



Projects Committee
15th Meeting
10 April 2018 (09:30)
Mexico City, Mexico

**Identifying coffee sector challenges
in selected Central American
countries and Mexico**

Background

1. In the context of its programme of activities, the Organization is seeking to raise awareness of the challenges of the coffee sector. In this regard, a communication from the Executive Director ([ED-2258/17](#)) was addressed to Members requesting relevant information in order to map the challenges in the coffee sector. This document contains a preliminary report on these challenges for the coffee sector in selected Central American countries and Mexico, based on ICO data and desk research, and inputs provided by Member countries¹.
2. The Secretariat will also be preparing a report to identify the coffee sector challenges in the remaining Latin American countries and in Asia & Oceania. It should be noted that a similar report was prepared for Africa ([ICC-114-5](#)), which was used to draft a concept note for the Africa Coffee Facility submitted to the African Development Bank Group for funding.

Action

The Projects Committee is requested to consider this report.

¹ Mainly El Salvador.

IDENTIFYING COFFEE SECTOR CHALLENGES IN SELECTED CENTRAL AMERICAN COUNTRIES AND MEXICO

INTRODUCTION

1. Originating from Africa, the coffee plant has played important economic roles in shaping livelihoods in Latin America since the mid-18th century. Coffee has been one of the main dynamic factors for the economies of many countries and a pivotal element of social transformation. However, the coffee sector is facing many challenges that need to be addressed to maintain its sustainability. The purpose of the present document is to identify such challenges and potential actions to address them.

2. It should be noted that the present report provides only preliminary information for selected countries in Central America and Mexico, using El Salvador as the reference country². It will be updated when further relevant information from other countries of the region is available. The following points will be covered:

- (i) Contribution of coffee to the economy
- (ii) Production trends in the region
- (iii) Challenges facing the coffee sector

I. CONTRIBUTION OF COFFEE TO THE ECONOMY

3. The contribution of coffee to the economy can be assessed by the generation of foreign earnings, its impact on gross domestic product, income distributed to growers and other stakeholders as well as on employment.

I.1 Contribution of export earnings

4. Total annual exports by exporting countries of the region³ has averaged 14.7 million bags since 2010, a slight increase compared to 14.1 million recorded in the years 2000s. Total exports in 2016 were 14.3 million bags. The highest level of exports since 1990 was 19.3 million bags recorded in 2000 (Figure 1). Exports by the region as a whole do not seem to show large variations from one coffee year to the next, but the region's share in the world total fell to an average of 13.3% in the 2010s compared to 19.6% in the 1990s. Performance by individual country indicates that, in recent years, exports by Costa Rica and El Salvador have been severely affected by the outbreak of coffee leaf rust that resulted in decreased production (Figure 2).

² Following the communication of the Executive Director ([ED-2258/17](#)) only Bolivia and El Salvador provided relevant information to the present report, which also includes information based on ICO data.

³ The following countries have been considered in the elaboration of this report: Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama and Trinidad & Tobago.

Figure 1: Average coffee exports volume by region

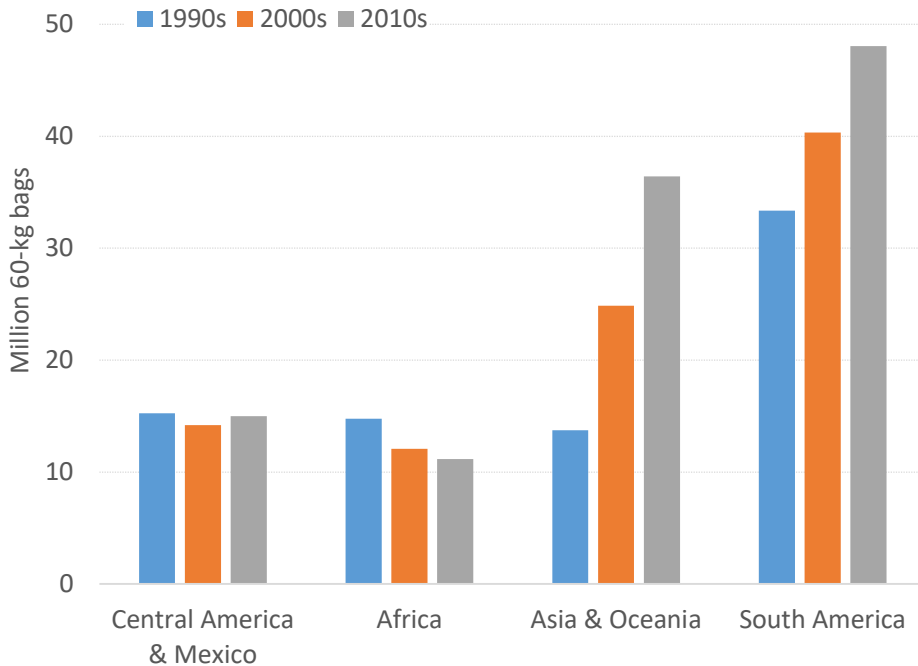
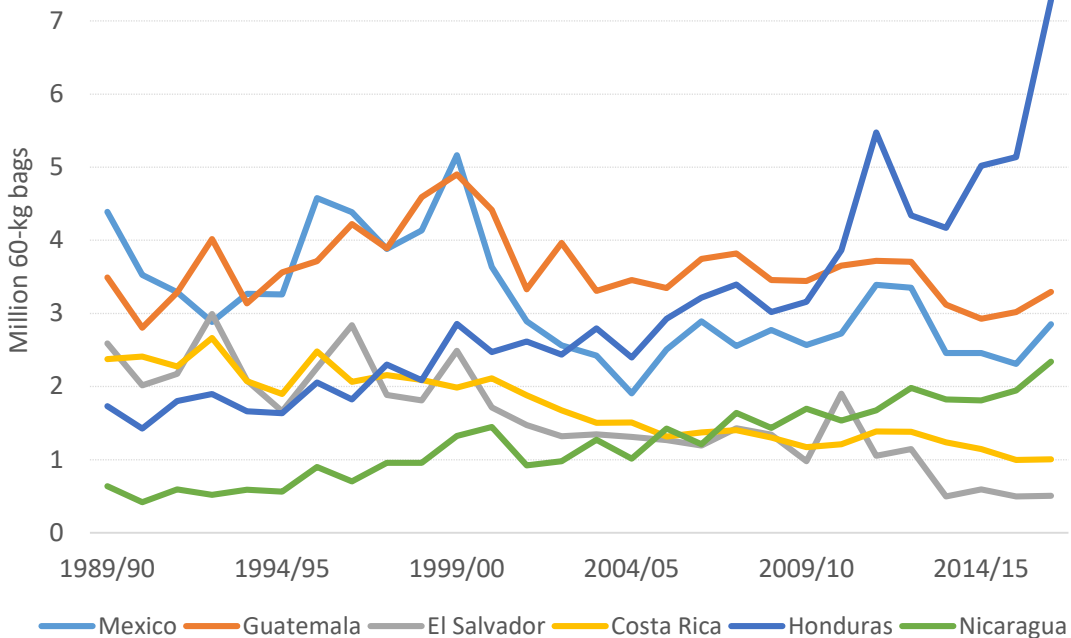
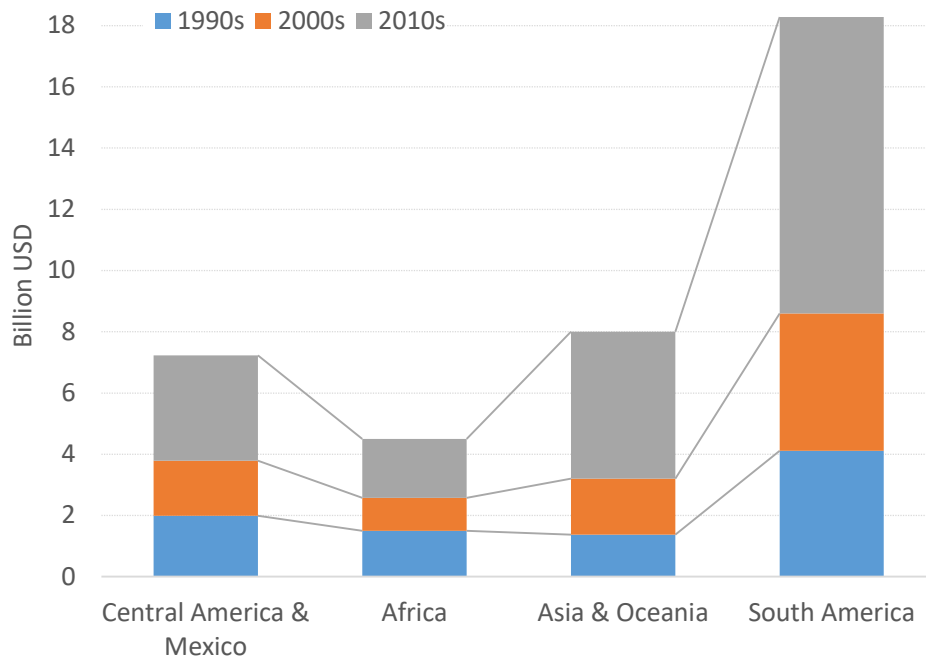


Figure 2: Exports performance by selected countries in Central America and Mexico



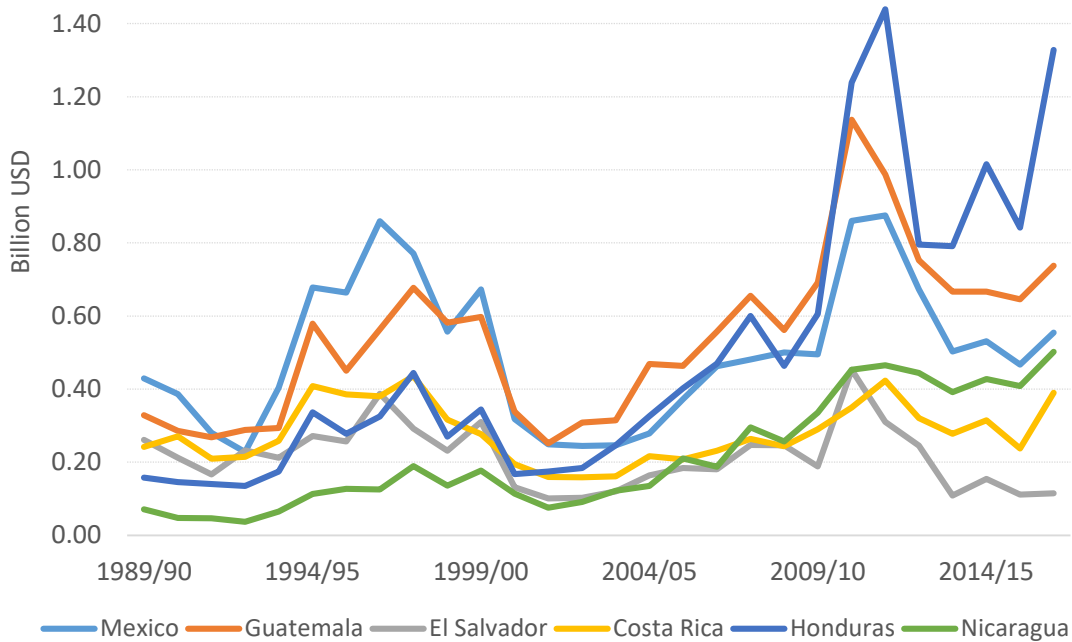
5. Exports of all forms of coffee generated an annual revenue of over US\$3.1 billion (17.2% of the total exports value) on average during the last decade, compared to US\$9 billion by South America (49.7%), US\$4.2 billion by Asia & Oceania (23.3%) and US\$1.8 billion (9.8%) by Africa (Figure 3).

Figure 3: Average export value of all exporting countries



6. Individual performance by country indicates positive trends in export earnings during the last coffee year, except in El Salvador, which is still recording a negative trend (Figure 4).

Figure 4: Exports value of selected exporting countries in Central America and Mexico

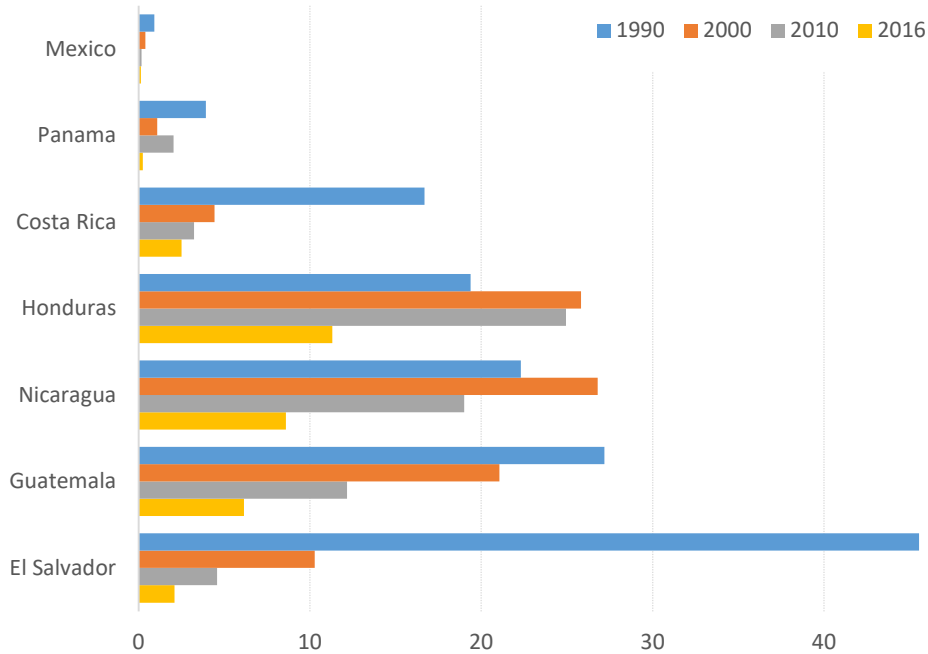


I.2 Contribution to the balance of trade and Gross Domestic Product

7. The coffee sector has grown over periods to become a catalyst for the economies of many countries of the region. Coffee is one of the most important export commodities that generate hard currencies and have a major impact on the GDP. Figure 5 shows the

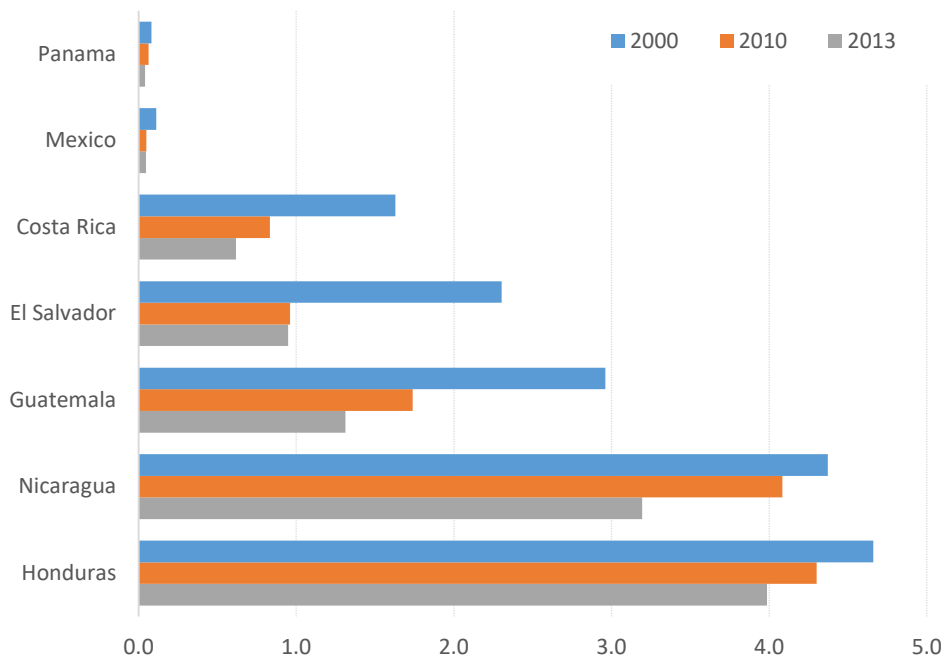
contribution of coffee to the generation of export earnings by selected countries while Figure 6 illustrates its contribution to the GDP.

Figure 5:Percentage share of coffee in total exports value



8. Although coffee production continues to play an important role as a source of income and as a component of the GDP, some of these countries, particularly Costa Rica and Mexico, have managed to reduce their dependence on exports by diversifying their agricultural sectors and developing new industries.

Figure 6:Percentage share of coffee in the GDP of selected producing countries



9. Both Figures illustrate the importance of the coffee sector for many countries in the region, although recent outbreaks of coffee leaf rust and lower levels of production have lessened the impact of the sector, compared to other goods in some countries. A country-specific analysis shows that the coffee sector in El Salvador contributed to 0.56% of GDP in calendar year 2016, but the average share of GDP over the last five years was 0.73%. The total value of coffee exports generated by the country has dropped from US\$453.4 million in crop year 2010/11 to US\$115.3 million in 2016/17. As a consequence of the drastic loss of production, coffee is no longer a major source of export revenues. The Salvadorean Coffee Council indicates that the share of coffee in the total exports was only 2.6% in 2016 compared to 45.5% in 1990. The average share of coffee for the last five years was 3.3%⁴.

10. In Honduras, coffee contributes to 38% of agricultural GDP, becoming the major agricultural export commodity. It should be noted that in Mexico, notwithstanding the overwhelming importance of manufactured products and petroleum in the generation of export earnings, coffee continues to play an important role in some coffee-growing states, such as Veracruz and Chiapas, etc. The Agricultural report of the United States Department of Agriculture (USDA) indicates that coffee is the 5th largest crop of Mexico in terms of cultivated area after corn, beans, wheat and sorghum.

I.3 Contribution to farmer income and employment in the coffee sector

11. Table 1 shows the estimated number of coffee farmer households per country and areas planted with coffee. The attached Annex presents prices paid to coffee growers since crop year 1989/90. At its peak, coffee accounts for the primary source of income for over 2 million households in the region and generates employment for thousands of people involved in the activity. Taking into account casual and seasonal workers the figure can be higher. Employment generated by the coffee sector includes cultivation/maintenance, harvesting and processing. Despite the reduction in production due to the outbreak of coffee leaf rust in El Salvador, coffee remains the second largest export crop after sugar cane and a major source of employment in rural areas. The country recorded more than 42,000 jobs generated by the whole coffee industry during coffee year 2016/17.

⁴ Consejo Salvadoreño del Café.

Table 1: Number of farmer households and coffee areas

Country	Numbers of farmers	Workers	Total	Average acreage ha	Total population Estimates	Rural Population	Rural population as % of total population	%share of rural population growing coffee
Costa Rica	45 445	60 000	105 445	93 774	4 814 144	1 155 395	24.0%	9.1%
Cuba	35 000	5 000	40 000	28 505	11 258 597	2 589 477	23.0%	1.5%
Dominican Republic	2 500	1 500	4 000		10 528 954	2 316 370	22.0%	0.2%
El Salvador	21 877	1 006	22 883	137 800	6 383 752	2 170 476	34.0%	1.1%
Guatemala	125 000	100 000	225 000	253 000	15 859 714	7 771 260	49.0%	2.9%
Haiti	1 500	60	1 560		10 461 409	4 498 406	43.0%	0.0%
Honduras	120 000	413 000	533 000	300 000	8 746 673	4 023 470	46.0%	13.2%
Jamaica	16 000	800	16 800		2 721 252	1 224 563	45.0%	1.4%
Mexico	515 000	600 000	1 115 000	717 336	127 540 423	26 783 489	21.0%	4.2%
Nicaragua	44 519	300 000	344 519	129 911	6 169 269	2 591 093	42.0%	13.3%
Panama	500	2 000	2 500		3 926 017	1 334 846	34.0%	0.2%
Trinidad & Tobago	2 000	500	2 500		1 344 235	1 223 254	91.0%	0.2%
Central America & Mexico (12)	929 341	1 483 866	2 413 207	1 660 326	209 754 439	57 682 098	27.5%	4.2%

Source: ICO estimates, country data, UN data on population and various reports and conference papers

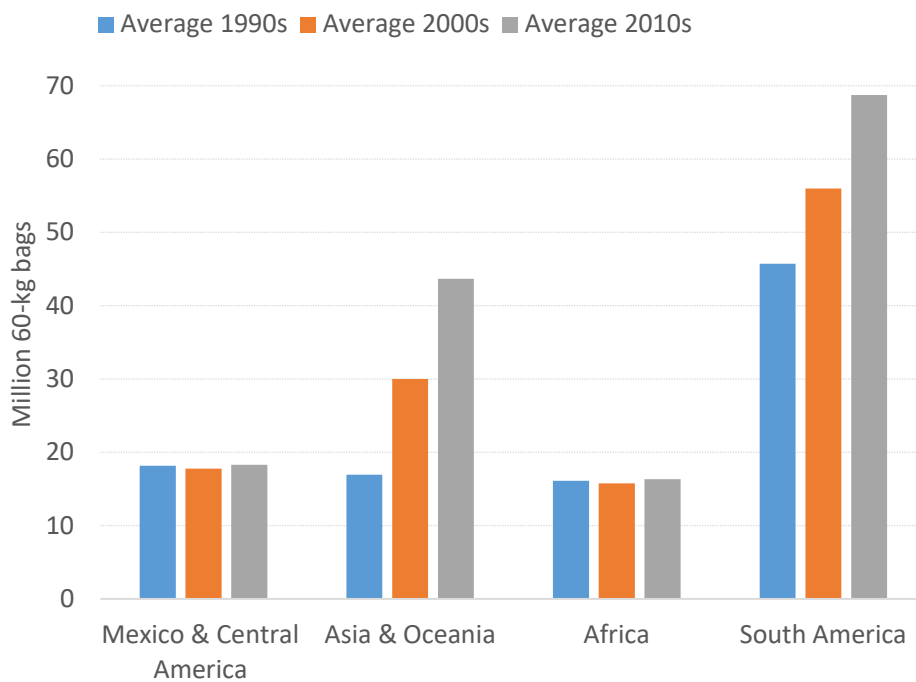
12. Some countries of the region have a very high percentage of the rural population employed in the coffee sector, particularly Nicaragua, Honduras and Costa Rica followed by Mexico and Guatemala.

1.4 Production trends in the region

13. The region has a tradition of growing coffee due to the necessary ecological conditions to produce high quality coffee, including altitude, climate and soil conditions. Almost all coffee produced in the region is of the Arabica species⁵. Since crop year 1989/90, coffee production in the region has exhibited a relatively low average growth of 0.5% per year although individual performances are mixed. Some countries have experienced negative production trends while others have recorded positive developments. The region produced an annual average of 18 million bags during the last three decades (Figure 7).

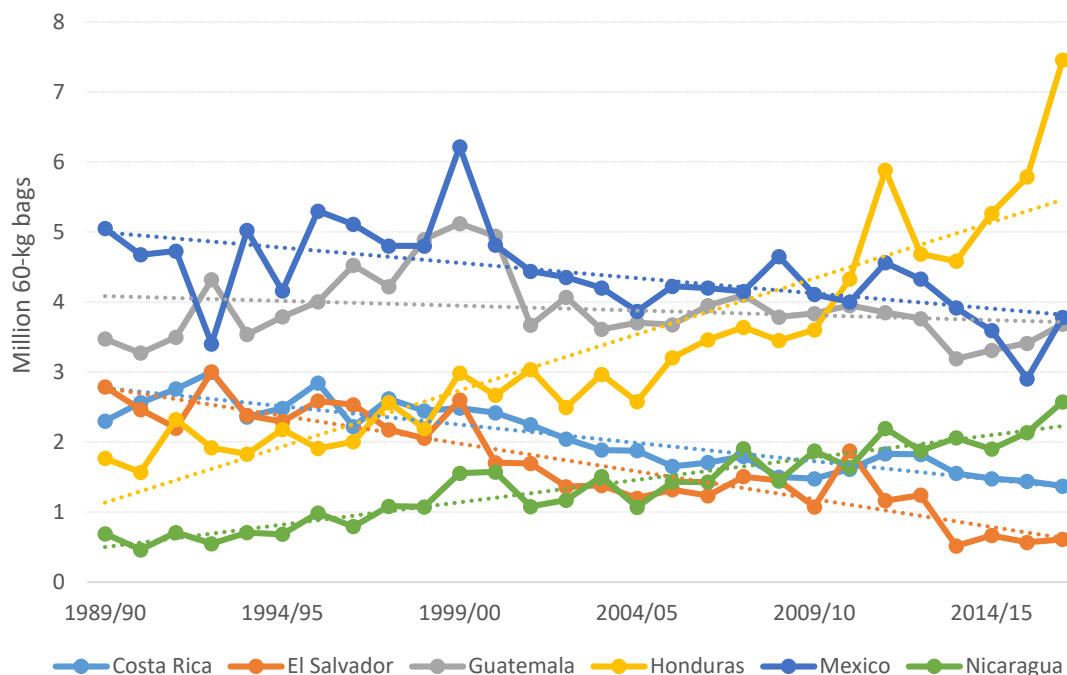
⁵Although, relatively small volumes of Robusta coffee are produced in Guatemala (1%) and Mexico (2%).

Figure 7: Regional coffee production



14. Although production in the region as a whole has not changed substantially over the last 27 years, the experience of individual countries has varied. Figure 8a shows the trends of production in some countries of the region since crop year 1989/90. Countries that experienced negative developments of their production since crop year 2009/10 include Mexico, Guatemala, Costa Rica and El Salvador. In the case of Panama and Cuba the decrease in their production started further back in 1997/98 (Figure 8b). However, two countries in the region recorded positive developments of their production (Honduras and Nicaragua).

Figure 8a: Production trends in selected countries in Central America and Mexico



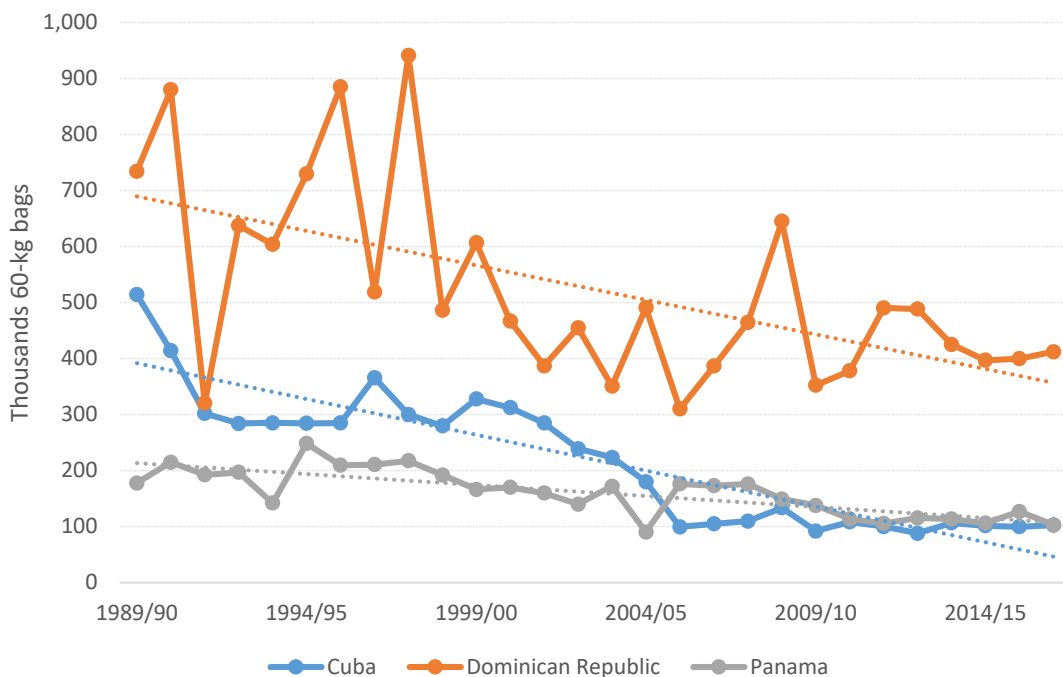
15. **Mexico**, which accounted for an average of 4.8% of annual world production in the mid-1990s, making it the world’s 4th largest producing country, has lately been relegated to the 9th place with only 2% of the world production in 2016/17. Since crop year 2009/10 its average annual production has been below 4 million bags. Nevertheless, its production in crop year 2016/17 was 3.8 million, an improvement compared to 2.9 million recorded in 2015/16. **Guatemala** produced 3.6 million bags on average per year since crop year 2010/11, a slight decrease compared to 4.3 million bags over the precedent decade. Its share of world production has dropped from 3.6% to 2.4% since 2010/11. In the 1990s, Guatemala was the 6th largest producing country in the world. A steady decline in production has been observed in **Costa Rica** as average production since crop year 2010/11 was 1.6 million bags compared to 1.9 and 2.6 million bags over the two previous decades. The country that was the region’s fourth leading producer has now been relegated to the 6th place in 2016/17. Among the leading producing countries of the region, **El Salvador** has recorded a considerable drop in production, reaching an annual level below 1 million bags since 2010/11 compared to 1.5 million in 2000s and 2.4 million bags in 1990s. The negative trend was accentuated by the outbreak of coffee leaf rust, as the average production of the last four years has been below 600,000 bags. Since crop year 2012/13 the country has lost over 50% of its production.

16. The most dynamic growth in the region is in **Honduras**, which has recorded an average annual growth rate of over 6% during the last 26 years. The production increased by 376% between crop year 1990/91 and 2016/17. Annual average was 2.1 million bags in the 1990s, then 3.1 million bags in the 2000s before reaching 5.2 million on average since crop year

2010/11, becoming the 6th largest coffee producing country of the world. With a production of 7.5 million bags in crop year 2016/17 Honduras is now the 5th largest producer, representing 4.7% of the world production. **Nicaragua** has also recorded a positive development of its production level from an annual average of 859 000 bags in the 1990s to 1.4 million bags in the 2000s and 2 million bags since crop year 2009/10. The production of Nicaragua during crop year 2016/17 was 2.6 million bags representing a 559% increase compared to only 461 000 bags in crop year 1990/91.

17. Negative trends in production have been observed in the remaining six countries, namely **Cuba, Dominican Republic, Haiti, Jamaica, Panama** and **Trinidad & Tobago**. The decrease was more severe in Cuba, which has lost over 75% of its production since 1990/91 (Figure 8b).

Figure 8b: Production trends in selected countries in Latin America



II. Challenges facing the coffee sector

18. Major challenges facing the coffee sector in the region are associated with production. More specifically, coffee growers are under severe economic pressures due to the volatile macroeconomic environment, fluctuations in world coffee prices, increasing costs of production, shortage of labour coupled with higher labour costs and decreasing availability of land for new coffee plantations due to climate change. Preliminary observations indicate that the main constraints to a sustainable coffee sector include rising costs of production, disease and pest management, climate change, price levels and volatility, low productivity and

consequent low economic profitability of coffee farming, and in some countries, weak organizational capacity of small-scale coffee growers, limited research and development potential, weak technology transfer and limited generation of value addition. Some of these challenges are presented below.

II.1 Climate change

19. Today, climate change represents the most critical challenge to the coffee sector in the region. Rising global temperature is a threat to coffee production. More specifically, elevated temperature is a serious challenge for Arabica coffee, which requires relatively specific ecological and meteorological conditions to produce quality coffee beans, including an optimum mean temperature range of between 15° and 23° C. A sustained rise in global temperatures is likely to reduce suitable land for coffee growing.

20. The variation of weather patterns represents another challenge as productivity is affected by excess or lack of rainfall, reduction of nutrients in the soils and the proliferation of pests and diseases. In addition, there is a probability that the weather phenomenon El Niño, characterized by reductions in rainfall and drought, will continue to negatively affect coffee production in many producing zones for years to come.

II.2 Coffee pests and diseases

21. Although coffee pests and diseases have been recurrent problems in the coffee industry since the 1970s, climate change has exacerbated their negative impacts on coffee production. In recent years, coffee farmers in Central America have seen a sharp decline in productivity due to coffee leaf rust, a devastating fungus known locally as *roya*. Although it is not a new phenomenon, the 2012/13 outbreak has been considered as the worst ever recorded. The countries badly affected include El Salvador, Nicaragua, Costa Rica, Guatemala, Honduras and Mexico. However, a few countries seem to have successfully controlled the pest as they are now recording positive production trends (Figure 8a above). Despite a good control of coffee leaf rust in Honduras, many smallholder farmers are still vulnerable and continue to suffer from loss of their crop as they lack good agricultural practices.

II.3 Low productivity

22. Yields differ widely in the same country and from one country to another and depend on farm management as well as weather patterns. Across the region average yield varies between 400 and 1,200 kg per hectare. However, smallholder farmers lacking good agricultural practices produce less than 500 kg per hectare. With some exceptions, coffee

farming in the region is dominated by smallholdings varying in size, depending on the country. The concept of smallholder farmers differs from one country to another. In Honduras 95% are smallholders with less than 7 hectares and produce 64% of the total output of the country. In Nicaragua, small-scale farmers hold less than 2 ha, representing 64% of the total number of farmers. Medium-size farmers have between 2 and 14 ha and represents 12% while large farmers are above 14 ha and form 24% of the total coffee famers of the country. In El Salvador smallholders are generally considered to be those farmers that have less than 35 hectares, but can be sorted into 4 sub-groups (table 2).

Table 2: Size of coffee growers in El Salvador

Size of farm (ha)	Number of households				Share of growers by size	Areas under coffee (ha)	% share of area under coffee
	Men	Women	Permanent workers	Total			
0.01 - 3.50	11 230	6 183	73	17 486	76.4%	19 000	13.8%
3.51 - 7.00	1 173	658	68	1 899	8.3%	9 180	6.7%
7.01 - 17.50	848	593	167	1 608	7.0%	15 920	11.6%
17.51 - 65.00	400	248	208	856	3.7%	18 425	13.4%
35.01 - 70.00	199	137	196	532	2.3%	20 205	14.7%
Over 70	126	82	294	502	2.2%	55 070	40.0%
Total	13 976	7 901	1 006	22 883	100.0%	137 800	100.0%

Source: Salvadorean Coffee Council

23. In El Salvador the average yield of very large farms is above 1,000 kg per hectare, while in smallholdings the yields vary between 500 and 750 kg/ha. Nicaragua has the lowest yield in the region, averaging just over 400 kg per hectare. In almost all countries of the region, the low productivity is the result of deficient farming practices, exacerbated by the effect of coffee leaf rust as well as constant changing weather patterns.

24. Building the capacity of smallholder farmers to improve their farm management practices is one of the most important challenges followed by declining yields due to ageing coffee trees and deficient husbandry practices by small-scale farmers. Low yields are also the result of improper use of inputs and phytosanitary products due to insufficient extension services.

II.4 Low economic profitability of coffee farms

25. Economic profitability of coffee farming is one of the great challenges of the coffee sector. Given price levels, many growers tend to abandon traditional environmentally-friendly

coffee growing methods to lower their cost of production. Cultivation under shade, which is favourable to conservation of soils, water, plant varieties and animal species, and provides a natural microclimate moderator, is likely to be abandoned due to lower profitability. To assure economic sustainability of coffee growing, smallholder farmers should be able to diversify their economic activities to supplement earnings from coffee. A sustainable coffee sector should assure a better distribution of the value generated in the coffee production chain among the various actors, including producers, processors and exporters, the different types of producers, small, medium and large, and the workers (permanent and temporary).

II.5 Limited access to finance

26. Crippled by low yields and lacking the funds to invest in their own farms, smallholders need access to finance in order to address significant productivity challenges. It should be noted that 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 countries. In many other countries small-scale growers suffer from heavy debts and high interest rates. The challenge of access to finance should be carefully considered in order to achieve optimal solutions.

II.6 Capacity-building of farmer organizations

27. Relatively weak farmer organizations have been observed in many countries, including Honduras, Mexico, El Salvador and Nicaragua. In most cases, there is an important gap between smallholder farmers and the market. For instance, after harvesting coffee cherries small-scale farmers sell to intermediaries, who then sell to wet mills. Only estate farmers process their cherries and sell by quality to exporters or directly to roasters. Cooperatives should enable smallholders to join coffee marketing channels and improve access to services such as purchase of inputs and technical assistance.

II.7 Limited coffee value chain

28. The concept of a value chain relates to all revenues generated by activities carried out along the entire supply chain of a product, from production to end use. 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 as the red cherries undergo wet processing. The third phase consists of marketing and packaging. The fourth comprises all activities involved in roasting and distribution for final consumption. As

it is the case of many exporting countries, the realization of this final phase in the value chain is limited in the region. Most of the value is generated by exports of green coffee, although domestic consumption is being developed in some countries. Exports of processed coffee in roasted or soluble form remain low.

III. CONCLUSION

29. Preliminary assessment of the coffee sector in selected countries in Central America and Mexico has indicated that the impact of climate and the increasing costs of production are the main challenges that are affecting the economic sustainability of coffee growing. As the industry is dominated by small-scale farmers in the region, a consensus should be established on priority actions to address various issues including significant productivity challenges, access to finance and capacity-building to manage costs of production. Adaptation measures to climate change should include developing higher yield varieties and varieties more resistant to major diseases and pests, such as leaf rust, anthracnose and coffee berry borer. Moreover, challenges that are also widely shared with coffee-producing countries worldwide are those associated with the creation of added value. Processing activities, including roasting to enhance the value added by the coffee industry, are limited. Finally, it should be noted that, the fall in coffee prices aggravates the situation of workers, including permanent employees, casual workers and seasonal workers as they lose their jobs to migrate to cities or other countries and in worse cases, involve themselves in illegal activities.

PRICES PAID TO GROWERS
Current US cents per lb

Country	Type of Coffee	Crop Year Commencing										
		1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
Costa Rica	Arabica	57.8	55.8	50.7	47.0	76.8	89.7	89.2	99.0	96.7	80.8	77.0
Cuba	Arabica	171.4	171.4	171.4	188.6	188.6	203.6	188.6	188.6	188.6	188.6	188.6
Dominican Republic	Arabica	59.0	66.0	54.9	46.6	65.4	138.9	87.5	134.3	133.1	77.6	76.7
El Salvador	Arabica	55.5	46.8	32.2	33.3	78.2	113.9	75.1	115.5	94.5	60.2	52.4
Guatemala	Arabica	51.4	59.7	42.9	38.7	62.1	101.6	89.9	88.3	109.4	79.0	77.1
Haiti	Arabica	54.3	26.2	15.0	9.8	20.3	34.8	30.2	27.9	29.4	23.1	24.2
Honduras	Arabica	53.2	57.2	43.9	36.1	60.3	118.0	64.0	106.7	105.6	63.7	59.2
Jamaica	Arabica	157.9	219.4	200.2	206.1	321.7	261.2	341.7	291.2	254.3	155.9	213.5
Mexico	Arabica	74.2	85.4	62.9	72.4	126.0	184.8	122.1	139.0	115.6	83.1	71.9
Nicaragua	Arabica	5.6		44.1								
Panama	Arabica	49.3	48.5	44.4	44.4	74.0	98.6	98.2	122.3	115.0		
Trinidad & Tobago	Robusta	62.6	62.6	62.6	78.0	64.7	64.0	63.7	61.0	60.3	73.6	

PRICES PAID TO GROWERS

Current US cents per lb

Country	Type of coffee	Crop Year commencing									
		2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Costa Rica	Arabica	47.0	45.2	51.0	58.9	82.1	87.7	95.9	106.1	104.5	123.8
Cuba	Arabica	188.6	188.6	188.6	110.0	70.2	70.7	64.8	53.0	70.7	70.7
Dominican Republic	Arabica	48.3	46.8	50.1	57.6	90.5	83.2	87.8	95.0	101.1	118.6
El Salvador	Arabica	20.8	18.7	26.2	33.7	64.1	64.1	72.2	90.5	74.4	95.6
Guatemala	Arabica	49.0	47.3	48.7	60.4	88.4	89.8	96.0	112.1	106.3	131.5
Haiti	Arabica	3.0									
Honduras	Arabica	37.3	34.8	40.6	47.2	75.5	78.2	79.6	97.9	80.7	105.5
Jamaica	Arabica	185.0	216.9	202.0	179.2	214.5	340.8	352.6	347.8	306.3	286.7
Mexico	Arabica	52.3	46.7	56.9	85.5	127.9	98.5	89.2	106.3	91.8	
Nicaragua	Arabica		29.0	33.5	37.3	51.3	57.5	62.1	71.1	70.8	71.6

Country	Type of coffee	Crop Year commencing						
		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Costa Rica	Arabica	182.5	173.2	121.8	126.3	152.0	125.4	138.9
Cuba	Arabica	70.7	70.7	139.5	235.7	235.7	235.7	235.7
Dominican Republic	Arabica	169.9	171.6	140.6	154.5	192.5	169.0	179.9
El Salvador	Arabica	181.3	136.1	95.9	110.7	98.7	84.5	92.1
Guatemala	Arabica	205.5	178.3	134.0	141.7	148.9	131.1	137.3
Honduras	Arabica	188.1	159.8	105.4	108.7	121.1	88.6	98.0
Jamaica	Arabica	299.0	302.8					
Nicaragua	Arabica	98.9	68.0	39.8	71.9			