



International Coffee Council  
124<sup>th</sup> Session  
25 – 29 March 2019  
Nairobi, Kenya

**Survey on the impact of low  
coffee prices on exporting  
countries**

**Background**

1. As identified in the International Coffee Agreement 2007, the Five-Year Action Plan and the Programme of Activities for coffee year 2018/19, the ICO is mandated to carry out an analytical function and to provide Members with research in the form of studies related to the coffee sector.
2. Over the last two years, coffee prices have been experiencing a downward trend with the ICO composite indicator price 31% lower in December 2018 than its level in November 2016. Noting the short- and long-term effects for the global coffee markets, the International Coffee Council approved, in September 2018, Resolution 465 on Coffee Price Levels, which encourages Members and all coffee stakeholders to develop a sustainable coffee sector in economic, social and environmental terms.
3. As part of the actions taken by the Secretariat to implement Resolution 465, an online survey was launched to collect information on different economic and social issues from exporting Members and to assess the impact of recent low coffee price levels on the livelihood of coffee growers (document [ED-2291/18](#)). The results of the survey, which are included in this document, will also provide valuable inputs for the development and implementation of a global communication plan and for engaging consumers, stakeholders and the international community on the issue of the economic sustainability of coffee production, enabling the Secretariat and ICO Members to advocate for stronger support to the coffee sector from donors and international development institutions.
4. By 31 January 2019, responses had been received from 13 countries, namely Brazil, Cameroon, Colombia, Costa Rica, El Salvador, Honduras, Nicaragua, Papua New Guinea, Peru, Rwanda, Sierra Leone, Tanzania and Uganda. These countries represent on average 56% of world production and around 60% of the total export volume of all exporting countries. The

present report covers the analysis of the impact of low prices based on the responses provided by Members, as well as an additional assessment of the correlation between coffee market and fertilizer prices.

5. The correlation analysis shows that fertilizer costs have increased, internationally, by 27% between November 2016 and December 2018, corresponding to the same period of coffee price decline mentioned above. Matching this negative correlation with the survey, it emerges that 62% of exporting Members have reduced the use of fertilizers by 10% to 62%, depending on the country.

6. Moreover, low coffee prices have led to significant social and environmental effects as well as impacting negatively the economies. At these low price levels, 46% of the countries reported a reduction of the time dedicated by farmers to coffee production and processing. On-farm employment has fallen over the last two years, with a drop of 51% reported by Cameroon and 25% by Honduras.

7. Between 2017 and 2018 the average price paid to growers for coffee fell by 36% and 30% in Sierra Leone and Papua New Guinea respectively. This has resulted in the reduction of growers' total income of between 7% and 30% in two years. Member countries also reported that wages paid to farm workers have been reduced by 53% in Cameroon and 15% in Peru.

8. Negative social impacts of the downward pressure on coffee prices have been recorded. Respondents reported an increase in food insecurity, as family food consumption has been cut due to reduced earnings and purchasing power. Significant reductions in food consumption were reported by Cameroon (43%), Peru (20%), Honduras (20%) and Tanzania (20%). In addition, lower expenditures on health and education and increases in household poverty have been reported by many countries, with variations that can be attributed to the importance of coffee as an income-generating activity. Furthermore, the proportion of farmers reported as migrating from coffee areas during the reference period reached 41% in Cameroon, 20% in Peru and Rwanda and 18% in Honduras. The survey clearly shows that, more coffee growers will be unable to cover their production costs and receive a sufficient living income from producing and selling their coffee if the downturn in coffee prices continues. This will further worsen the negative social and economic impact on poverty and on the supply of quality coffee.

### **Action**

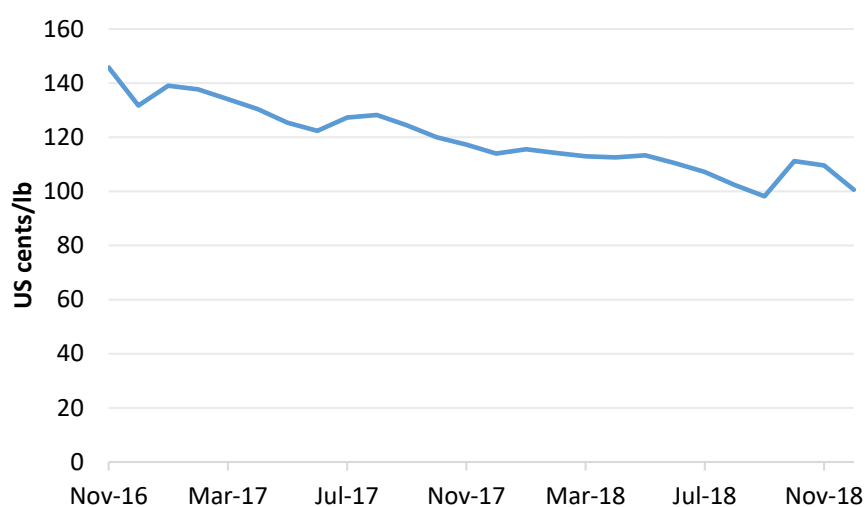
9. The Council is requested to take note of this document.

## SURVEY ON THE IMPACT OF LOW COFFEE PRICES ON EXPORTING COUNTRIES (January 2019)

### I. HISTORICAL AND RECENT MOVEMENTS IN COFFEE PRICES

1. The ICO composite indicator price, which was US cents 145.82/lb in November 2016, fell by 31% to US cents 100.61/lb in December 2018 (Figure 1).

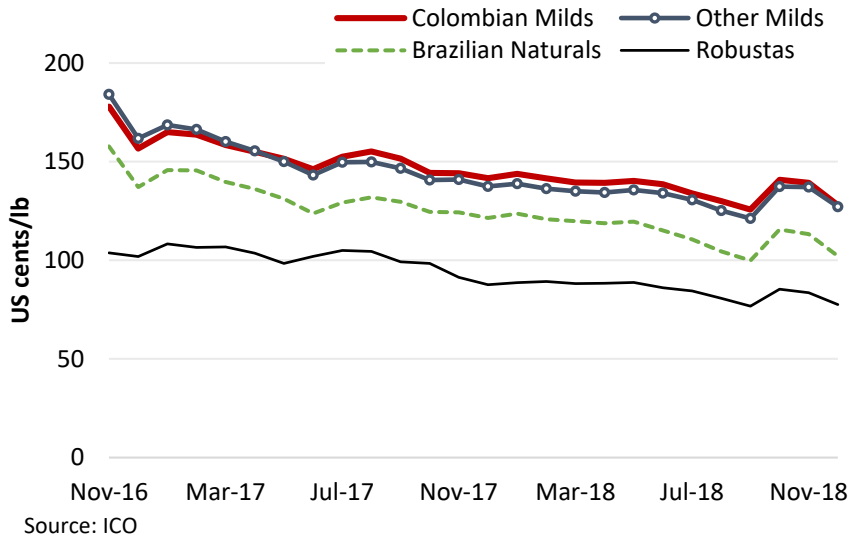
**Figure 1: ICO Composite indicator price, November 2016-December 2018**



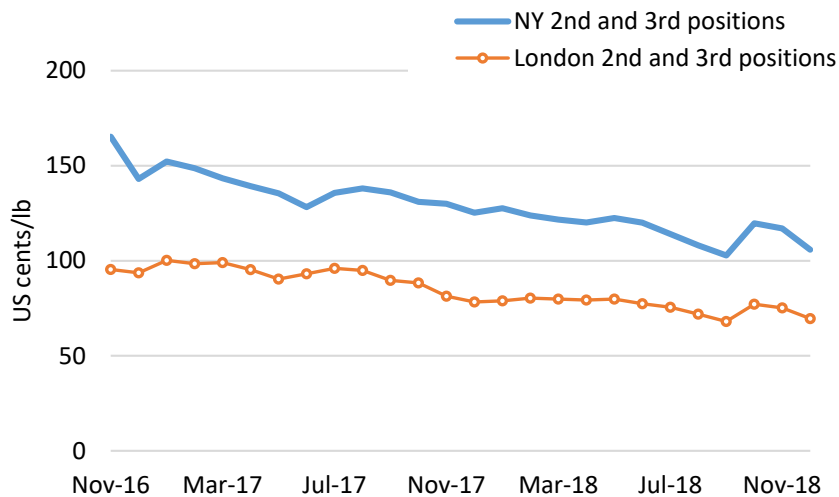
Source: ICO

2. The performance of all four groups confirms the same downward trends. Colombian Milds fell by 28.1%, from US cents 177.85/lb in November 2016 to US cents 127.86/lb in December 2018. Other Milds decreased by 31%, from US cents 184.12 /lb to US cents 127.10/lb. In the case of Brazilian Naturals, prices went down by 35.3%, from US cents 157.72/lb to US cents 102.10/lb. Robustas declined 25.2%, from US cents 103.72/lb to US cents 77.57/lb (Figure 2). The same low price levels were observed in the futures markets, with a loss of 36% for the C contract and a drop of 27.1% in the London Robusta contract (Figures 3).

**Figure 2: Group indicator prices**



**Figure 3: ICE New York and London Futures prices**



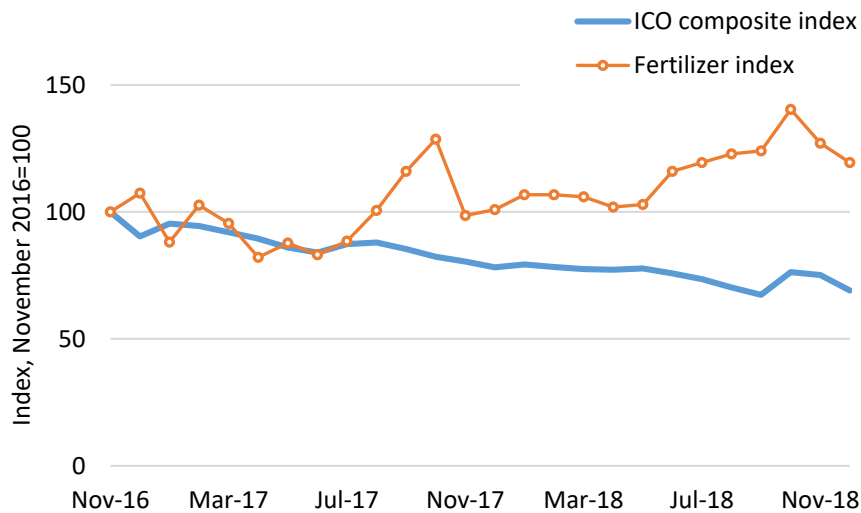
**II. RECENT MOVEMENT OF INPUT PRICES**

3. In order to assess the impact of falling prices, it is important to understand the development of production costs over the same period of time. Input costs can have a serious negative impact on coffee growers profit margins, in the current context of lower prices and income. The main inputs used in producing coffee include labour, fertilizers and pesticides. The relative importance of each of these inputs depends on the farming system and the country context.

4. In coffee farming, the nutrients most widely used to improve yields are nitrogen, phosphate and potassium (NPK), which can be applied either in mineral or organic form. Mineral fertilizers are the most widely used nutrients for improving the productivity in coffee farming. Therefore, fertilizer costs have been used as a proxy to gauge changes in input costs

faced by coffee growers over the last two years. Figure 4 plots the recent movement of the ICO composite indicator and the fertilizer price index. Over the period November 2016 to December 2018, fertilizers prices increased by 19.4%, although a 6% decrease was observed between the last two months of 2018.

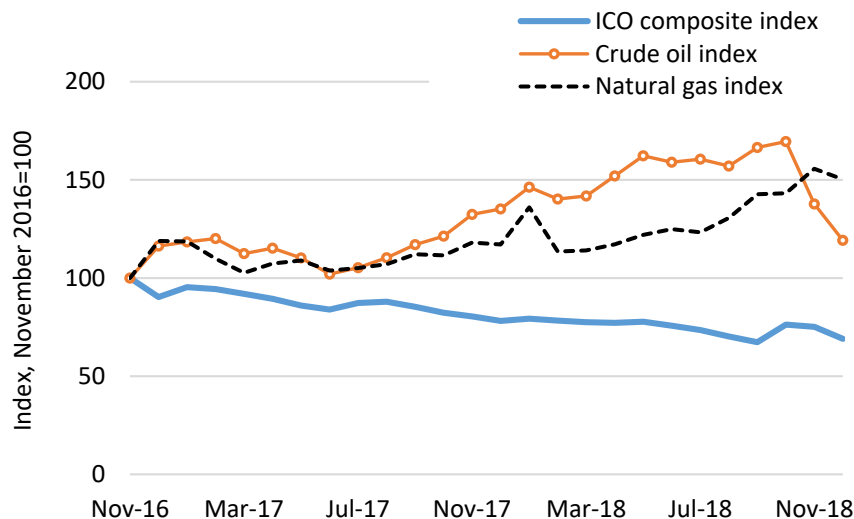
**Figure 4: ICO composite indicator and fertilizer index, November 2016=100**



Source: ICO

5. The price movements of the other components of production costs are relevant to assess the effects of low prices on the coffee farming community. Figure 5 shows the index of petroleum products as another important component of production costs, due to transportation costs and the strong correlation with fertilizer prices. Between November 2016 and December 2018 the crude oil index increased by 19.2% while the price index of Natural Gas increased by 50.3%.

**Figure 5: Petroleum products index, November 2016=100**



Source: World Bank commodity price data, February 2019 and ICO

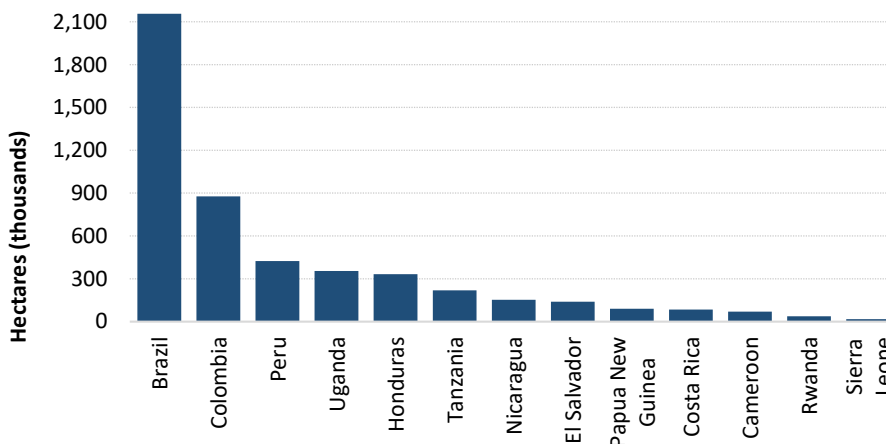
### III. SCALE OF THE COFFEE SECTOR IN SELECTED PRODUCING COUNTRIES

6. The first section of the survey aimed to review the scale of the coffee sector in exporting Members. The answers provided a picture of the variability in the characteristics of the global coffee sector, including areas covered by coffee, number of farmers, farm size distribution, employment and ownership by gender.

#### *Areas under coffee production, coffee farmers and average farm size*

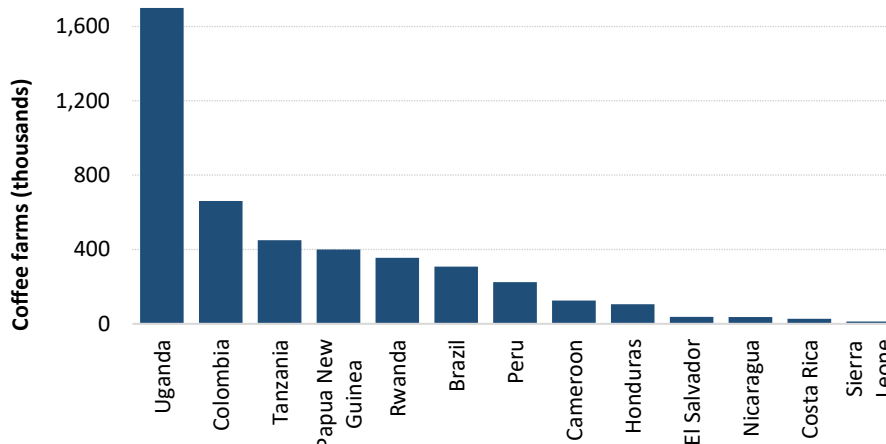
7. Areas under coffee in production ranges from 17,000 hectares in Sierra Leone to 2.16 million hectares in Brazil (Figure 6). Although Brazil has the largest area dedicated to growing coffee, Uganda is the country with the largest number of coffee farmers (1.7 million, Figure 7), showing a large variability in the average size of farms across countries. Figure 8 illustrates this variability as reported by our Members.

**Figure 6: Area under coffee in production**



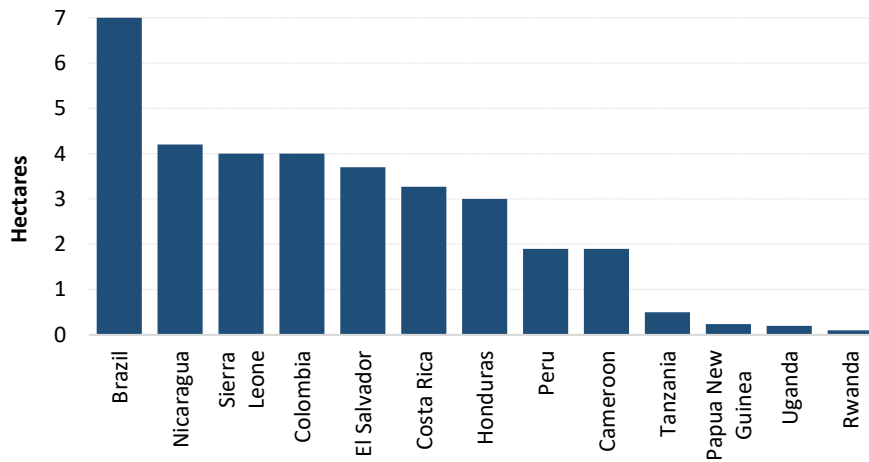
Note: The data corresponds to estimates for different years, depending on each country

**Figure 7: Total number of coffee farms**



Note: The data corresponds to estimates for different years, depending on each country.

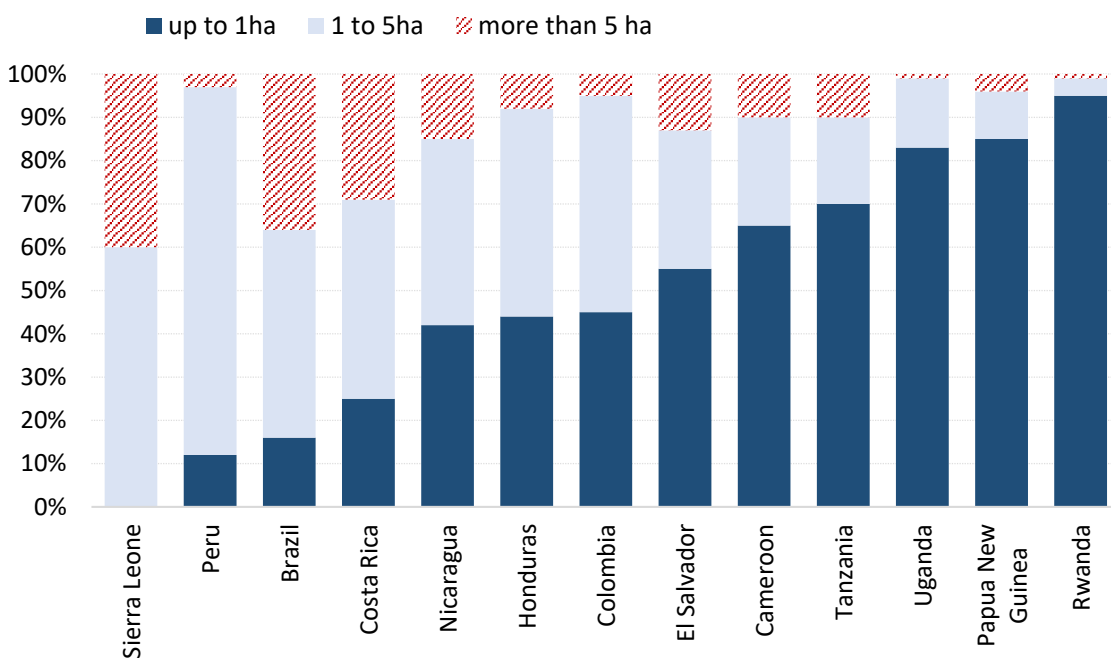
**Figure 8: Average farm size**



Note: As reported by Members, calculations based on area and number of farms might differ slightly for some countries. Corresponds to estimates for different years, depending on each country

8. Exporting countries were requested to report the distribution of farms by size in three categories, less than 1ha, between 1ha and 5ha and more than 5ha. Figure 9 depicts the variability in the distribution of farm size across countries. Rwanda is the country with the largest proportion of small-size farms (less than 1ha), while Peru is the country with the largest proportion of medium-size farms. Coffee production in Brazil and Sierra Leone is characterized by a larger proportion, at least 30%, of farms bigger than 5ha.

**Figure 9: Distribution of farms by size (%)**

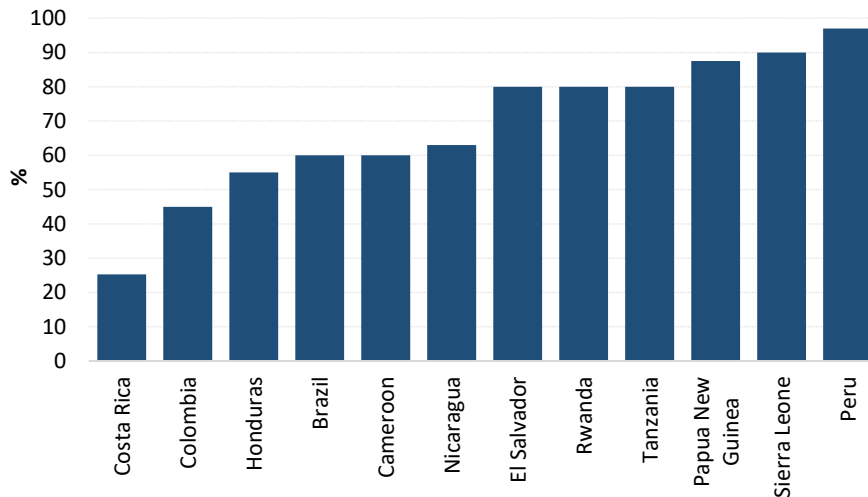


Note: The data corresponds to estimates for different years, depending on each country.

### Employment

9. Figure 10 shows the percentage share of coffee farms that mainly use family labour without hiring any additional employees during the crop year, as estimated by responding producing countries.

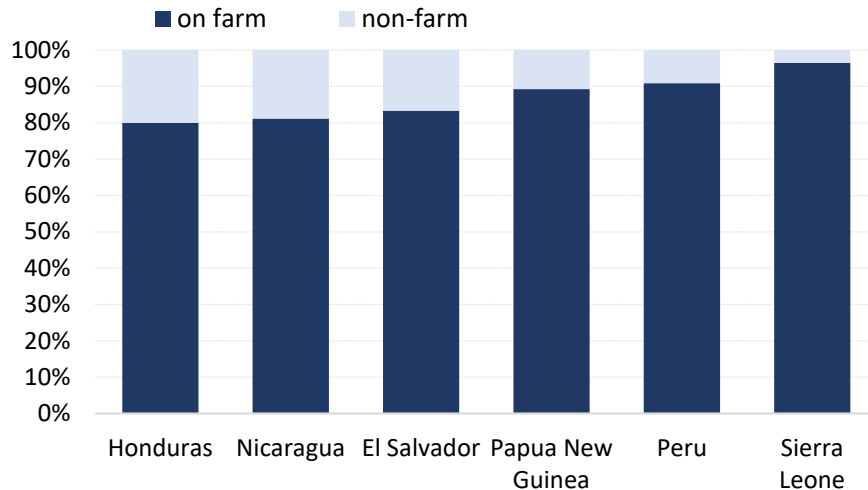
**Figure 10: Percentage of coffee farms with family labour only**



Note: The data corresponds to estimates for different years, depending on each country.

10. As reported by 12 Member countries, over 25 million jobs have been generated by the coffee sector. Most of these jobs are created on coffee farms (Figure 11). This is an indication of the potential impact of changes in price paid to growers, since employment levels will be affected.

**Figure 11: Distribution of employees across the coffee sector**



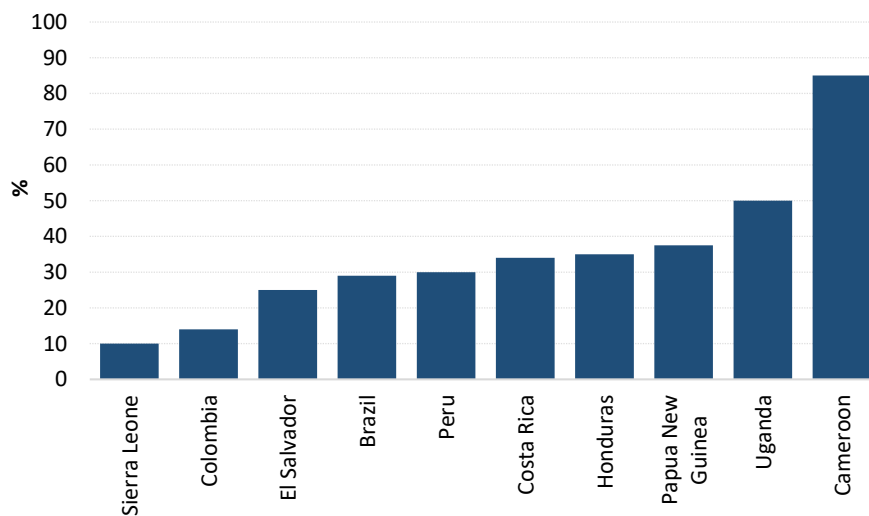
Note: The data corresponds to estimates for different years, depending on each country.



### Role of women

11. Women play a significant role in the development of the coffee sector. Members that provided information indicate that on average 35% of the coffee sector employees are women. Their contribution to the sector varies according to country. In Cameroon, for example, 85% of employees in the sector are reported to be women while in Sierra Leone only 10% are female employees (Figure 12).

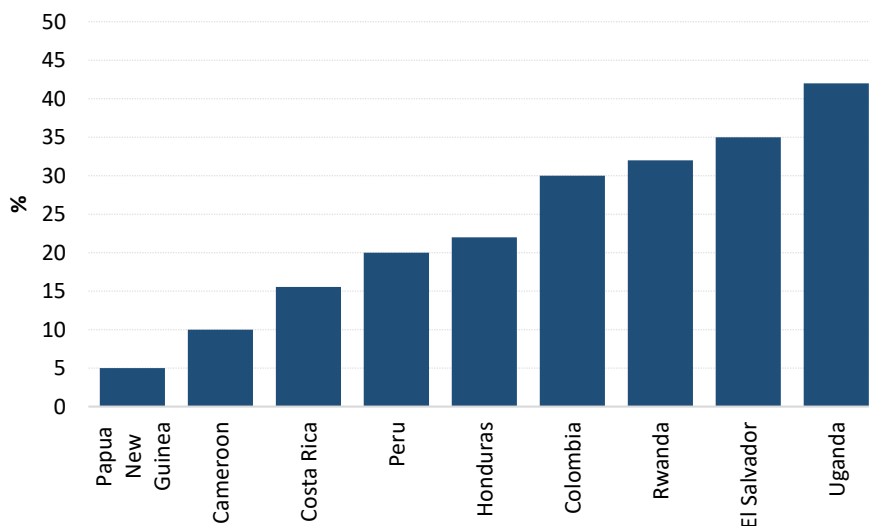
**Figure 12: Percentage of female employees**



Note: The data correspond to estimations for different years, depending on each country.

12. In terms of farm ownership, 24% of coffee farms are owned by women on average, ranging from 5% in Papua New Guinea to 42% in Uganda (Figure 13).

**Figure 13: Percentage of coffee farms owned by women**

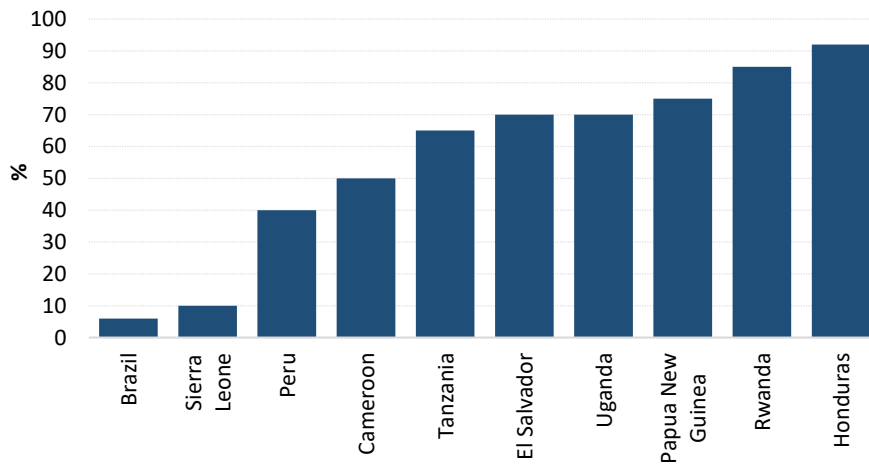


Note: The data correspond to estimations for different years, depending on each country.

*Income*

13. Coffee is vital as a source of income for many farmers. Farms for which coffee is the main source of income, comprising 80% or more of total income, represent 60% of total farms, on average (Figure 14). This percentage is much higher in Honduras (92%) and Rwanda (85%), countries for which the value of coffee exports represents 12% and 9% of total exports, respectively.

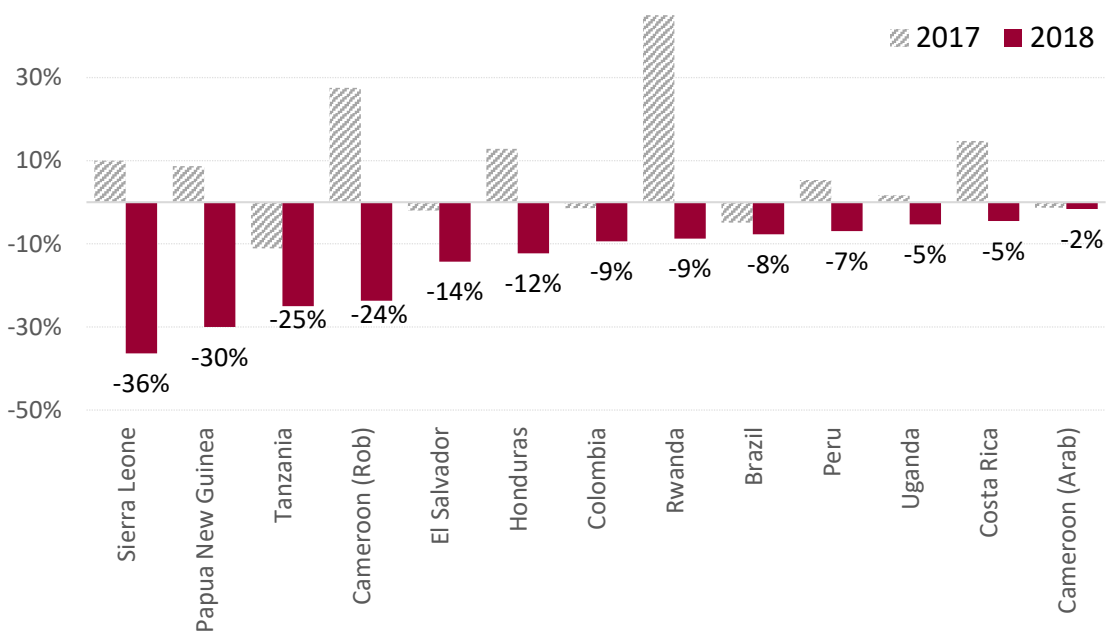
**Figure 14: Share of farms for which coffee is the main source of income, 80% or higher**



Note: The data correspond to estimations for different years, depending on each country.

14. Exporting Members reported the average price paid to growers for 1kg of coffee from 2015 to 2018. Annual changes show that, on average, the price paid to growers decreased by 14% in 2018, but this fall ranged between -36% to -2% (Figure 15).

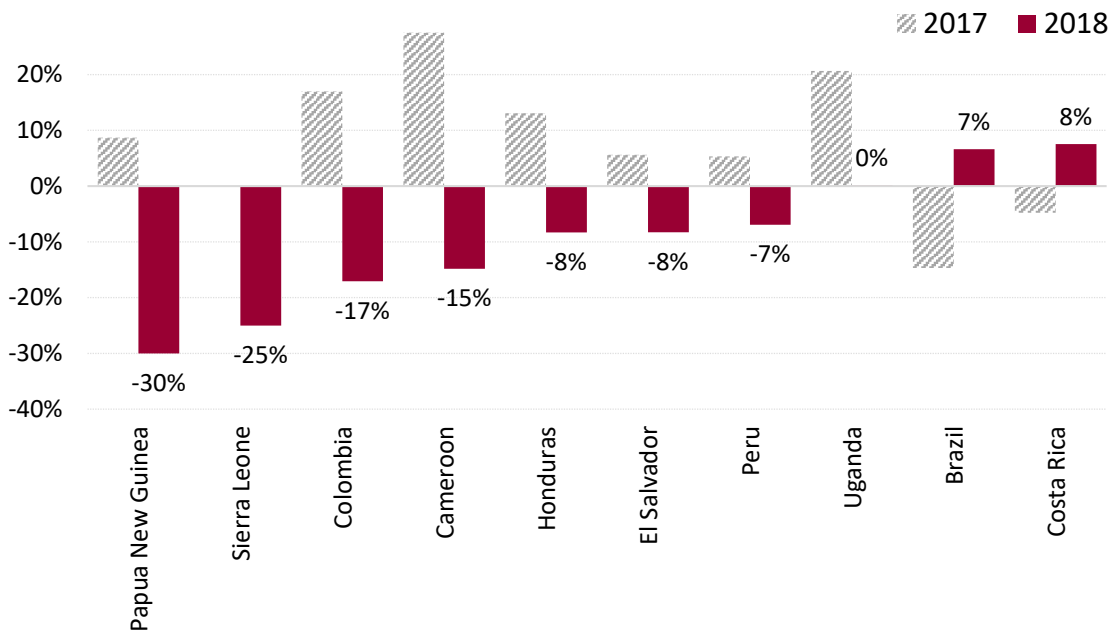
**Figure 15: Annual change on the average price paid to growers for 1kg of coffee**



Note: ICO calculations.

15. The drop in the price paid to growers was reflected in their annual income. This means lower agricultural income, lower agricultural wages and loss of employment. Figure 21 shows the annual change in the total annual income of coffee farmers in 2017 and 2018. According to the information provided by Members, coffee growers' income decreased by 10% on average in 2018, with the biggest drops in Papua New Guinea (30%) and Sierra Leone (25%). Brazil and Costa Rica were able to offset the drop in prices since the main drop in the income of coffee growers occurred earlier in 2017 (Figure 16).

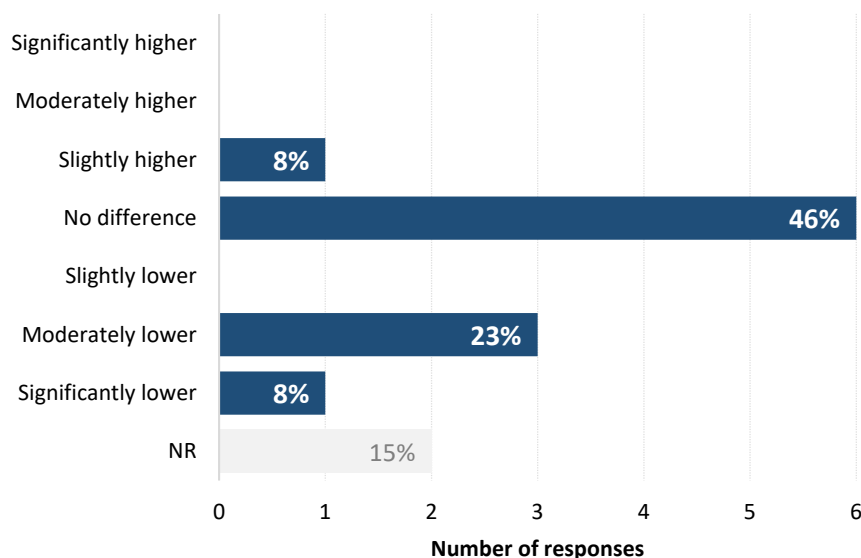
**Figure 16: Annual change on the average total annual income of coffee farmers**



Note: ICO calculations.

16. Members provided a qualitative gender comparison of income by indicating whether the average annual income of female coffee farmers compared to male farmers is: *Significantly higher, Moderately higher, Slightly higher, No difference, Slightly lower, Moderately lower or Significantly lower*. In the majority of cases, six countries, it was reported that there is no difference in income by gender, however women tend to earn a lower income in four countries (Figure 17). One country indicated that “*much of the coffee produced by female farmers is for specialty markets, which pay higher prices due to higher quality*”.

**Figure 17: Average annual income of female coffee farmers compared to male farmers**

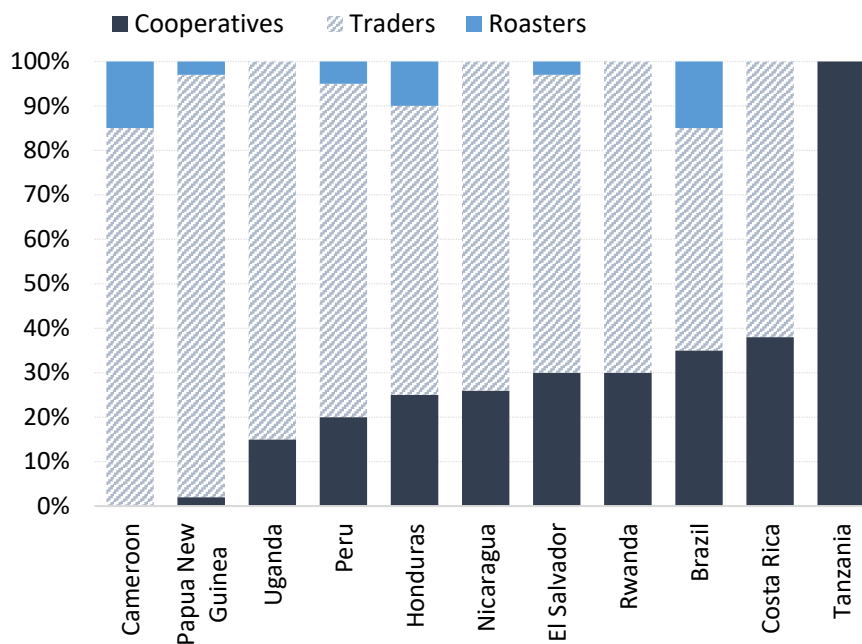


Note: NR - no response

*Trade relationships*

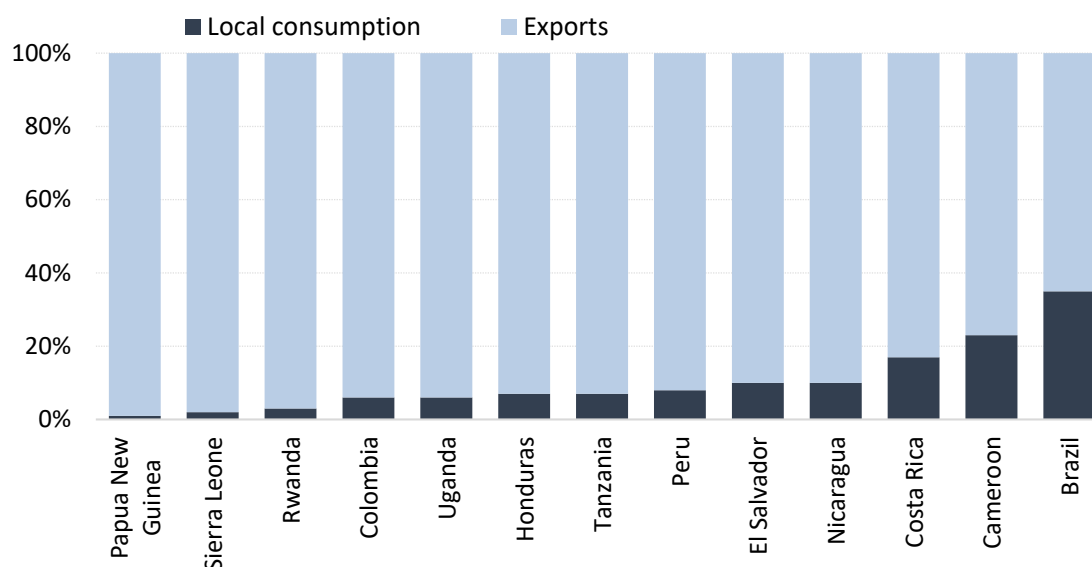
17. Farmers sell most of their coffee directly to traders in the majority of countries, with the exception of Tanzania where all sales are through cooperatives (Figure 18). The share of sales to traders ranges from 50% to 95% percent and to cooperatives from 2% to 38%. In Cameroon, none of the coffee is sold to cooperatives.

**Figure 18. Percentage of coffee production by type of buyer**



18. Coffee is mostly destined for export, since the share of coffee sold for domestic consumption is less than 10% in most countries, except in Costa Rica (17%), Cameroon (23%) and Brazil (35%), (Figure 19).

**Figure 19: Percentage of coffee production sold destination market**



#### IV. IMPACT OF THE CURRENT DOWNWARD TREND IN INTERNATIONAL COFFEE PRICES

19. The second section of the survey sought to identify the effects of the current low level of coffee prices in exporting Member countries. The survey asked Members to provide estimates of these effects on four main areas: farm investment, labour, income and social impact.

##### A. Farm investment

20. In order to evaluate the effects on investment, exporting Member countries were asked five questions:

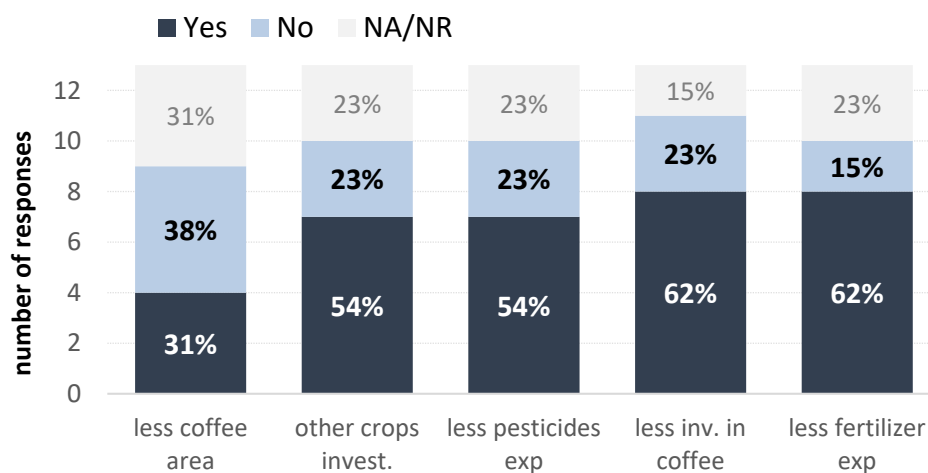
- Has the coffee-cultivated area been reduced in the last two years as a result of low prices? (Yes/No/NA)
- Have farmers invested in other crops instead of coffee in the last two years? (Yes/No/NA)
- Has investment in coffee plantations decreased in the last two years? (Yes/No/NA)

- Has the average expenditure on fertilizers by farmers been reduced in the last two years? (Yes/No/NA)
- Has the average expenditure on pesticides by farmers been reduced in the last two years? (Yes/No/NA)

21. If the answer was affirmative, respondents were requested to provide a quantitative estimation of the effect observed. Figure 20 illustrates a summary of the qualitative Yes/No/NA responses and Figures 21-23 detail the quantitative effects on investment reported by Members.

22. The biggest effect of low coffee prices on investment is a reduction of general investment in coffee plantations and on expenditure on fertilizers, over the last two years, as reported by 8 out of 13 Members. This is followed by a reduction on expenditure on pesticides and more investment in other crops instead of coffee. In four countries, the area under coffee decreased as a result of low prices (Figure 20).

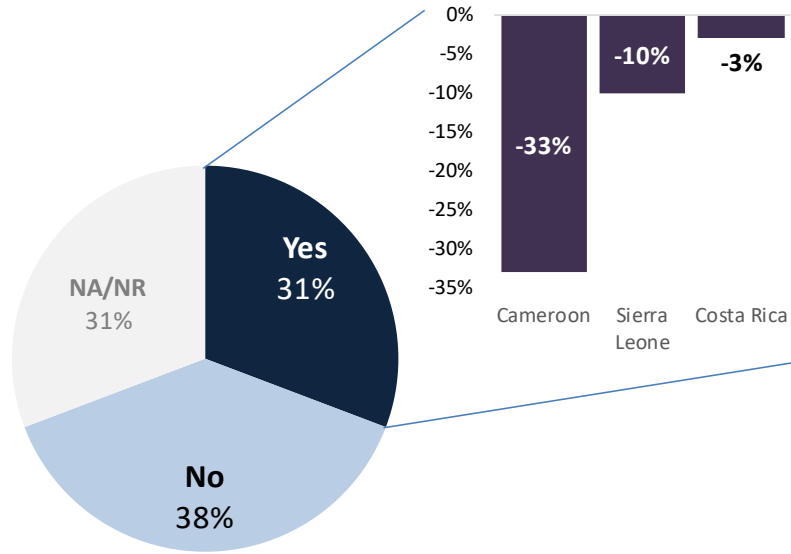
**Figure 20: Effect of low prices on investment in the coffee sector**



Note: NA/NR - Not applicable / No response.

23. Although the area under coffee was reduced in only four out of 13 countries, Figure 21 details the magnitude of this effect for the three countries that reported a quantitative effect. The area under coffee was reduced 30% in Cameroon, 10% in Sierra Leone and 3% in Costa Rica. Peru also reported a reduction but with no estimation.

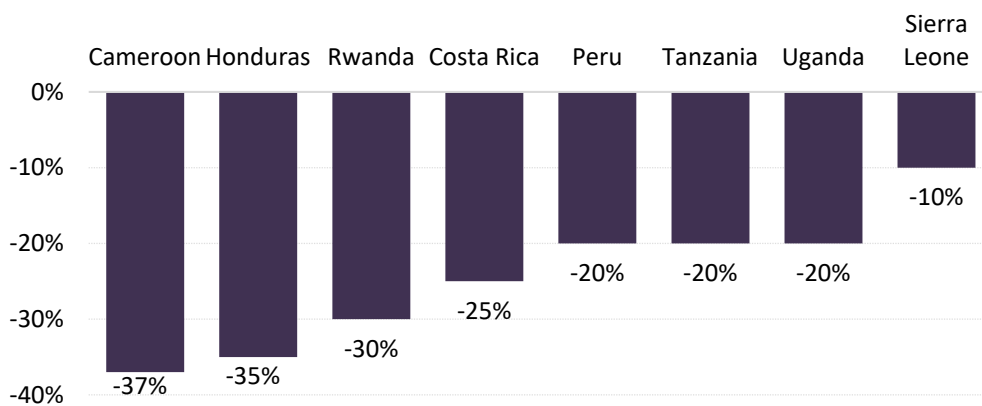
**Figure 21: Reduction on coffee-cultivated area as a result of low prices**



Note: NA/NR - Not applicable / No response.

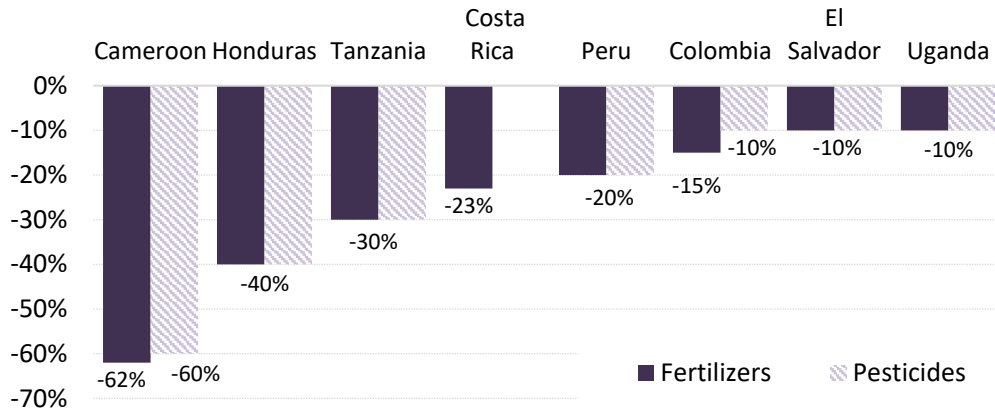
24. Investments in coffee plantations have decreased on average by 25%, with some countries reporting a 37% decrease in the last two years as a result of the fall in international coffee prices (Figure 22).

**Figure 22: Decrease in investment in coffee plantations**



25. The expenditure on fertilizers and pesticides decreased, in similar proportions, at an average of 26% over the last two years (Figure 23).

**Figure 23: Decrease in fertilizers and pesticides expenditure by farmers**



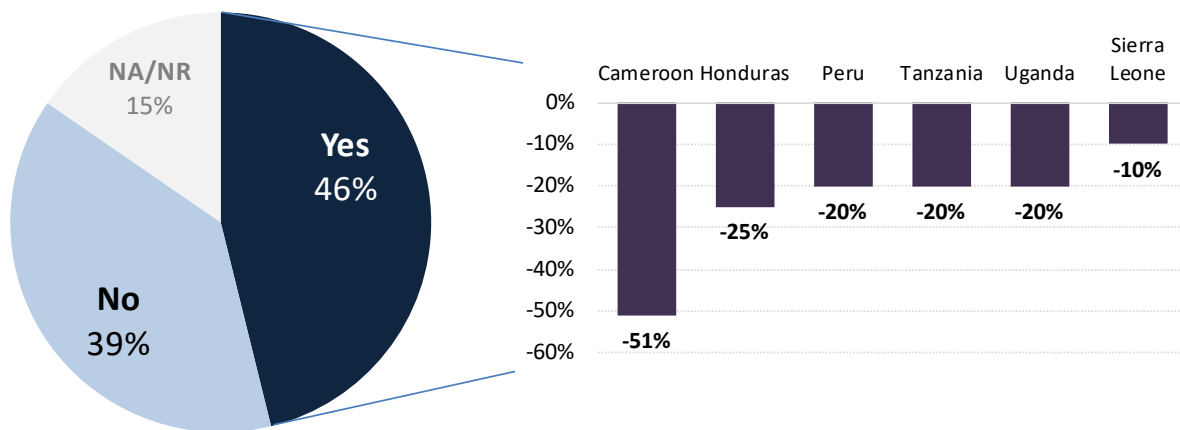
Note: Costa Rica reported a reduction in the use of fertilizers but not pesticides.

**B. Labour**

26. In order to understand the effects of low prices in the use of labour, Members were asked whether the time dedicated by farmers to coffee production and processing decreased, and whether the number of on-farm employees was reduced over the last two years, as a result of the drop in coffee prices. In case of affirmative answers, a quantitative estimation of the effect was requested.

27. Six countries (46%) reported that low coffee prices caused a reduction of the time dedicated by farmers to coffee growing and processing (Figure 24). On average, this reduction was 24% across countries, with the biggest effect in Cameroon (51%).

**Figure 24: Effect on the time dedicated by farmers to coffee production and processing**

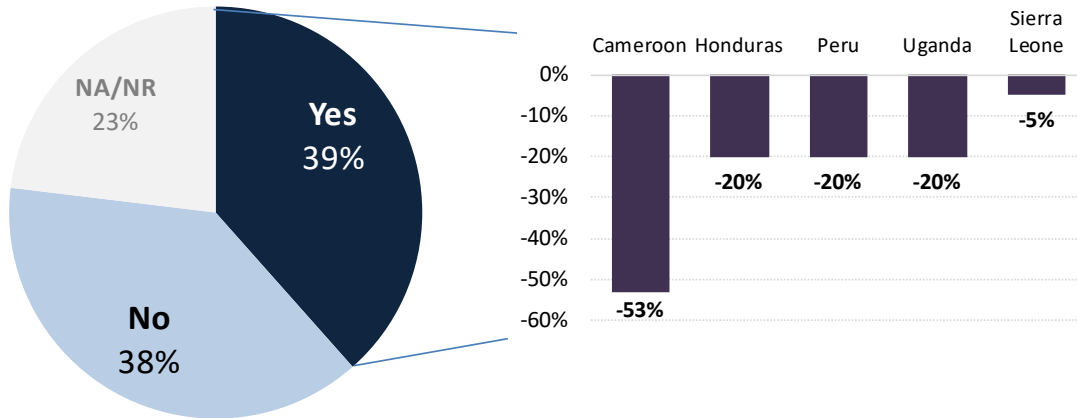


Note: NA/NR - Not applicable / No response.



28. Five countries (39%) reported a reduction in on-farm employment as a result of the decrease of international coffee prices (Figure 25). On average, employment fell 24% among these five countries, ranging from 53% in Cameroon to 5% in Sierra Leone.

**Figure 25: Effect on on-farm employment**

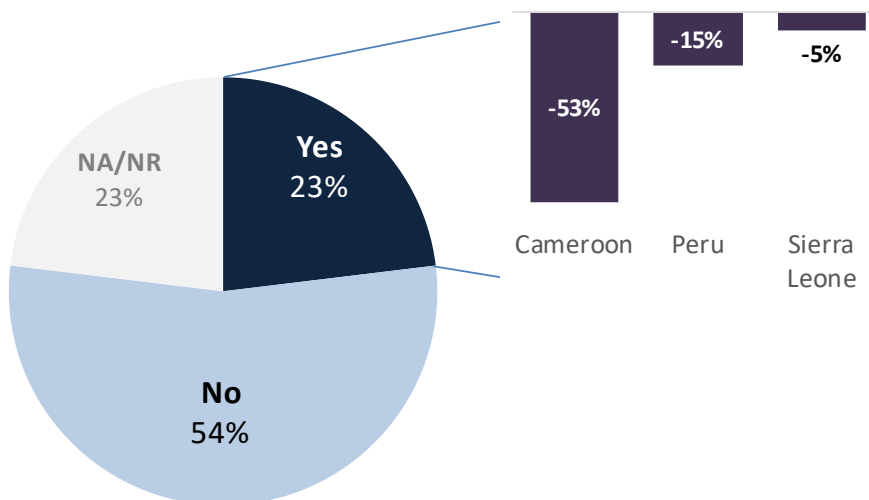


Note: NA/NR - Not applicable / No response.

### C. Income

29. In terms of the impact on income, questions were asked regarding the wages of on-farm employees and the average annual income of coffee farmers. Most countries (10) did not report an effect on wages of on-farm employees, but in three countries wages decreased by 24% on average (Figure 26).

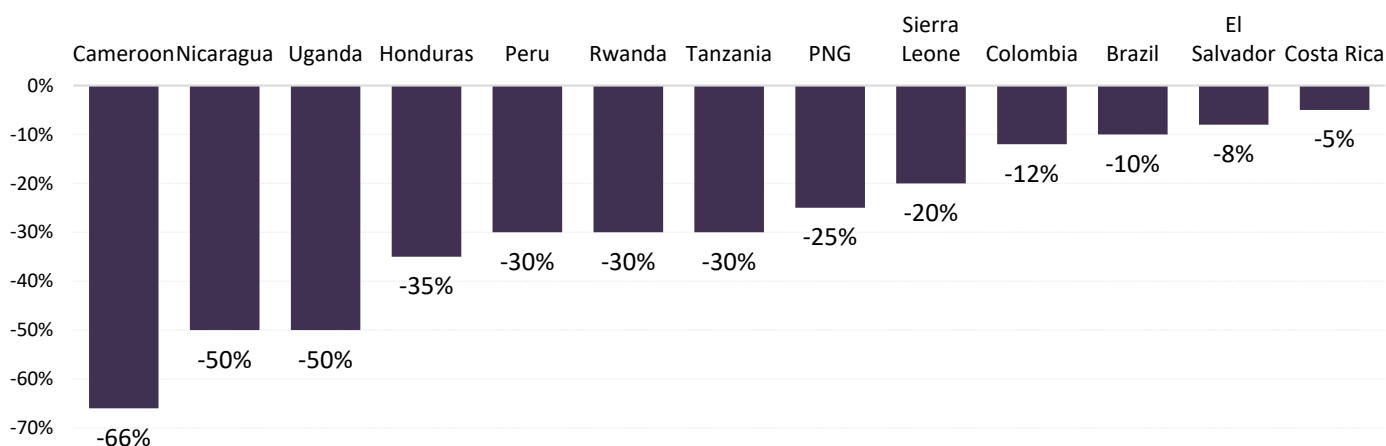
**Figure 26: Effect on wages of on-farm coffee employees**



Note: NA/NR - Not applicable / No response.

30. In contrast all countries (13) reported a reduction in the average annual income of coffee farmers. Figure 27 shows a quantitative estimation of this impact as reported by exporting Members. The average decrease is 29% in the last two years, since international coffee prices started their downward trend.

**Figure 27: Effect on the average annual income of coffee farmers**



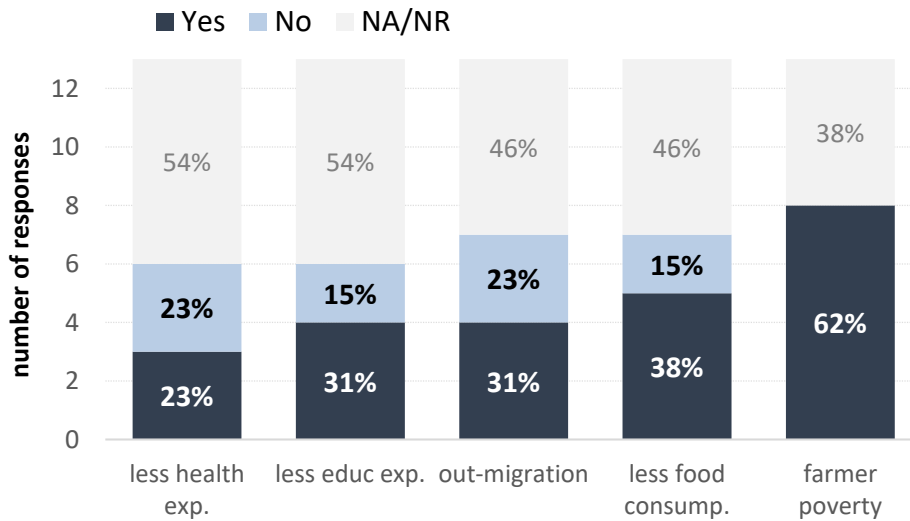
Note: PNG: Papua New Guinea.

#### D. Social impact

31. Since the income of farmers has decreased considerably due to the reduction in international coffee prices, social effects such as migration, increase in poverty and lower consumption of food or health and education expenditure were considered in this study. Figure 28 summarizes responses on these areas. The main impact reported by Members was an increase in the proportion of farmers living with less than US\$1.90 a day<sup>1</sup>, in the last two years. In some countries, however, other social effects were present, such as lower food consumption, migration of farmers from coffee areas and lower expenditure on health and family education.

<sup>1</sup> World Bank's Global Poverty Line: <http://www.worldbank.org/en/topic/poverty/overview>.

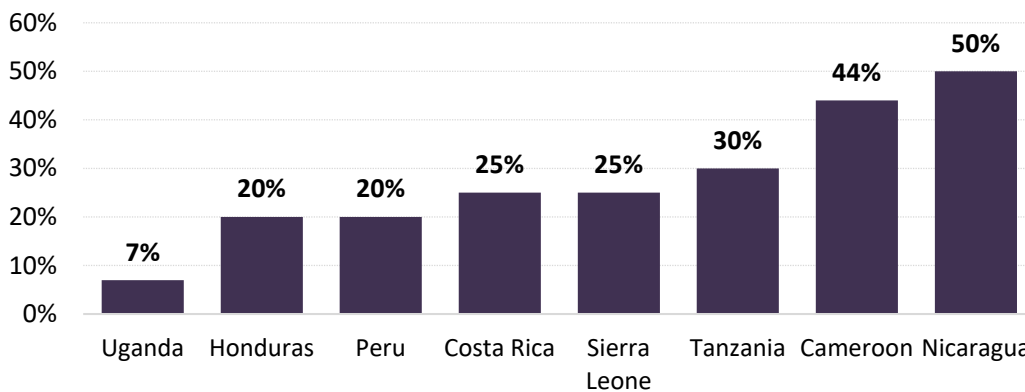
**Figure 28: Social impact of low coffee prices in the coffee sector (13 countries)**



Note: NA/NR - Not applicable / No response.

32. As indicated in Figure 28 above, in social terms, coffee plays an important role in the settlement of the farming population and the creation of employment in rural areas. Downward pressure on coffee prices threatens the sustainability of the economy in countries heavily dependent on coffee as an income-generating activity. This may increase the number of households suffering from extreme poverty. Figure 29 shows the increase in poverty of the coffee farming community as reported by Members.

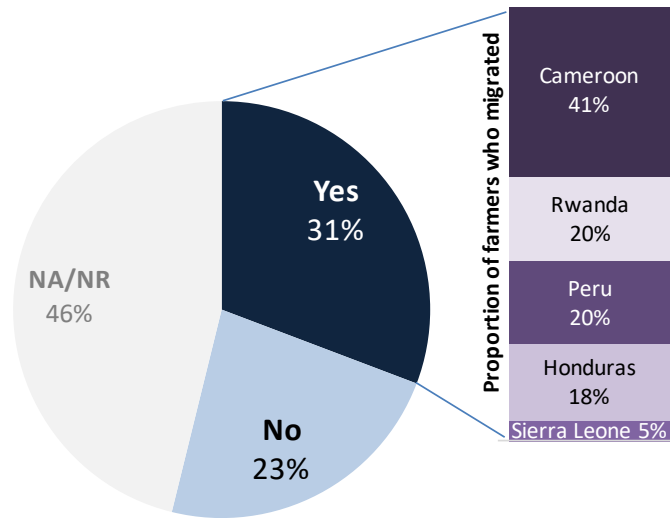
**Figure 29: Increase in the proportion of farmers living with less than US\$1.90 a day**



Note: NA/NR - Not applicable / No response.

33. Five Members reported that 21% of coffee farmers migrated from their coffee farms on average. The biggest effect on out-migration has been in Cameroon with 41% of farmers leaving their farms (Figure 30).

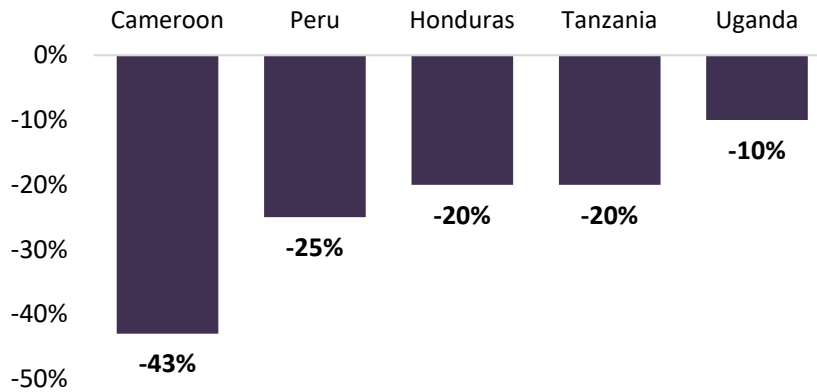
Figure 30: Impact on farmers migrating from coffee areas



Note: NA/NR - Not applicable / No response.

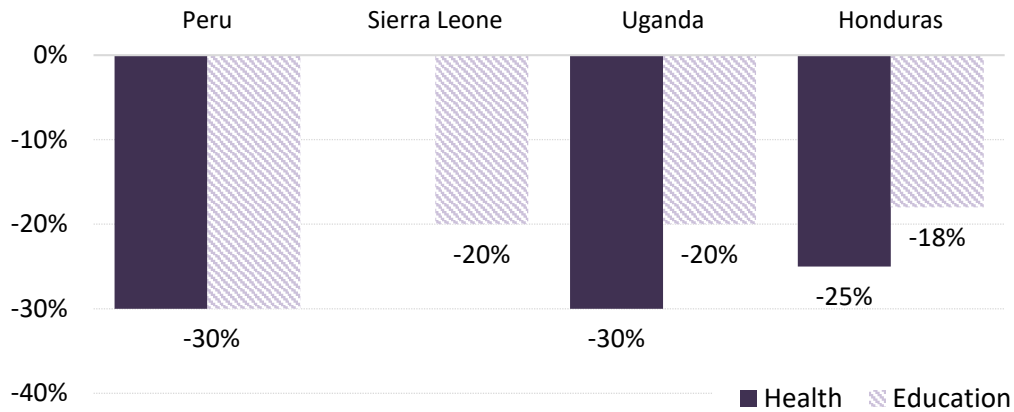
34. Average annual food consumption decreased 24% among the five Members who reported an effect of low prices (Figure 31). This effect ranges from 43% in Cameroon to 10% in Uganda.

Figure 31: Decrease in the average annual consumption of food by coffee farmers



35. Health and education expenditures were also affected by the decrease in coffee prices, with a corresponding reduction of 28% and 22% on average for Members which experienced this effect (Figure 32).

**Figure 32: Decrease in annual expenditure on health and education by coffee farmers**

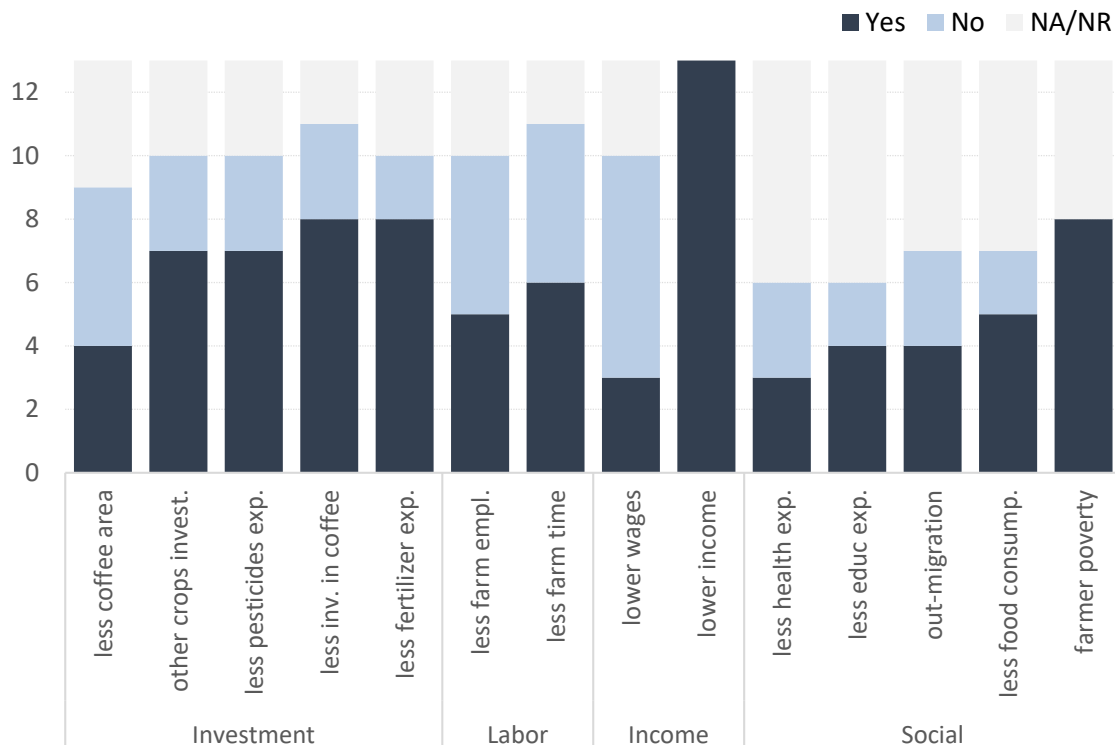


Note: Sierra Leone reported a reduction in education expenditure but not in health expenditure

**SUMMARY ACROSS COUNTRIES**

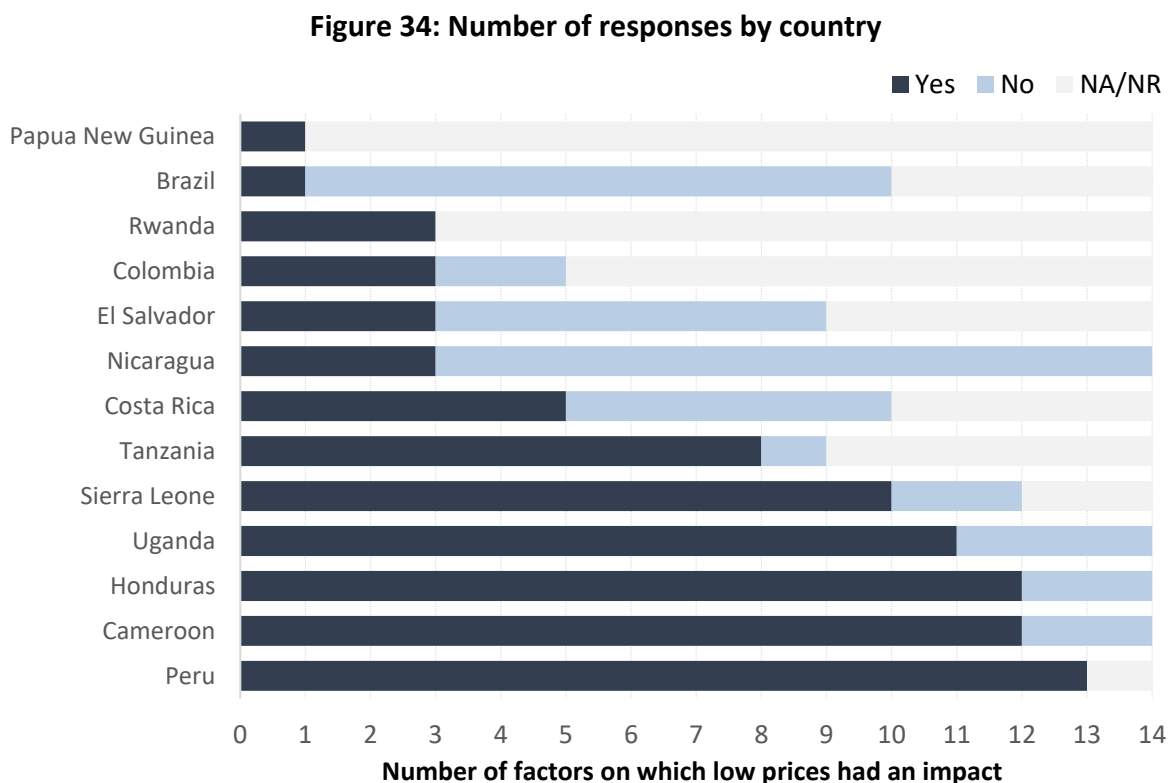
36. The second section of the survey asked Members to report if they experienced an impact from the recent drop on international coffee prices, and to provide estimates of that impact for 14 areas that are related to: farm investment, labour, income and social impact, detailed above. Figure 33 compiles the responses given by exporting Members. All countries reported a significant impact on income of farmers, followed by increases in poverty and decreases in investments in coffee plantations and in expenditure on fertilizers and pesticides.

**Figure 33: Number of responses by area of impact**



Note: NA/NR - Not applicable / No response.

37. Figure 34 summarizes the number of areas in which each Member country experienced the impact of low coffee prices. Peru reported an impact in most areas (13) while Brazil and Papua New Guinea reported an impact in only one area (decrease in farmers’ annual income).



Note: NA/NR - Not applicable / No response.

## V. CONCLUSIONS

38. Coffee prices have been experiencing a significant downward trend over the last two years. If this negative trend continues, sustainable development in many producing countries and the whole coffee sector will come under threat. As an example, the reduction in earnings and farmers’ purchasing power from commercializing green coffee is undermining efforts to maintain and increase quality and productivity. This effect is particularly strong for those that make intensive use of fertilizers, which is exacerbated by the increase in the price of fertilizers over the last two years. The overall impact is a continuous reduction of the profitability of coffee farming.

39. Although it is still too early to assess the full impact of current low price levels, the survey provides some factual evidence that coffee-exporting countries, especially those with limited additional income-generating activities, have already been severely affected. Further investigation is required to assess the impact on coffee-related fundamental factors such as yields, volume of production, export performance as well as farm management. However, it

should be noted that consumers may also be affected, as excessively low prices lead to a reduction of investment and worsening of crop management with an impact on quality, supply and diversification of available origins.

40. Further analysis and continuous monitoring will contribute to producing a more comprehensive report that would include full understanding and a benchmarking of farmer production costs and revenues and a comparison with the cost of living and the cost of coffee growers' basic needs, such as food, clothing, education and health.