ethiopia and, to a lesser extent, Kenya, marketing strategies, which take into consideration geographical indications or terroirs of origin for coffee, have not yet been implemented in many African countries. For example in Côte d'Ivoire, the results of a project on the specific terroir-based characteristics as differentiators in Robusta coffees (soil, climate, altitude, etc.), have not yet been reflected in the marketing system<sup>4</sup>.

### II.3 Challenges associated with processing/creation of added value

39. Processing activities, including roasting to enhance the value added by the coffee industry, are still limited in Africa. The share of locally processed green coffee is insignificant compared to overall exports. The sole exception is Ethiopia where domestic consumption accounts for almost half of national production of green coffee, and competes with the export sector. However, it should be noted that in some African countries there are many small-scale businesses engaged in roasting in the informal sector. The challenge for the regulatory authority is to monitor the informal sector in order to provide better protection for consumer health.

## III. CONCLUSION

40. Although many initiatives have been taken in some countries, many challenges remain to achieve a sustainable coffee sector in Africa. The main challenge is how to move the African coffee sector from a subsistence sector to an entrepreneurial one. Farmers need sustainable income generation and long term security of livelihood.

41. Productivity is still too low to be able to promote sustainable coffee production in the case of long periods of low prices. In many African countries, the smallholder sector consists of a large number of widely scattered small farming operations, often with limited physical accessibility and very poor communications. Moreover, given the weak research and

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<sup>4</sup> *Robusta quality and marketing improvement by optimal use of coffee terroirs (CFC/ICO/05).*

extension support, farmers in many countries have been slow to adopt good practices that could lead to the required high quality and productivity. Changes in climate that affect production areas add to the challenges.

42. Finally, it should be noted that, when their income is reduced, smallholder farmers are tempted or forced to limit practices that protect soil quality. Furthermore, constraints on resources lead support services to limit basic training that provides knowledge on the use of inputs, recycling of organic wastes to produce fertilizers, and biological species favourable to proper soil drainage and oxygenation. This is a serious challenge to sustainable farming as the human dimension of sustainability lies in the reduction of poverty and inequality, access to resources, healthcare and education. Nonetheless, a concerted effort should continue to raise the profile of the African coffee sector to meet sustainability standards.

Table 1: Average production by continent (crop years 1965/66 – 1988/89)

	Average production (thousand 60kg bags)	% of world total	
<b>World total</b>	<b>77 733</b>		
<b>South America</b>	<b>36 668</b>	<b>47.2%</b>	
<b>Africa</b>	<b>19 350</b>	<b>24.9%</b>	
<b>Central America &amp; Mexico</b>	<b>14 138</b>	<b>18.2%</b>	
<b>Asia &amp; Oceania</b>	<b>7 578</b>	<b>9.7%</b>	
			<b>World ranking</b>
<b>Brazil</b>	22 851	29.4%	1
<b>Colombia</b>	10 097	13.0%	2
<b>Indonesia</b>	4 142	5.3%	3
<b>Côte d'Ivoire</b>	3 957	5.1%	4
<b>Mexico</b>	3 931	5.1%	5
<b>Ethiopia</b>	2 892	3.7%	6
<b>Uganda</b>	2 801	3.6%	7
<b>El Salvador</b>	2 538	3.3%	8
<b>Guatemala</b>	2 409	3.1%	9
<b>India</b>	1 855	2.4%	10
<b>Angola</b>	1 748	2.2%	11
<b>Costa Rica</b>	1 684	2.2%	12
<b>Cameroon</b>	1 516	2.0%	13
<b>Ecuador</b>	1 490	1.9%	14
<b>Congo, Dem. Rep. of</b>	1 375	1.8%	15
<b>Kenya</b>	1 363	1.8%	16
<b>Peru</b>	1 067	1.4%	17
<b>Madagascar</b>	1 050	1.4%	18
<b>Honduras</b>	1 024	1.3%	19
<b>Venezuela</b>	925	1.2%	20

Table 2: Average production by continent (crop years 2009/10 – 2014/15)

	Average production (thousand 60kg bags)	% of world total	
<b>World total</b>	138 141	100.0%	
<b>South America</b>	61 809	44.7%	
<b>Asia &amp; Oceania</b>	42 079	30.5%	
<b>Central America &amp; Mexico</b>	17 931	13.0%	
<b>Africa</b>	16 322	11.8%	
			<b>World ranking</b>
<b>Ethiopia</b>	6 769	4.9%	5
<b>Uganda</b>	3 406	2.5%	11
<b>Côte d'Ivoire</b>	1 849	1.3%	13
<b>Tanzania</b>	836	0.6%	18
<b>Kenya</b>	765	0.6%	20
<b>Cameroon</b>	539	0.4%	<b>22</b>
<b>Madagascar</b>	530	0.4%	23
<b>Congo, Dem. Rep. of</b>	337	0.2%	27
<b>Guinea</b>	302	0.2%	28
<b>Rwanda</b>	267	0.2%	30
<b>Burundi</b>	248	0.2%	31
<b>Togo</b>	140	0.1%	33
<b>Central African Republic</b>	82	0.1%	37
<b>Ghana</b>	65	0.0%	39
<b>Sierra Leone</b>	58	0.0%	40
<b>Nigeria</b>	41	0.0%	41
<b>Angola</b>	31	0.0%	43
<b>Malawi</b>	21	0.0%	45
<b>Zambia</b>	12	0.0%	47
<b>Zimbabwe</b>	11	0.0%	48
<b>Liberia</b>	10	0.0%	50
<b>Congo, Rep. of</b>	3	0.0%	51
<b>Gabon</b>	1	0.0%	54
<b>Benin</b>	0	0.0%	55
<b>Equatorial Guinea</b>	0	0.0%	56

Table 3: Number of farmers and coffee areas (estimated 2010)

	Number of farmers	Number of workers	Total	Average acreage (hectares)	Number of coffee trees	% smallholdings	% estates	Total population	Total rural population	% rural population
<b>Total Africa (25)</b>	<b>11 663 353</b>	<b>437 165</b>	<b>12 100 518</b>	<b>2 440 684</b>	<b>572 509 238</b>			<b>716 334 254</b>	<b>455 435 416</b>	<b>63.6%</b>
Angola	35 853	1 200	<b>37 053</b>	52 200		97.00%	3.00%	22 137 261	12 618 239	57.0%
Uganda	1 713 523	65 000	<b>1 778 523</b>	282 284	332 509 238	97.00%	3.00%	38 844 624	32 629 484	84.0%
Côte d'Ivoire	650 000	65 000	<b>715 000</b>	360 000		98.00%	2.00%	20 804 774	9 778 244	47.0%
Ethiopia	2 500 000	250 000	<b>2 750 000</b>	509 000		95.00%	5.00%	96 506 031	78 169 885	81.0%
Cameroon	600 000	1 500	<b>601 500</b>	140 000		96.00%	4.00%	22 818 632	10 496 571	46.0%
Congo, Dem. Rep. of	650 000	2 500	<b>652 500</b>	200 000		90.00%	10.00%	69 360 118	40 228 868	58.0%
Madagascar	350 000	30 000	<b>380 000</b>	200 000		100.00%	0.00%	23 571 962	15 557 495	66.0%
Kenya	650 000	10 000	<b>660 000</b>	160 000		55.00%	45.00%	45 545 980	34 159 485	75.0%
Tanzania	2 400 000	4 000	<b>2 404 000</b>	229 000	240 000 000	90.00%	10.00%	50 757 459	35 022 647	69.0%
Burundi	800 000	100	<b>800 100</b>	60 000		100.00%	0.00%	10 482 752	9 224 822	88.0%
Togo	62 282	800	<b>63 082</b>	37 768		90.00%	10.00%	6 993 244	4 265 879	61.0%
Rwanda	750 000	100	<b>750 100</b>	42 000		99.00%	1.00%	12 100 049	8 712 035	72.0%
Central African Republic	150 000	1 500	<b>151 500</b>	60 000		80.00%	20.00%	4 709 203	2 825 522	60.0%
Sierra Leone	45 000	200	<b>45 200</b>	2 000		99.00%	1.00%	6 205 382	3 723 229	60.0%
Guinea	38 000	150	<b>38 150</b>	46 000		97.00%	3.00%	12 043 898	7 587 656	63.0%
Ghana	4 182	85	<b>4 267</b>	2 949		97.00%	3.00%	26 442 178	12 427 824	47.0%
Liberia	24 000	100	<b>24 100</b>	2 000		98.00%	2.00%	4 396 873	2 242 405	51.0%
Nigeria	200 000	1 000	<b>201 000</b>	25 000		96.00%	4.00%	178 516 904	94 613 959	53.0%
Congo, Rep. of	15 000	250	<b>15 250</b>	7 500		98.00%	2.00%	4 558 594	1 595 508	35.0%
Benin	6 000	80	<b>6 080</b>	9 500		100.00%	0.00%	10 599 510	5 935 726	56.0%
Gabon	2 000	250	<b>2 250</b>	2 000		98.00%	2.00%	1 711 294	222 468	13.0%
Malawi	15 000	3 000	<b>18 000</b>	3 500		25.00%	75.00%	16 829 144	14 136 481	84.0%
Equatorial Guinea	1 500	200	<b>1 700</b>	1 200		100.00%	0.00%	778 061	466 837	60.0%
Zambia	1	50	<b>51</b>	6 000		5.00%	95.00%	15 021 002	9 012 601	60.0%
Zimbabwe	1 012	100	<b>1 112</b>	783		75.00%	25.00%	14 599 325	9 781 548	67.0%

**Table 4: Population and domestic consumption (crop year 2013/14)**

	Total population (thousands)*	Domestic consumption (tonnes)	Per capita consumption (kg)	% share of total African consumption
<b>Total Africa</b>	<b>656 133</b>	<b>305 580</b>	<b>0.466</b>	<b>100.00%</b>
Angola	20 609	1 800	0.087	0.59%
Uganda	32 939	8 400	0.255	2.75%
Côte d'Ivoire	21 395	19 020	0.889	6.22%
Ethiopia	84 321	219 000	2.597	71.67%
Cameroon	19 406	4 140	0.213	1.35%
Congo, Dem. Rep. of	65 966	12 000	0.182	3.93%
Madagascar	20 696	28 020	1.354	9.17%
Kenya	38 610	3 000	0.078	0.98%
Tanzania	43 188	2 820	0.065	0.92%
Burundi	10 200	120	0.012	0.04%
Togo	6 191	120	0.019	0.00%
Rwanda	10 718	60	0.006	0.02%
Central African Republic	5 000	480	0.096	0.16%
Sierra Leone	5 400	300	0.056	0.10%
Guinea	10 537	120	0.011	0.04%
Ghana	24 223	120	0.005	0.04%
Liberia	3 477	300	0.086	0.10%
Nigeria	177 500	2 400	0.014	0.79%
Congo, Rep. of	4 043	180	0.045	0.06%
Benin	10 300	0	0.000	0.00%
Gabon	1 505	0	0.000	0.00%
Malawi	13 102	60	0.005	0.02%
Equatorial Guinea	700	0	0.000	0.00%
Zambia	13 046	0	0.000	0.00%
Zimbabwe	13 061	240	0.018	0.08%

\* Estimated

Table 5: Average yield of coffee farming in Africa (crop years 2010/11 – 2013/14)

	Average production		Average acreage (hectares)	Yields (kg/ha)
	(Thousand 60kg bags)	(Tonnes)		
<b>Africa</b>	<b>16 143</b>	<b>968 573</b>	<b>2 370 184</b>	<b>408.65</b>
Ethiopia	6 783	406 977	509 000	800
Uganda	3 330	199 771	282 284	708
Côte d'Ivoire	1 753	105 206	360 000	292
Tanzania	825	49 484	229 000	216
Kenya	756	45 355	110 000	412
Madagascar	556	33 367	150 000	222
Cameroon	440	26 372	120 000	220
Guinea	374	22 469	46 000	488
Congo, Dem. Rep. of	336	20 186	200 000	101
Burundi	281	16 864	60 000	281
Rwanda	270	16 181	42 000	500
Togo	125	7 506	40 000	188
Central African Republic	65	3 921	38 000	103
Sierra Leone	61	3 679	15 000	245
Ghana	58	3 497	15 000	233
Nigeria	43	2 575	50 000	51
Angola	33	1 971	52 200	38
Malawi	22	1 292	7 000	185
Liberia	10	612	2 000	306
Zambia	10	576	8 000	720
Zimbabwe	8	498	783	640
Congo, Rep. of	3	180	8 000	23
Gabon	1	35	1 500	24
Benin	0	0	15 000	0
Equatorial Guinea	0	0	1 200	0