

Coffee sector shocks and projected food security impacts in Central America

KEY MESSAGES

- The prevalence of coffee rust is currently as much as four times greater than usual in Guatemala, Honduras, El Salvador, and Nicaragua. Harvests are likely to decline by up to 15-25 percent in 2012/13 and 30-40 percent in 2013/14 compared to 2011/12 levels (Figure 1). At the same time, export prices are also expected to decline due to recent reductions in coffee Arabica prices on key international reference markets, which fell by over 35 percent over the course of 2012.
- Coffee harvest labor wages and coffee sales are major sources of income at both the household and national levels in the region. Reduced output due to coffee rust is expected to reduce income earning opportunities for compared to the high levels observed in 2011/12. Household-level income from coffee harvesting in the region will likely decline by approximately 15-20 percent in 2012/2013 and 30 percent in 2013/2014.
- These shocks to the coffee sector and their impacts on household incomes are likely to reduce food access for households that rely on revenues from coffee over the next two years. While the impacts of these shocks alone are unlikely to result in widespread Crisis, households will be forced to rely more heavily than usual on staple food harvests and will be more vulnerable to increases in food prices.

Figure 1. Total coffee production (000 bags)

	Honduras	Guatemala	El Salvador	Nicaragua
2007/08	3,842	4,100	1,505	1,905
2008/09	3,450	3,785	1,450	1,445
2009/10	3,575	3,835	1,065	1,871
2010/11	4,280	3,950	1,850	1,669
2011/12	5,705	3,840	1,163	1,774
Average 2007/08-2011/12	4,170	3,902	1,407	1,733
2012/13	5,000-5,400*	3,500	1,160*	1,530
2013/14*	3,400-3,700	2,100	1,100-1,300	1,000-1,100

Sources: [International Coffee Organization](#); * Projections based on estimates from national coffee associations, Ministries of Agriculture

COFFEE AND LIVELIHOODS

Coffee production is a key source of seasonal unskilled labor demand and employs 1.4 million of the nearly 34 million people living in Guatemala, Honduras, El Salvador, and Nicaragua. Seasonal revenues from coffee harvesting are a significant source of income for poor households in these countries, particularly in remote, coffee-producing areas of the region ([El Salvador](#), [Guatemala](#), [Honduras](#), [Nicaragua](#)). In 2000/01, the Economic Commission for Latin American and the Caribbean (*Comisión Económica para América Latina y el Caribe*, CEPAL) estimated that the coffee sector generated 16 percent of total unskilled labor demand in El Salvador, 32 percent in Guatemala, 27 percent in Honduras, and 33 percent in Nicaragua. Wages vary by country, driving seasonal migrant-labor flows toward the higher-wage areas of Honduras, El Salvador, and Mexico.

Approximately 80 percent of unskilled labor demand in the coffee sector takes place during October-to-February, with a peak in December and January. Income derived from the coffee harvest is difficult to measure because laborers are paid “piece-rate” wages (by volume or weight of coffee cherries harvested) rather than by hour or day of work. Lower-quality cherries are typically smaller, but take the same amount of time to harvest as large cherries, yielding a lower volume or weight harvested per day of work. Income earned from coffee cherry harvesting can therefore vary considerably from year to year according to the size or quality of the harvest.

In addition, approximately half of coffee produced in El Salvador, Guatemala, Honduras, and Nicaragua is grown on medium to large plantations, while the other 50 percent is grown on small plantations of less than one hectare. As opportunities for

livelihood and crop diversification tend to be less in higher-altitude areas, small-scale producers in these areas are highly dependent on income earned through coffee sales to meet food consumption needs.

COFFEE RUST SHOCK

Coffee rust is an orange to yellowish fungus that develops on the leaves of the coffee plant. When left untreated, an affected plant will start to defoliate. The year following the infection the plant will be unable to produce as many flowers as usual, thereby reducing the number of coffee cherries produced, as well as the size and weight. Coffee rust also renders plants more vulnerable to other infections. An outbreak of coffee rust in late 2012 has been observed from Mexico to Colombia, resulting in a current prevalence that is up to four times greater than usual in Guatemala, Honduras, El Salvador, and Nicaragua.

Coffee rust was previously limited to lower altitudes but has spread in recent years to higher-altitude plantations. Factors aggravating the spread of coffee rust in 2012/13 include favorable temperatures between 19-28°C, favorable rainfall, and more sunshine than usual. Plantations with coffee trees older than 15 years and those with poor plantation management systems are at greatest risk of coffee rust.

Growing rust-resistant varieties is the most effective means of preventing coffee rust. However, coffee rust is treatable in its earlier stages. Options for treating the current outbreak are, therefore, limited to effective plantation management (in particular, cutting off affected branches) and applying fungicide. Authorities in Guatemala, Honduras and Costa Rica have declared a state of emergency in order to finance treatment. Guatemala has enacted programs to provide fungicide, while El Salvador also included foliar fertilizer for coffee farmers. Nicaragua has also recently launched a campaign to train experts and growers to treat the spread. Organic farmers do not have the option of using fungicide; however, the organic coffee market represents only a small portion of the coffee production in the region and therefore the reduced production in that sub-sector is not expected to have a significant impact on labor demand or coffee harvest labor income.

The Regional Meeting of the International Regional Organization for Agricultural and Livestock Health (*Organismo Internacional Regional de Sanidad Agropecuaria*, OIRSA) in January 2013 found that the method for estimating the prevalence of coffee rust varies by country, as does the quality of the data collection. For this reason, it is difficult to precisely estimate the severity of the outbreak and its potential impacts by country. Nevertheless, national coffee associations in 2012/13 in FEWS NET-monitored countries project that harvest losses of 15-25 percent compared to 2011/12 (10-20 percent compared to the 2007/08-2011/12 average) are likely due to both normal, cyclical variations in coffee production, as well as the initial impacts of coffee rust. Even with the treatment measures in progress, these associations currently anticipate that coffee rust-related harvest losses in 2013/14 may reach 40 percent compared to 2011/12; this is 20-50 percent below the 2007/08-2011/12 average (Figure 1). Since it takes approximately three years from the time of infection to restore normal coffee tree productivity, harvests in 2014/15 are also likely to be below average, with recovery starting only in 2015/16. The quality of the coffee beans (weight and color) will also likely be below average over the next two years, further reducing farm-gate and export prices.

INTERNATIONAL COFFEE PRICE DECLINE IN 2012/13

Guatemala, Honduras, El Salvador, and Nicaragua export approximately 90 percent of their annual coffee harvests, and are therefore vulnerable to fluctuations in global coffee prices. The international reference price of coffee Arabica, the primary variety grown in Central America, fell more than 35 percent over the course of 2012 from 2011's record-high levels of over 200 cents/lb (nominal). The International Coffee Organization (ICO) composite indicator (Colombian Milds, Other Milds, Brazilian Naturals, Robustas, New York, and London) price averaged [131.51 U.S. cents/lb in February 2013](#). The majority of the decline is attributed to the good Arabica production from the on-year cycle in Brazil and the upward revision of the Vietnamese production estimates. However, total exports from Guatemala, Honduras, El Salvador, and Nicaragua for the 2012 calendar year also reached a record high of 113.1 million bags, eight percent higher than 2011. Although coffee associations suggest that these prices are still sufficiently high to maintain a small profit margin, they are at their lowest level in over two years. In addition, coffee price forecasts from the World Bank project an 8-10 percent decline in both

Arabica and Robusta prices in 2013 and further, slight declines in 2014 and 2015 (Figure 2).

This decline in global coffee prices, though worth noting, is significantly less severe than the previous coffee price shock of 2001-2003. In 2000, prices fell by 40 percent over the course of the year--from modest levels to their lowest level in more than 30 years at 42-55 cents/lb. Global coffee prices at that time fell below the cost of production in Central America, which was between 35 and 55 cents/lb, leading to significant and widespread loss of income from coffee sales and on-farm labor.

FOOD SECURITY IMPLICATIONS

Though coffee yields and labor demand for coffee harvests are closely linked, the magnitude of losses to unskilled labor income from coffee harvests is likely to be slightly greater than projected coffee harvest losses; the lower quality, smaller cherries take the same amount of time to harvest but yield a lower volume or weight harvested per day of work. Daily income from coffee harvest labor is therefore likely to be approximately 20-50 percent below the 2007/08-2011/12 average in 2013/14 and 2014/15.

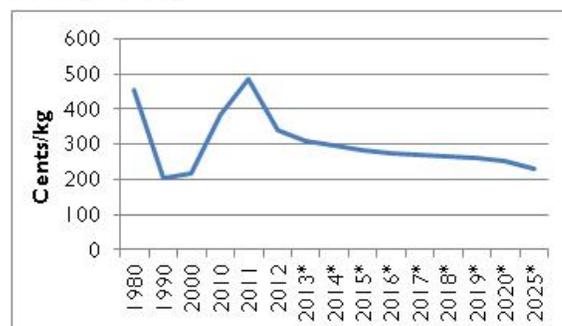
Though coffee labor wage rates have been significantly more stable over time than coffee prices, reduced yields and falling export prices could pressure producers to lower the current piece-rate wages. In early 2013 in Nicaragua, for example, some coffee laborers reported wage rates about 15 percent below last years' wages. Despite projected income losses, households are expected to be able to use alternate income sources or coping strategies to fill any minor gaps in 2012/13 without significant impact on livelihoods.

The greater concern will be in 2013/14, when coffee harvest labor demand and income may be locally up to 50 percent lower than during 2011/12. Food access will be reduced among coffee-dependent populations, who will rely more than usual on staple food harvests and savings (livestock) to meet food and livelihood needs and will be more vulnerable to increases in food prices. Some governments have proposed temporary work programs to stimulate labor demand. Though beneficial in the short-term, these interventions are unlikely to be sustained over the two- to three-year duration of these shocks. Widespread Crisis is not currently expected as a result of the coffee sector shocks alone. However, additional shocks could result in larger-than-usual negative impacts on food and income sources due to reduced coping capacity.

In addition to coffee laborers, small producers may face significantly lower incomes in 2012/13 and 2013/14 than in 2011/12. Current estimates suggest that global coffee prices remain firm enough to maintain a small profit margin, even including treatment costs. However, low yields from coffee rust and falling export prices could significantly reduce incomes from coffee sales and food access for this group. Furthermore, coffee producers rely heavily on credit for coffee production, and the combined effects of coffee rust and lower export prices have reduced access to credit. In addition, producers are likely to face successive years of poor production (2012/13, 2013/14, and 2014/15) with progressively poorer coping capacity. Small producers with few guarantees and those in the highlands, where incomes are less diverse, are at greatest risk of food insecurity due to these shocks.

At this point, the magnitude of impacts from the combined shocks of coffee rust and the drop in coffee prices is uncertain. These shocks are not currently expected to result in severe, widespread food insecurity in the region over the next two years, so long as production of staple foods and staple food prices remain near average. However, some localized areas that are less diversified and where the coffee rust outbreak is more severe may face more severe outcomes. Guatemala and Honduras are of particular concern, given that they have more people and a higher proportion of people dependant on the coffee sector. Close monitoring of the coffee sector and staple food sectors will help identify needs for timely response.

Figure 2. Coffee Arabica prices and price forecast* in real 2005 USD



Source: [World Bank](#)