Burundi Coffee Sector Diagnostic Study

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Burundi Coffee Sector: Strategic Policy Analysis

July 12, 2018

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ACRONYMS

AGLC	Africa Great Lakes Coffee
ARFIC	Autorité de Régulation de la Filière Café
BAP	Burundi Agribusiness Project
BIF	Burundian franc
BRB	Banque de la République du Burundi
CNAC	National Confederation of Coffee Growers of Burundi
COCOA	Coffee Cooperative Union (Société cooperative)
COOPEC	Coopératives d'épargne et de crédit
CWS	Coffee Washing Station
FOB	Free on Board
FOT	Free on Truck
GAP	Good Agricultural Practices
GdB	Gouvernement du Burundi
GoB	Government of Burundi
Ha	Hectare
ICO	International Coffee Organization
Kg	Kilogram
MINAGRIE	Ministère de l'Agriculture et de l'Elevage
MT	Metric tons
MVP	Marginal Value Product
NYBOT	New York Board of Trade
PAPCSC	Projet d'Appui à l'Amélioration de la Productivité et de la Compétitivité du Secteur Café
PAIR	Programme de la Promotion de l'Agro-Industrie et des Entreprises Rurales
SDL	Station de lavage
USAID	U.S. Agency for International Development
USD	U.S. dollar
VMT	Valeur marginale de travail

Executive Summary

The coffee sector in Burundi has reached a critical point in its development. Privatization and a certain amount of market liberalization have succeeded in attracting investment in coffee processing operations from both national and international sources. The number of washing stations has surged from 133 in 2008 to 267 ten years later. The number of dry mills has also more than doubled in the same time period—from four to nine. However, this growth in processing capacity has not been accompanied by a corresponding increase in coffee production. Rather, coffee production has been in structural decline for over 20 years and shows no sign of a rebound, despite the new investment flowing into the sector.

This decline in production signals the persistence of a structural problem and threatens the viability of the sector as a whole, as lower volumes undermine the per unit profitability of processors and exporters. Since coffee provides around 80% of Burundi's foreign exchange, declining production also contributes to current macro-economic difficulties posed by the scarcity of foreign exchange and the rapidly increasing differential between the cash and official bank exchange rates.

Comparative analysis of Burundian farm gate prices for coffee cherries vis-à-vis other East African countries, as well as survey responses from a sample of 1,024 farmers in Burundi's primary coffee growing regions, suggest that a leading cause of the production decline is low cherry prices, which have eroded Burundian farmers' incentives to invest in their coffee plantations. To reverse the decline, the GoB and the coffee sector actors together must develop a consistent strategy that will yield sustainable increases and stability in farm-level cherry prices. To make this happen, the coffee sector needs to adopt a common strategic framework for actors in the fully-washed market channel that prioritizes sales to the premium or specialty segments of the international coffee market. Selling to this segment of the market, which pays at least 10% above the NYBOT market price, is a realistic objective for all coffee washing station operators in Burundi. Some Burundian coffee companies already sell at prices much higher than that.

In order to facilitate this change, and to ensure that higher prices at the international market level flow down to farmers, a number of accompanying regulatory and policy measures will need to be taken by the GoB and the coffee sector regulator, ARFIC. These policy measures are:

Devaluing the Burundian franc. The current unusually wide gap between the cash and official bank foreign exchange rates serves to penalize all actors in the coffee sector by understating the value of coffee export sales in Burundian francs. This limits the ability of coffee washing station operators to set attractive prices for cherries. A devaluation of a significant magnitude, possibly phased-in over time, would do much to resolve this problem. Failing an immediate devaluation, a temporary suspension of coffee sector payments for inputs through the input *redevance* and farmer contributions would help to relieve pressure on farmers from the overvalued franc. Another option on the table is that of a preferential exchange rate that would only apply to coffee exports. This may be a useful alterative as a short-term stopgap measure, but it would contribute to macro-economic imbalances if it persisted for any substantial length of time.

Fixing a stable multi-year minimum cherry price for farmers. Recent practices of setting minimum floor prices through negotiations among INTERCAFE partners have not resulted in prices that motivate farmers to invest more of their labor, cash and land in coffee production. To remedy this, the study team recommends moving to a three-year fixed minimum cherry price based on empirically derived cost of production data that would be set to ensure a predictable stable minimum price that is attractive to larger more efficient farmers—who have the most productive potential. The magnitude of the minimum price will be closely related to the magnitude of the devaluation; the larger the devaluation the higher the minimum cherry price.

Easing restrictions on the washed coffee channel. Actions taken since 2014 to periodically prohibit export and internal trading of washed parchment and exports of green washed coffee contribute to lower farmer incentives to invest in production. They also contribute to cross border flows that represent a drain on foreign exchange and create pressures for farmers to send lower quality cherries into the fully washed channel, which undermines the strategy for raising overall quality to reach the premium or above international market segments. These restrictions should be ceased and ARFIC/GoB should signal their long-term support for the washed coffee channel, while recognizing that washed coffee will diminish in importance as farmers are increasingly incentivized to produce for the higher-quality, fully washed coffee channel.

Easing restrictions on competition between coffee washing station operators in the market for cherries. Open competition among different coffee washing station operators has been shown by analysis to contribute to higher cherry prices for farmers. It also serves to create pressures for more efficient operation of washing stations. To facilitate free and open competition at this level, ARFIC should reverse recent regulations limiting the ability of coffee washing station operators to open secondary collection centers, as long as they meet the required technical and operational standards—essentially following the procedures that were in force in 2016. ARFIC should also reaffirm its intention to not modify the current regulations governing the placement of new washing stations, which prohibit new construction within 5 km of existing stations, but otherwise allow a large degree of freedom of implantation.

Eliminating restrictions on pre-campaign financing and terms of payment to farmers for cherries. Current regulations prohibit coffee washing station operators from contracting working capital loans with funders outside of Burundi. This was done to ensure transparency in foreign exchange transactions so that ARFIC can be sure that actors respect requirements that all foreign exchange from coffee sales be repatriated. This measure limits washing station operators' access to capital and limits their ability to compete with washed coffee buyers. By moving to a system of pre-approved foreign financing transactions with all foreign exchange in-flows being sent to the washing station operator's mandated accounts at the BRB, ARFIC and the BRB should be able to have the degree of transparency required to track cash flows to determine whether coffee sales receipts have been repatriated. In addition, ARFIC should allow washing station operators to contract for payment of cherries with farmers as both parties deem desirable and possible—which should also foster increased competition that will favor farmers.

Restart the privatization process for remaining washing stations. The persistence of a dual system of public washing stations operating under management contracts along with pure private washing stations leads to doubts about the GoB's commitment to market liberalization and creates competitive tensions due to differences in management models and cost structures. The GoB and its partners should press forward to execute the final round of privatizations, with a concerted effort to address the main institutional obstacle—which is the ability of farmer cooperatives to participate in the share offerings. This will necessitate a program of institutional support for cooperative strengthening and the adoption of clear guidelines for share purchase payments by the cooperatives. These guidelines would specify payment terms with schedules and default procedures that allow the reserved farmer shares to be offered to the majority owners or be rebid if the farmer cooperatives are unable to meet payment terms.

In summary, sensible policy and regulatory changes starting with those described in this report will improve competitiveness and will incentivize farmers to invest more of their resources into coffee, bringing them on as full partners in value chain. These changes will help Burundi to reverse course and embark upon a virtuous circle that will benefit all actors at all levels. Farmer incentives result in higher yields and improved coffee quality. Higher volumes of quality, fully washed coffee will, in turn, yield lower per unit processing costs and more stable, better-paying buyers. Thus, higher prices will contribute to more generous margins across the board, enabling a renewed cycle of investments, including higher payments to farmers. This will place Burundi coffee on a steady path toward growth—a path that will drive a new wave of foreign exchange earnings and raise the country's prospects for a sustainable future in coffee.

Introduction

The coffee sector continues to be of capital importance to Burundi. As cited in numerous studies, coffee provides revenues for over 600,000 farmer households and accounts for 80% of Burundi's foreign exchange earnings in most years. A healthy coffee sector contributes to goals of improved income distribution and poverty reduction for a significant portion of rural households while also supporting macroeconomic stability through foreign exchange mobilization. These factors combine to make coffee a strategic focus of government and donor-financed programs, particularly in light of the wave of liberalization and privatization actions dating from 2008.

Given the central role of coffee to the economy and people of Burundi, and the significant attention the sector has received, it is of the utmost importance that the Government of Burundi (GoB) and all the actors in the sector realize that its continued existence is at risk from the continual long-term decline in production levels. This structural decline, evident in Figure 1, pre-dates the recent phase of liberalization and reduction of state involvement that began in 2008 by over fifteen years. It is a long-term trend and cannot be ascribed simply to the recent privatization of coffee washing stations and dry mills, although clearly, those actions have not reversed the structural decline.

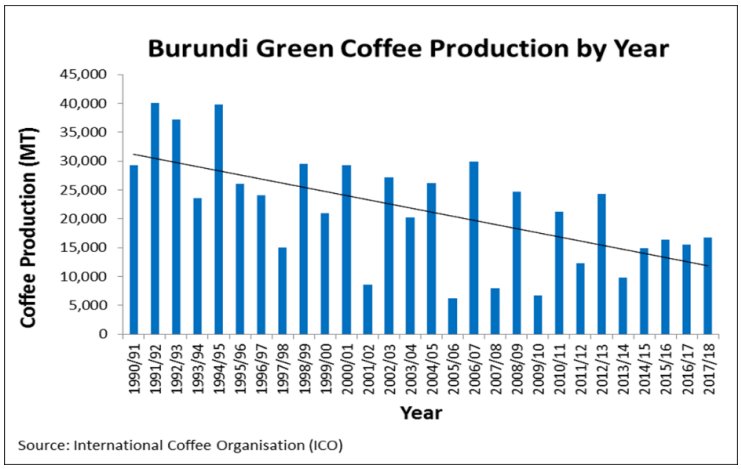


Figure 1

Coffee production over the last several years has been stagnant at less than half of what it was in the early 1990s, declining from a 5-year average of 34,000 MT to a 5-year average of 16,000 MT today (Figure 1). The average volume of coffee passing through washing stations in Burundi today is estimated to be a quarter of what it was in the past. Over the past four years, production levels have been more stable than the highly cyclical production seen from 1998 to 2014, a period where production was known to vary from around 6,000 MT in one year to 30,000 MT the next.

Declining production is one indicator that the Burundi coffee sector is in trouble; low productivity is another. Burundi's coffee productivity lags far behind that of other coffee producing countries in East Africa with productivity of 244 Kg/Ha compared to more than double the yield at 625 Kg/Ha for the region. The differential in productivity is not so much a function of agro-ecological differences, such as elevation and rainfall, as Burundi does not differ greatly from its highland African neighbors on these factors. It has more to do with low levels of farmer investment in their coffee plantations, as we will see later in this report.

The decline and stagnation of coffee production in Burundi, as well as the country's low productivity, are a source of concern expressed by virtually all stakeholders in the value chain. What does not equate for many is the fact that the Burundi coffee sector is struggling for its survival on the production end, yet, at the same time, it is capable of producing some of the finest coffees in the world. Burundi coffees, when grown and processed with specialty coffee markets in mind, have become a prized commodity for many fine coffee buyers and roasters. Yet the coffee sector overall has stagnated, especially relative to regional superstars such as Ethiopia, a country that has seen tremendous growth in coffee over the past two decades.

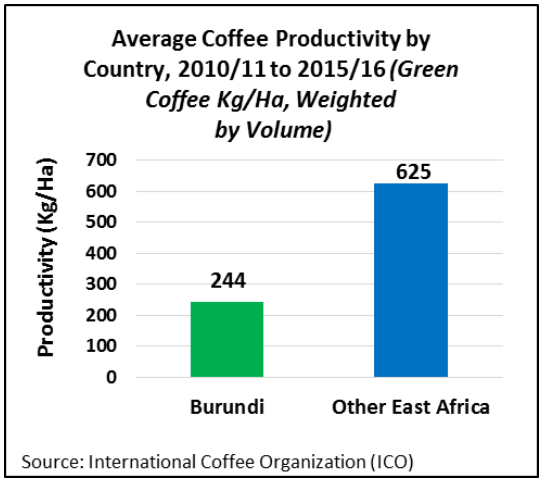


Figure 2

The structural decline in production volumes and the lack of any turn-around is coming at an extremely inopportune moment, one in which Burundi is experiencing an increasingly severe shortage of foreign exchange. As shown below in Figure 3, beginning at the end of the second quarter of 2016, the Burundian Franc began to depreciate against the US dollar after a long period of relative stability at around 1,500 BIF to the US dollar. This fall in the value of the Burundian franc has been accompanied by a growing gap between the official bank rate, regulated by the Banque de la Republic du Burundi (BRB), and the open market cash transaction rate. At the time of the study team's field work in March 2018, the gap between the cash rate of 2,600 BIF/USD and the official bank rate of 1,760 BIF/USD was just under 50%. This differential between the bank and open market rates has widened significantly since the 2013-2014 period for example, when it was contained within a band of 4% to 9%.[1] With exchange rate differentials of this magnitude, distortions in incentives between actors in the cash economy and those in the official banking economy become so large that market outcomes can be affected depending on actors' abilities to transact at one or the other exchange rates. This growing difference between the two types of exchange rates highlights the strategic nature of foreign exchange management for the

Figure 3. BIF/USD Interbank Exchange Rate

[1] The study team bases its estimate of the 2013-2014 rate differentials taking estimates of historical cash rates provided by private foreign exchange actors and the bank rate as reported by the FX-rate.net website.

country and the critical role of the coffee sector as the main supplier of foreign exchange. Increasing the quantity of coffee sales, particularly in the formal non-cash transactions market, is perhaps the biggest lever available to the GoB for relieving pressure in the foreign exchange market. Thus, reversing the decline in coffee production is not only imperative for farmers and commercial actors in the coffee sector itself, it is a national-level macroeconomic priority.

In the following pages we assess first the reasons for the decline in coffee production, looking at the incentive structure facing farmers. The report then suggests a longer-term vision or strategy as a way of stimulating production. The analysis then identifies a number of key regulatory and policy measures for consideration by the sector and the GoB. These are formulated by the study team to contribute to the twin goals of increasing coffee production and maximizing foreign exchange earnings. The report concludes with the study team's recommendation for accompanying programmatic actions that will help to speed the transition to a more profitable, efficient coffee sector capable of generating the required value added to incentivize both farmers and downstream processors and exporters.

Production: Reasons for Decline

It is useful to pause here briefly to make a point about the household level drivers of farmer investment in agriculture. Investment theory tells us that for farmers to be successful in investing their resources into coffee, or any other crop, two critical factors must be in place. The first is their *capacity* to invest, which includes land, labor, cash and know-how. Many farmers in Burundi hold sufficient capacity, in varying degrees, to produce high quality coffee on their farms.

The second factor is that farmers must also have the *incentive* to invest in their plantations. There are many smaller incentives, such as keeping up with family tradition, social benefits of participating in coffee cooperatives, and the prestige often associated with owning coffee trees and producing coffee. However, the most important factor of all, the one that motivates coffee farmers to invest in their plantations, is the compensation they receive for their cherry. For many, it comes down only to cherry prices and whether they are high enough for farmers to invest their scarce resources into coffee versus other crops or livestock or non-farm activities. And we bear in mind that the cherry price incentive is discounted by farmers to account for the level of risk they associate with coffee production, including risk of poor rains, plant pests/diseases and, especially, the risk of a drop in world coffee prices.

How do coffee farmers in Burundi compare to their counterparts in the East Africa region in terms of compensation? Data from International Coffee Organization (ICO) and ARFIC annual reports gives some indication (Figure 4). Producer prices in Burundi are generally lower than average prices in the East Africa region by an average of 7.6 percent per year for the past 27 years and by 12.6 percent over the past 6 years. It is especially noteworthy that these figures are computed at the official BIF to USD exchange rate. If computed at the cash market exchange rate, recent farmer compensation in Burundi would be *much* lower in recent years than the 12.6 percent deficit shown here, possibly on the order of 30-40 percent lower.

Another important observation can be drawn from this figure 4 when juxtaposed against the production trends shown in Figure 1 over the past 27 years. That is that in the early 1990s, before the crisis, producer prices in Burundi were quite high, relative to others in the region. And, perhaps not coincidentally, so too were production levels at their highest in a generation. High farm gate prices and high production tend to levels go together. Precisely the same pattern has been observed in Rwanda (AGLC, 2016). Good producer prices incentivize farmers to produce more and to produce higher quality coffee.

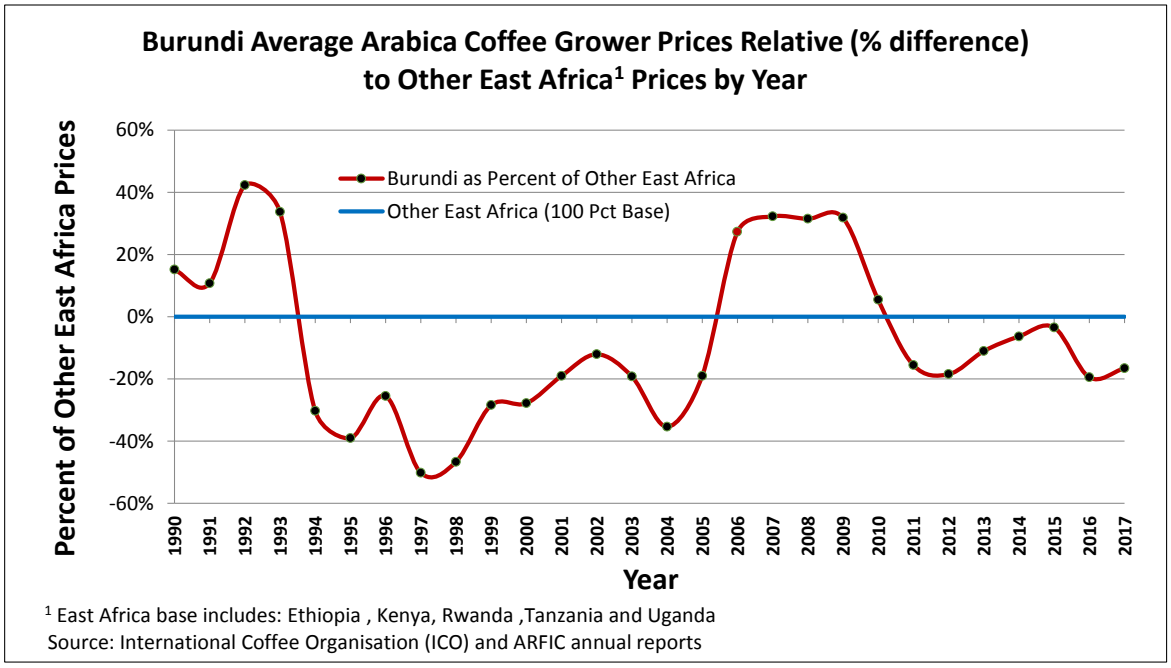


Figure 4

How does farmer cost of production relate to the current cherry prices? To examine this question, and several others that follow, we turn to a recent, large scale coffee producer survey implemented in Burundi (and Rwanda) by the USAID-funded Africa Great Lakes Region Coffee Support Program (AGLC). The survey was conducted on a sample of 1,024 coffee producers in Burundi in the first quarter of 2016, followed by a 50 percent sample follow-on survey one year later, in 2017. The surveys were conducted in Burundi's major coffee growing areas: Kayanza and Ngozi in in the northern coffee-growing region and Karusi and Gitega in the central region. Documentation on the AGLC study methodology can be found in Annex 1 to this report.

The AGLC survey measures cost of production as the sum of all major coffee production costs borne by farmers, including: 1) labor (household and hired) costs for all production tasks from planting to maintenance to harvesting and sorting; 2) purchased inputs (fertilizer, pesticides, manure, mulch and seedlings); and 3) costs for equipment used for coffee (e.g., sprayers, sacks, etc.). Household labor is valued at the mean daily wage paid for hired labor in the sector. Estimates of production costs are given below in Figure 5. It should be noted that the cost of production estimated below does not include the cost of transporting cherry to the coffee washing station. The average cost to transport coffee to the

washing station is estimated by the AGLC survey at 14.5 BIF/Kg and is a cost generally borne by the producer on top of his/her production costs.

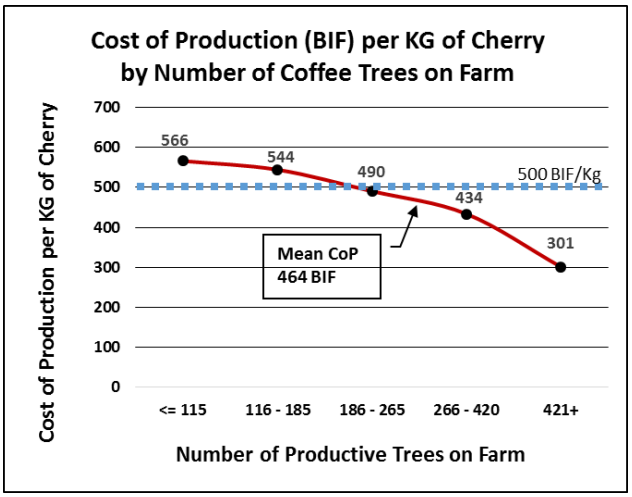


Figure 5

This analysis of the AGLC survey data of 1,024 coffee producing households in Burundi shows a mean cost of production per Kg of cherry at 464 BIF. This converts to USD 0.30 per Kg at the official exchange rate and approximately USD 0.22 per Kg at the Burundi cash market rate. Compared across plantation size, the cost of production is found to be higher among those with smaller plantations. This is not likely to be a function of scale, but is related to the high amount of household labor that smallholders invest in their trees to extract the higher yields. Examined relative to the 500 BIF cherry floor price in 2017, these data show that the cost of production among farms with the smallest plantations tends to be higher than the floor price. Those with larger plantations produce coffee below the mean cost of production rate. We will come back to this, after examining patters of investment in coffee by these farmer groups.

As a corollary of cost of production, we estimated total farmer investments in their coffee on a per tree basis to help better understand farmer incentives. Figure 6 breaks out farmer investments by the four major cost categories (household labor, hired labor, purchased inputs and purchased equipment) and plantation size. Those farm households with fewer trees tend to invest more per tree than do those with more trees (Figure 6, *left side of figure*). In fact, those with the smallest plantations put in more than twice as much per tree (729 BIF/tree) when compared to the largest plantation size quintile who invest only 337 BIF/tree. Moreover, these farms invest more than their larger counterparts in all categories of investment except for purchased inputs.

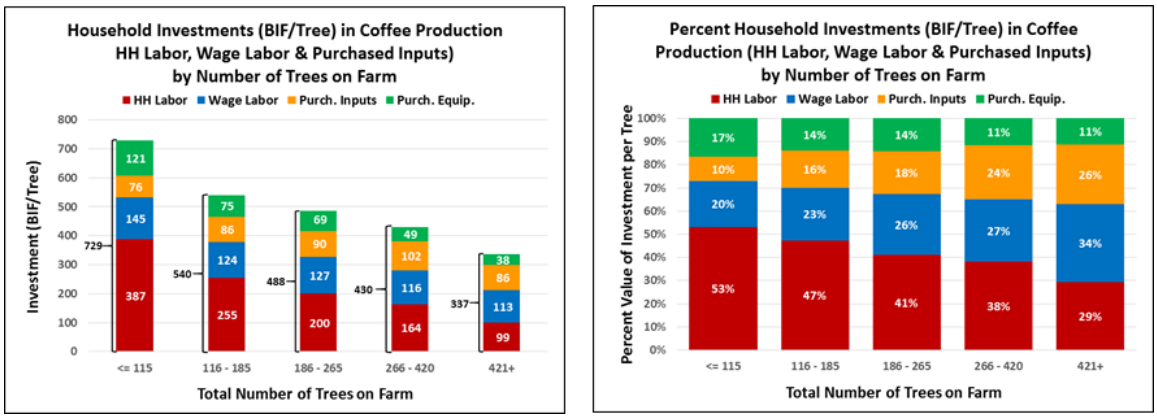


Figure 6

While smaller coffee farmers invest more in their coffee trees, they also invest differently, as can be seen in Figure 6 (*right side*). Overall, the largest investment that farmers make in their coffee is labor, and this is especially true for the smaller plantation owners for whom labor constitutes 73 percent of all investments they make in coffee production. While smaller farms tend to rely more on household labor, larger producers rely proportionally more on wage labor. We know this to be particularly true during peak harvest times where cherries must be picked nearly every day on large farms just to keep up with the harvest and avoid the risk of bringing over-ripe cherry to the washing station. In fact, the largest farms draw proportionally more hired labor from the outside (34 percent) than they do from inside the household (29 percent).

Expenditure shares on inputs increases with plantation size, constituting 26 percent of all farm investments for the largest quintile, compared to just 10 percent for those at the low end of the spectrum. Per tree expenditures on equipment, both proportionally and in absolute terms, tend to be measurably lower among largeholder plantations. This is likely due to economies of scale naturally associated with equipment as a quasi-fixed cost investment.

This general picture of higher overall farmer investments in coffee by the smaller farmers raises the question of whether this actually results in similarly high productivity. If so, then we might expect to find that smaller plantations would be more productive than others by virtue of their overall greater per tree investments, particularly in household and hired labor. In fact, this does seem to be the case, as the smallest plantation group are approximately 33 percent more productive (KG/tree) than are the larger groups (Figure *7*, *left side*). So, one can argue that their efforts do have a measurable payoff on a per-tree basis.[2]

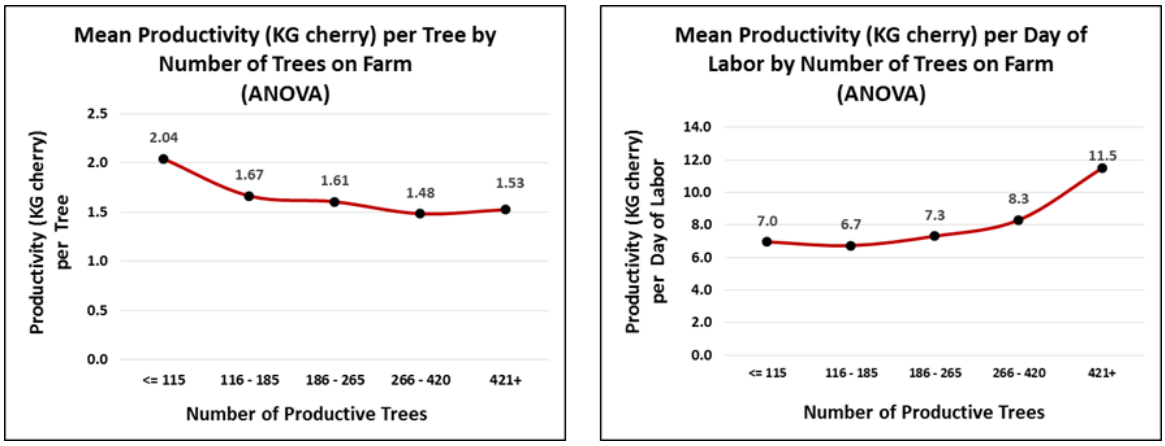


Figure 7

[2] This estimation of means is conducted as an analysis of variance (ANOVA) which enables us to look at plantation size independent of the effects of numerous potentially confounding factors and covariates. Held constant in this ANOVA equation are: gender, age and education of head of household, active adults in the household, total household non-coffee income, total land owned by head, and farm elevation.

But that is not the end of the story. We also must consider what the return is on a per labor-day basis (i.e., the marginal value product of labor--MVP). Not surprisingly, MVP-labor is much lower for the small plantation owners (Figure 7, *right side*). This is a familiar pattern in much of East Africa. The extra labor required to produce more per unit of land or per tree is subject to diminishing returns, meaning that labor productivity on the smallest plantations is much lower, at approximately 7 Kg/day, than it is with the largest producer group, where it is at a rate of 11.5 Kg/day, or about 65 percent higher.

While higher investments in coffee enable farmers to achieve higher productivity per tree, it is clear that declining returns to labor also result in lower returns for those who put increasing amounts of labor into their coffee. How these investments affect gross margins is the obvious next question. For coffee farmers, gross margins are measured as total revenues from coffee sales less their production costs. Figure 8 shows that those groups that invest most in their coffee trees (small farms) are the least profitable of all, with the smallest farm groups returning negative margins (losses) and the middle group (186-265 trees) effectively breaking even at a profit of 8 BIF per Kg of cherry. Given that farmers absorb the lion's share of risk associated with of a poor harvest from drought, floods, pests or unstable international prices, this is not enough for farmers in this middle category to be incentivized to invest more. They must secure a reasonable positive return (e.g., 20 percent or more) before they will be incentivized to increase their investments in coffee rather than shifting into livestock or other competing opportunities.

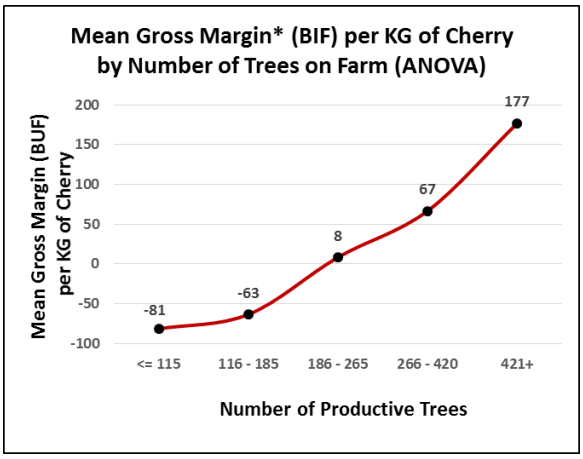


Figure 8

The reason those with larger plantations have greater gross margins is because their production costs are low. They optimize their investments in coffee and when prices are low they invest very little—less than half of what the smallest quintile of farmers invest. They can do this because they have other, more remunerative options. They have higher capacity in terms of education, off-farm income, larger holdings, more livestock, etc. When prices are too low they choose to use that capacity in other ways than coffee production. In short, the larger plantation groups can afford to take a low investment approach to their coffee. They do only what is necessary in terms of weeding, mulching and pruning—whatever is optimal for their purposes. Some very large producers indicate that they are satisfied in totally abandoning their trees when prices are low, and that can be the optimal approach in their circumstances.

By contrast, smallholder coffee producers are more productive (per tree) than largeholder farmers, yet their margins are negative. They lack capacity to shift into other crops or activities. Rather, they are highly motivated to extract as much value as they can from their small plantations simply out of necessity. For them it is a food security issue. Maximizing their returns, even at diminishing rates, is the only option to keep these households from sliding into poverty. Their main investment is their own

household labor. Despite higher productivity, their high labor investment makes coffee unprofitable for most.

It is important to note here that the lower productivity of the larger farmers is where the coffee sector must focus its resources. That is because the majority of coffee trees are located on larger farms in Burundi. As Figure 9 below shows, over half (56.6 percent) of all coffee trees are located on the largest plantation quintile (421+ trees), and over 75 percent of trees are grown on the largest two quintiles. By contrast, the smallest 20 percent of farms only cultivate 4.1 percent of the country's trees. In short, while all farms, large and small alike, matter in considerations of the well-being of Burundi's agricultural population, not all are alike in terms of the coffee sector's strategy for growth. Coffee policy that targets the larger two quintiles will have much greater impact on overall production, productivity, farmer incomes and foreign exchange generation than will policies aimed at the smallest plantations. To further illustrate the point, doubling productivity on the largest quintile of farms will yield an additional 7,291 MT coffee in an average year of 16,000 MT of green coffee; doubling productivity on the smallest quintile would add only 654 MT to the national total, more than a 10-fold difference.

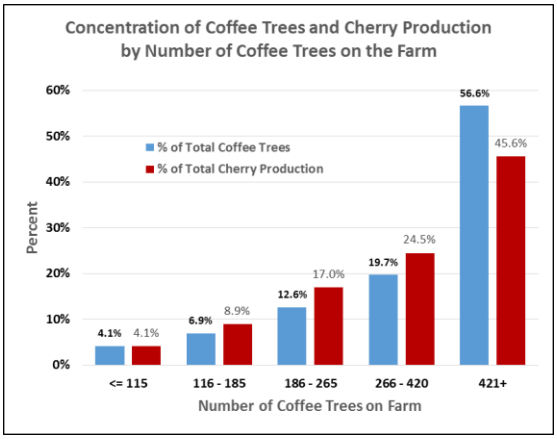


Figure 9

To further examine the coffee producer incentives issue, Burundi coffee farmers were asked to identify the primary barriers they faced to investing in their coffee plantations. Their responses (Figure10) strongly reinforced the cherry price and investments data presented above. The top three responses all relate to the problem of low returns to coffee, notably: low cherry prices, low profitability and unstable cherry prices. Many other barriers were identified but none stands out like concerns about compensation.

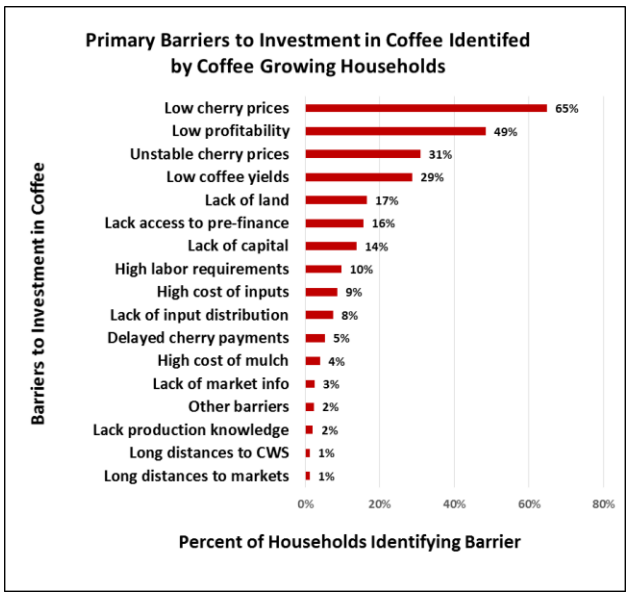


Figure 10

The study team discussed the question of farmer incentives and low farm-level productivity and profitability with virtually every coffee stakeholder group. If there is one position that seems to resonate virtually across the board in our interviews, this is it. From CNAC to COCOA to SOGESTALs to exporters to government officials, all recognize that without strong farmer incentives Burundi's coffee sector will never find its footing and reverse course to become a profitable and sustainable sector in the long term. The data presented here from the ICO

data on historical trends and present-day AGLC surveys of over 1,000 producer households tell exactly the same story.

These results show the centrality of the incentive issues in driving production investment levels—particularly for farmers at or above the median point in farm size. It is important to note that increased investment, driven by higher prices, will yield return on two levels—by raising production volumes but also by raising coffee quality levels. Quality fully-washed coffee requires that farmers harvest only perfectly ripe cherry and that cherry be floated and hand sorted to remove defective, unripe cherry. And farmers must harvest their cherry several times a week and deliver it to the washing station within 6-8 hours of harvest to ensure that it is processed before spoiling. Quality coffee also requires good agricultural practices such as mulching, assiduous weeding and pruning of trees. Fertilizer and manure are needed to improve productivity and density of cherry; pesticides help to control pests and diseases which affect density and defects. Older trees must also be stumped periodically for regrowth, a step needed for improved productivity as the trees age. Of course, all of these field-level tasks require sizable investments in labor and cash from farmers. This is where high quality coffee comes from. Good processing is also important, but it all starts in the field and premium coffees require that producers be at the top of their game to be successful.

In a final note on the lack of farmer incentives, many coffee stakeholders interviewed talked about the "youth in coffee" problem in Burundi. This is the observed trend of fewer and fewer young farmers taking up coffee production. Observers say that the incentives for coffee production are simply not there today, in an era characterized by low prices and increasingly demanding work required to produce high quality cherry for the fully washed premium coffee channel. Older farmers with established plantations may be dissatisfied with coffee returns but they often decide to stay in coffee because of the significant cost of uprooting and repurposing land to other uses. Findings from the AGLC study show that young people are indeed badly underrepresented in coffee, with only 18.4 percent of coffee households are headed by farmers aged 40 or less, and nearly a third are 60+ years of age. A major question facing Burundi's coffee sector today is: If the pipeline cannot be filled at the entry level, where will coffee producers come from, as older farmers continue to age and retire from farming? Will this era of low farmer incentives result in a lost generation of producers? (See Annex 2 for data and more detail on the youth in coffee problem).

A New Strategy for the Coffee Sector: Focus on the Premium Market

With the start of liberalization and the privatization of washing stations in 2008, Burundi began a very important transformation of its coffee sector, away from "commercial grade" coffee and toward higher quality coffees that can attract premium and specialty coffee buyers from around the globe. The Burundi Agribusiness Project (BAP), Cup of Excellence competitions, the establishment of the INTERCAFE professional association and other strategic steps have helped to catalyze this incipient and necessary transformation.

This transformation toward higher quality coffees is extremely important for Burundi. Why? Because Burundi is a small and very mountainous country farmed largely by smallholder producers with very

small landholdings. Burundi is not in a position to compete head-to-head with Brazil, Colombia, Vietnam and other large-scale producer countries that have gigantic coffee plantations and highly mechanized production systems with the potential to influence world prices due to their high production volumes. Such countries compete largely on the basis of high volumes of low priced coffee. Even "smallholders" in such countries as Colombia may typically farm an average of 4 hectares or more (10,000 coffee trees). The average in Burundi is less than one-tenth that size.

Yet, where Burundi is competitive, is in its agroecology, which is ideal in many ways for the production of very high-quality coffees that can fetch premium and even exemplary prices on international markets. High elevation and a tropical climate with cool temperatures are conditions that can yield coffees of the very highest order. On top of a nearly perfect agroecology, Burundi has a large and relatively low-cost labor force that can be put to work in hand picking and sorting and grading coffees to yield only the very best quality. While these critical steps are not always (or even most often) taken in every region, or by every washing station, they can offer a distinct comparative advantage for those that do.

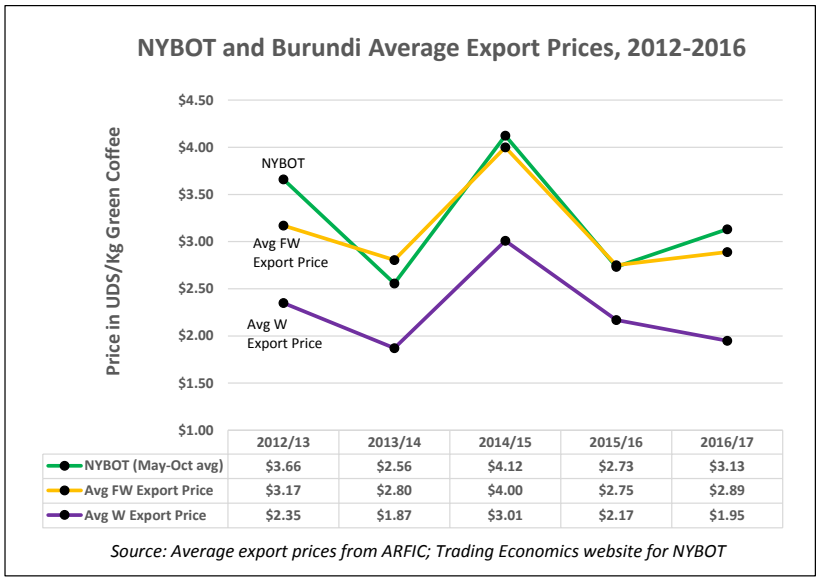
While the transformation to higher-quality coffee has generated excitement and promise in markets and a substantial level of investment from new processors following the opening up of the sector to private investment in 2008, there has been no corresponding up-tick in production investment. As shown in the previous section, the key to reversing the decline in production will be to improve farmer incentives to increase investment in coffee production by raising the price for coffee cherries at the farm level. Farmers need to both receive higher prices and have some degree of confidence in the long-term maintenance of price levels to put in the required work and cash expenditures to begin closing the per-tree productivity gap relative to Burundi's East African neighbors.

To achieve the needed farm level price increase, it will be critical for Burundi to increase its average export sales price in the fully-washed market channel. To do this, Burundi will need to follow in the footsteps of other East African countries that have transitioned their exports to more quality-conscious and less price-sensitive international buyers. This will require well-coordinated strictly supervised supply relationships between farmers and coffee washing station (CWS) operators with respect of processing quality standards and rigorous selection of cherries. It will also require the creation of firm sustainable market linkages between CWS operators and international buyers of high quality coffee. This type of system is quite different from the dominant model that only began to unravel with the advent of CWS privatization in 2008. This old model was based on publicly-owned washing stations managed privately under concession by SOGESTALs, with each CWS possessing a geographic exclusivity zone. It focused mainly on producing for commercial grade coffee buyers through an intermediating auction mechanism that precluded any direct marketing or sales to end buyers.

Burundi is now at a transitional point between the old and a new market system. Privatization, market liberalization and the abandonment of the auction mechanism have opened-up the sector to allow for competition in the market for cherries and for CWS operators and exporters to develop their own sales relationships with overseas buyers in different market segments. Privatization has also brought in new investors to the fully washed and washed channels, including both large multinational groups and smaller Burundian investors. Past USAID-financed project efforts to promote improved quality control

processes at the CWS level, along with the introduction of cup-of-excellence competitions, have raised the market profile of Burundi coffee among high quality buyers while creating a cadre of operational managers in the fully washed channel who are highly proficient in the production of the high-quality defect-free coffee demanded by these buyers.[3]

Yet despite this progress, most farmers still lack favorable price incentives and Burundian fully-washed coffee exports, taken in the aggregate, have not benefitted from any significant premium relative to the NYBOT market price over the past five years, following the second round of privatization and the full implementation of market liberalization measures—including the abandoning of the auction mechanism. This is shown by the close tracking of average fully-washed export prices with the five-month May to September average NYBOT prices in Figure 11.



	2012/13	2013/14	2014/15	2015/16	2016/17
NYBOT (May-Oct avg)	$3.66	$2.56	$4.12	$2.73	$3.13
Avg FW Export Price	$3.17	$2.80	$4.00	$2.75	$2.89
Avg W Export Price	$2.35	$1.87	$3.01	$2.17	$1.95

Source: Average export prices from ARFIC; Trading Economics website for NYBOT

Figure 11

Thus, to improve incentives for farmers and for actors all along the value chain, *Burundi needs to export fully washed coffee at a higher price by coming off of the NYBOT price floor*. While the Cup of Excellence competitions have demonstrated that small lots of Burundi' best coffee can fetch prices that are up into the $50/Kg range, over 15 times the NYBOT, this level of price is unattainable on a large scale. A more realistic near-term objective for the coffee sector would be to sell fully washed green coffee at a price that is at least 10% above the NYBOT reference level. Coffee sold at this level of market pricing is generally referred to as "Premium Grade." This type of coffee does not necessarily possess the highly distinctive organoleptic signatures that are associated with the most desirable "terroirs" that are so prized by specialty market buyers; but it does need to be free of any physical defects and to yield what industry buyers refer to as a "clean cup" (absence of sensorial defects). Cupping scores for basic premium grade coffee would usually be in the lower 80s. Major purchasers of coffee at this level include such large-scale quality conscious buyers as Starbucks. With correct cherry selection, processing and storage procedures, attaining this level of market standard and

[3] Much of the impetus for improving quality and introducing the first direct sales of coffee outside of the auction mechanism came from the USAID-funded Burundi Agribusiness Project (BAP) from 2007-2012.

FOB/FOT price is a realistic objective that the study team feels strongly can be achieved by all coffee washing station operators in the fully-washed channel in Burundi.[4]

Keeping the 10% above the NYBOT "C" market price as a threshold standard, the charts presented in Figure 12 show the volumes of fully washed exports from different types of washing station operators for the five years from 2012/13 through 2016/17. These charts show total volumes exported by coffee sellers in each category as well as the sum of exports from individual actors that take place at an average price equal to at least the 10% above the five-month average NYBOT threshold price.[5] These charts present a picture of how close the different types of actors who have emerged in the era of market liberalization are to achieving the goal of selling into or above the premium market segment.

The first key lesson to be drawn from Figure 12 is to note the emergence of new exporters/washing station operators that have entered the market since the first wave of CWS and dry mill privatization in 2008 and the second wave in 2012. Whereas over half of the fully washed volumes still came from the traditionally dominant SOGESTALs in 2012, in all following years the new actors who did not even exist as exporters/processors prior to 2008—foreign washing station owners, Burundian private operators and farmer Coops—now account for two-thirds to three-quarters of total fully washed volumes. This entry into the fully washed segment by private and cooperative operators has been accompanied by substantial investments in new washing station construction. In addition to the 41 out of 133 public CWS that were privatized in the first two waves of privatization in 2009 and 2012, private companies and cooperatives have been quite active in constructing new CWS. As of early 2018, ARFIC indicates that a total of 267 washing stations have been authorized for operations. This implies that private investors have invested in 134 new washing stations—a doubling of the total number in operation relative to the pre-privatization period. In addition, there has been an equivalent investment in new dry mills, which have grown from four to nine over the same period. Given this dramatic expansion in both the number of CWS and dry mills, together with the growth in export volumes from new private and cooperative actors, it is clear that the GoB disengagement strategy, formulated in 2008, has met with considerable success in generating the required private sector engagement. Response has been significant, from foreign and national investors and from cooperatives working mainly with donor support. This is an important achievement that has laid successful foundations for the transformation that the Burundian coffee sector will need for it to access the premium market on a significant scale.

A second obvious trend in Figure 12 is the strong negative correlation between the overall NYBOT market price and the share of exports from Burundi sold at premium or above prices. Clearly it is easier for Burundian coffee exporters to reach the 10% above NYBOT threshold when market prices are low, such as in 2013/14 and 2015/16 compared to the other three years. This indicates that Burundian exporters may not be extracting as much value as they could from periods of high market prices. While the study team was not able to make definitive judgments about the reasons for this trend, it would

[4] Washing stations in particularly favorable locations, such as the high-altitude stations in Kayanza Province, with the potential to produce distinctive flavor profiles, could realistically achieve much higher export prices.
[5] We have calculated the five-month average based on the May through September period since this corresponds to the period over which most exporters finalize their sales contracts.

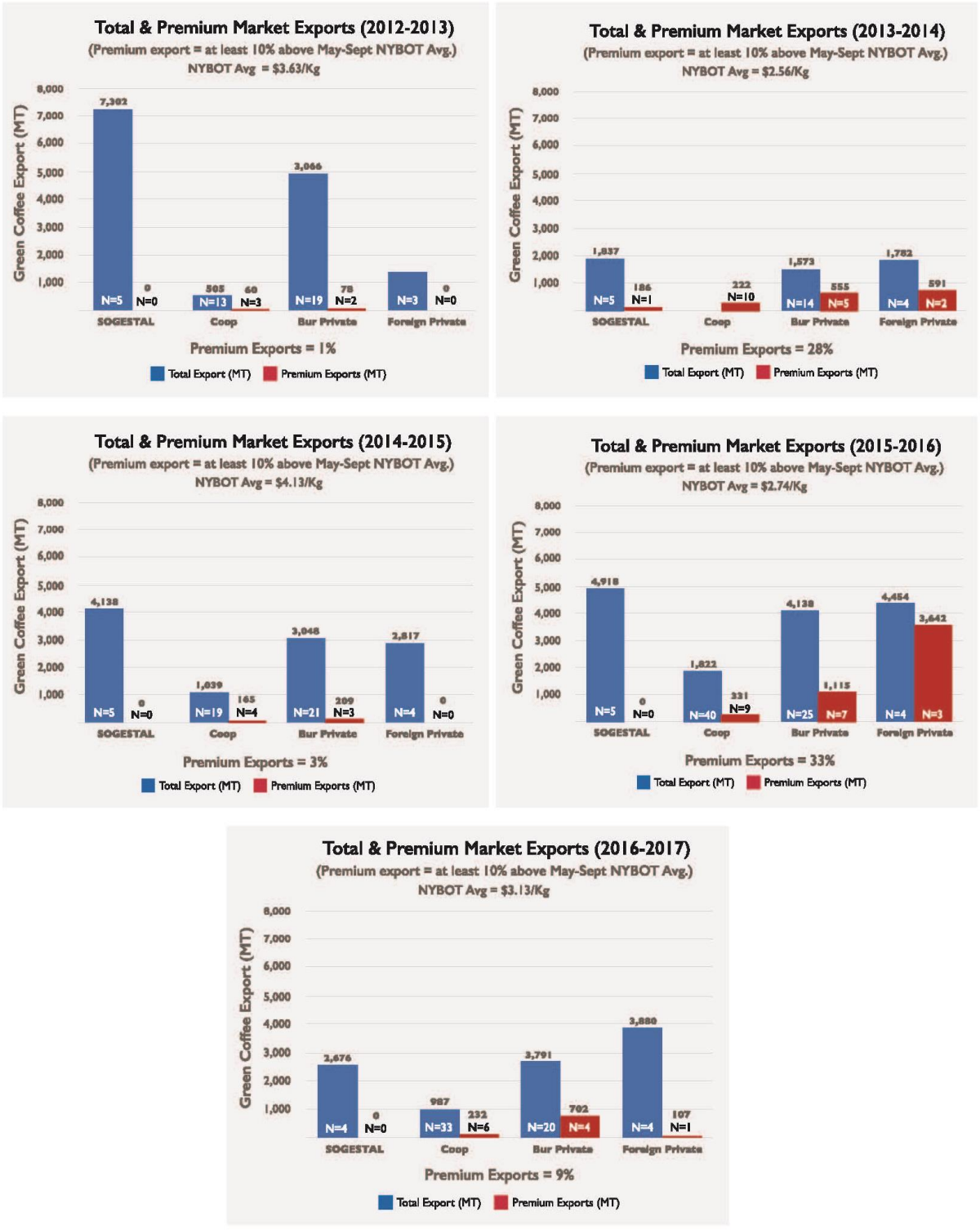


Figure 12. Total and Premium Market Sales of Fully-Washed Coffee, 2012 - 2016

appear that at least in some years, such as 2016/17, there was a rapid appreciation of NYBOT prices over the late spring-early summer months and that, conceivably, many exporters had locked-in contract prices during the harvest period beginning in May and did not benefit from the subsequent increase in overall market prices.

The third key point that emerges from Figure 12 is that, despite the negative correlation between overall market prices and premium export volumes, there is an uneven, but noticeable growth in both the total volumes of exports transacted at or above premium market prices and in the number of actors selling into this segment of the market. This trend towards increased premium exports is driven mainly by the private Burundian CWS operators and the cooperative actors. Over the last two campaigns in 2015/16 and 2016/17 Figure 12 clearly shows that a core of four to seven private Burundian CWS operators and a similar number of cooperatives have demonstrated the capacity to become regular suppliers of high quality coffee that fetches premium and above export market prices. This seems to be true even now during years of high market price levels, such as the 2016/17 campaign. In this most recent campaign, when the NYBOT price was well above $3.00 per Kg, these cooperative and private Burundian companies were still able to sell almost 10% of total annual fully washed sales at or above premium market prices.[6] This is a significant development, since it provides evidence of the fact that there are now actors in the Burundian coffee sector that have the capacity to produce and sell into the higher quality segments of the international coffee market. Furthermore, even if volumes of premium exports remain small, they are trending upwards and show potential to expand further, if conditions are right. Thus, some of the key institutional building blocks needed to effect a strategic transition in the Burundian coffee sector from a commercial grade orientation towards a premium grade focus are now in place.

Table 1.
Distribution or Farmer Reported Cherry Prices

	2014-15	2015-16	2016-17
Average Floor Price (BIF/Kg)	558	473	409
more than 10 % below average floor price	20%	10%	0%
between -10% and + 10% of average floor price	80%	60%	80%
more than 10% above average floor price	0%	30%	20%
source: AGCL Survey			

Although a small but growing number of CWS operators are beginning to experience some success in accessing the premium market, for this to influence farmer incentives, price incentives at the export market level need to work their way down to farm level prices. Evidence on farm gate prices for cherries in the fully washed segment and differences between different CWS operators is not readily available. Despite this, the study team made use of AGLC survey data from over 1,024 farmers on prices received for cherries between 2014 and 2016 as well as some data collected from different CWS operators on payments to

[6] It should be noted that one foreign held company also has emerged as a consistent premium and above market exporter, albeit at relatively small volumes.

farmers. Taken together these give a picture of the factors that affect the flow of incentives down from export markets to farmers.

An analysis of data on cherry prices reported by farmers in the AGLC survey is presented in Table 1 along with the official floor prices set by INTERCAFE. The farmer response data in all years shows relatively tightly bunched responses within a 10 percent band around the average seasonal floor price—varying from 60% to 80% of all responses. This indicates that the mechanism of fixing minimum cherry prices does seem to be effective in fixing a real floor for farmers, as the percentage of farmers receiving less than 90% of the floor price is relatively small and seems to be declining over the three years of the survey.[7] However, and equally important finding seems to be that there seems to be a strong growth in the percentage of farmers who report receiving prices that are at least 10% higher than the seasonal average floor price—growing from zero to 30% in 2015-16 and 20% in 2016-17. Taken together, these two findings indicate that while the presence of a floor price mechanism does set an effective price level for a large majority of farmers, there is, at the same time, a small but growing number of farmers who are able to sell cherries at prices that are well above the official floor price.

While Table 1 shows that, at least in the last two years of the AGLC data set, there is an emerging body of farmers that can sell to CWS operators able and willing to pay significantly more than the floor price, it does not indicate where this is happening. This is shown in Table 2, which gives the geographic breakdown of the raw data used in Table 1. These data, which are only from the four Provinces covered in the AGLC survey, shows that the price leader in 2015-16 and 2016-17 was Kayanza province which had means for both years that were near or exceeding 10% above the floor price. Ngozi province also exhibited very high prices relative to the floor in 20015-16, although less so in 2016-17.

Table 2
Farmer Reported Cherry Prices, by Province

Province	2014-15		2015-16		2016-17	
	mean	median	mean	median	mean	median
Average Fixed Price	558		473		409	
Gitega	524	550	474	500	400	400
Karusi	515	500	448	500	419	400
Ngozi	535	520	537	550	415	400
Kayanza	506	500	528	550	441	430
Total	521	500	499	500	418	400

Source: AGLC data set, Intercafé

What seems to be clear from Tables 1 and 2 is that many of the price leading CWS operators purchasing cherries above the floor price levels in the last two years are located mainly in Kayanza province (and in Ngozi in a less consistent manner). This begs the question: what is special about Kayanza? There are two parts to this answer. The first reason for Kayanza's special position may lie in the peculiar agro-ecological conditions that exist in the higher altitude production areas. The province has, notably, contributed more Cup of Excellence winners over the past eight years than any other province. This

[7] It should be noted that INTERCAFE's methodology for fixing the floor price allowed for up to 13 periodic adjustments in the floor price during the season. Thus, a certain amount of variance around the mean seasonal floor price is to be expected, as sales would typically occur at different floor prices over the course of a season.

clearly gives CWS operators in the zone a certain advantage in marketing their coffees with specialty market buyers. However, the volumes of sales at this level of the market, *well above the premium grade price level*, is not significant over any sort of overall market measure. It is not likely that it is this small quantity of specialty market sales that is driving the overall provincial farmer cherry price averages for Kayanza in Table 2. (Indeed, if it were, we would expect to see average cherry prices at even higher levels.)

Table 3

Coffee Washing Stations per Square Km by Province

Province	Mean	N
Gitega	0.011	257
Karusi	0.014	255
Ngozi	0.033	296
Kayanza	0.039	216
Total	0.024	1024

Rather than a privileged access to the specialty market, the study team believes the answer lies in another structural factor that separates Kayanza from the other provinces: the presence of a dense network of CWSs in relatively close proximity to each other, which fosters a truly competitive environment for farmers seeking to sell their cherries. Table 3 provides a measure of the comparative density of CWSs in the four surveyed provinces. Kayanza's CWS density outstrips all the other provinces and is almost four times denser than in Gitega. This confirms that a higher proportion of the 134 washing stations built since 2008 have been in Kayanza province compared to all others.

To assess the relationship between CWS density and farmer cherry price, the study team conducted a linear regression of cherry prices received by producers on eight different explanatory variables over the three surveyed years including the CWS density per square km of the province in which the farmer was located (Table 4). The results of this regression found little or no significant relationships for any of the explanatory variables, except for CWS density in 2015-16 and 2016-17. In the last two years, a strong positive relationship existed in 2015-16 with a weaker positive relationship in 2016-17. No relationship between CWS density and cherry price was found for 2014-15.

Table 4

Linear Regression Estimation of the Effects of CWS Density (per Square Km) on Cherry Prices Paid to Producers, by CC Year

	2014-15	2015-16	2016-17
	Beta	Beta	Beta
	------Standardized B Coefficients-----		
CWS Density (CWS/SqKm)	0.007	0.572**	0.164**
Income 2015 (not including coffee) (BIF)	0.081	-0.075	-0.019
Number of Productive Trees on Farm	0.074	-0.045	-0.032
Total land owned (Sq M)	-0.001	-0.019	0.068
Age of HHH	-0.056	-0.034	-0.017
Education of HHH	-0.128*	-0.123	0.053
Active adults in HH	-0.026	0.048	0.028
HH Elevation (m)	-0.029	-0.061	0.101*
(Constant)			

* Significant at p<0.05 level
** Significant at p<0.01 level

The explanation for these inter-annual fluctuations in the causal relationship between CWS density and farmer cherry prices lies principally in the magnitude of the differential between the NYBOT seasonal price and the official minimum floor prices, calculated in Table 5. The very slim gross margin between the NYBOT and the green equivalent of the official cherry floor price in 2015-16 placed considerable pressure on CWS operators to limit their purchasing prices. In zones such as Gitega and Karusi, with their low densities of CWS, operators were freer to set prices at or just above the floor level with little danger of being outbid by nearby competing CWS operators. In Kayanza, CWS operators faced a different competitive environment due to the dense network of CWSs in the province. In this type of

environment, the web of competitive relationships prevents many CWS operators from "racing to the bottom" if they want to meet their volume targets. In contrast, in years with healthy gross margin differentials between NYBOT and floor cherry prices, such as 2014-15 and more modestly in 2016-17, CWS operators are under less pressure to reduce purchase prices and more of them are willing to raise cherry prices off the floor levels—paying less attention to their neighbors. Thus, it seems increasing CWS density introduces a degree of "downward stickiness" to CWS purchasing price movements that tends to work in farmers' favor in years when international market prices are low.

Table 5
Cherry Floor Price/NYBOT Differentials, 2014 -2016

	2014-15	2015-16	2016-17
Average Minimum Cherry Floor Price (BIF/Kg)	558	473	409
Average Minimum Cherry Floor Price (USD/Kg)	0.37	0.31	0.25
Green Coffee Equivalent Floor Price (USD/Kg)	2.59	2.17	1.75
NYBOT May-Sept Average Price (USD/Kg)	4.13	2.76	3.13
NYBOT/Cherry Gross Margin (USD/Kg)	1.54	0.59	1.38

A second potential effect of CWS density on farm gate prices lies in the fact that high density regions, such as Kayanza and Ngozi, tend to be heavily populated with CWSs in part because of their recognized higher quality coffees. This may be strengthening the ability of some CWS operators in these zones to secure premium priced sales contracts with their buyers. These premium contracts tend to be partially "decoupled" from the NY C price, thereby enabling CWSs possessing such contracts to be more aggressive in buying cherries—particularly in years with low NYBOT prices.

The above discussion is based mainly on analysis of the AGLC data set. In addition, the Study Team collected data on cherry prices paid from some of the major private CWS operators and cooperatives in Kayanza and Ngozi provinces. This information is presented in Table 6. It confirms the major elements of the above analysis, showing that at least in Kayanza and Ngozi, it is common for farmers selling cherries to the largest CWS operators to receive well above the floor price levels. It also shows that the prices reported by the CWS operators seem to be significantly higher

Table 6
Cherry Purchase Prices from selected CWS Operators, Kayanza and Ngozi Provinces, BIF/Kg

	2014-15	2015-16	2016-17	2017-18
SOGESTAL Kayanza				
Washing Station Price	640	584	452	517
cherry transport adjustment	-15	-15	-15	-15
Estimated Farmer Price	625	569	437	502
BUGESTAL				
Washing Station Price 1/		575	480	512
cherry transport adjustment		-15	-15	-15
Estimated Farmer Price		560	465	497
GREENCO				
Washing Station Price		578	482	538
cherry transport adjustment		-15	-15	-15
Estimated Farmer Price		563	467	523
Cooperatives in Kayanza Province				
Ubwiza bw'ikawa	470	500	500	500
Dusangirijambo	600	550	550	600
Kazoza n'ikawa	600	550	630	600
Twaranyuzwe		430	500	550
Farmer Price from AGCL Survey 2/	523	533	426	
Official Floor Price 3/	558	473	409	500

Source: Washing station prices from SDL Operators; transport cost from AGCL survey

1/ BUGESTAL restructured in 2017-18 and did not make a second 'bonus' payment, as in prior 2 yea

2/ Averages for Kayanza and Ngozi province respodents

3/ Average seasonal price set by INTERCAFE until 2017; GOB set level in 2017

than the survey responses of farmers from the AGLC data set. There are two likely explanations for this observation. One of these is simply that the differential is based on sampling methodology—as the self-provided data from the CWS operators in Table 6 is only representative of a minority of CWS in the two covered provinces and may not be representative of the prices paid by other CWS operators and cooperatives.

Another plausible explanation lies in the difference between the price paid at the station (the first line for each of the first three CWS operators) and the price received by farmers when they filled out the AGLC survey, which records the price they receive whether they are physically selling *at the CWS or not*. The difference between these two is the cost of transporting the cherries from the farm to the CWS. AGLC data indicates that most farmers pay around 15 BIF/Kg for transport; whereas one of the CWS operators estimated that, for farmers suppling its CWS in 2014 and 2015, a 30 BIF/Kg adjustment would be more realistic. This points out that there is considerable variation in such costs depending on distance, load levels, price levels in the zone and the personal relationships between cherry transport agents, farmers and CWS personnel. We have used the 15 BIF/Kg transport adjustment factor since this can be supported by the AGLC data. But this is only a rough estimate and that magnitude of the differences between the estimated farmer prices in Table 6 and the AGLC survey responses are likely to reflect what may be even larger charges for transport services that we have not captured.

Synthesis

To reverse the long-standing structural decline in coffee production, Burundi needs to ensure that its farmers receive sufficient motivation through higher prices. The best way of ensuring long-term stable access to higher prices is to effect a strategic reorientation of the fully washed coffee channel from selling commercial grade coffee to selling into the higher price premium market, with the objective of reaching average selling prices with at least a 10% price premium relative to the NYBOT.

Several factors provide grounds for optimism about the realism of this strategy:

There is a growing number of private and cooperative CWS operators that have demonstrated their ability to sell into the premium market. Volumes are still small, but growing. This is an important achievement of the GoB privatization and market liberalization strategy put into place in 2008.

Fixation of floor prices for cherries seems to be an effective way of protecting farmers, especially in years of low international prices. It is also equally important to note that the presence of a floor price mechanism does not seem to prevent the market from equilibrating to higher cherry prices under the right circumstances, such as a higher NYBOT or when competition for quality cherry warrants it.

The best way of ensuring that higher-end market prices are passed on to farmers is to encourage free and open competition between CWS operators. There is clear positive relationship between the density of CWS implantation, which fosters competition, and farmer

cherry prices. This relationship is strongest when international prices are low. The significant levels of investment in Kayanza province have resulted in both a denser network of CWSs and higher quality coffee—leading to higher cherry prices. Replicating this in other provinces will help farmers in those areas.

Policy Constraints: an agenda to accelerate transition to a premium market focus

As noted in the previous section, the liberalization and privatization process begun in 2008 has met with some success in creating the building blocks of a more dynamic coffee sector capable of upgrading overall quality levels to reach the premium market. To make the desired transition, actors in the sector will need to align around two key imperatives:

1. Attaining consistently good quality in the fully washed channel consistent with premium market standards; and
2. Ensuring that farmers receive sufficient price incentives to increase their investment in production to raise overall volumes and improve cherry quality.

However, there are a number of critical regulatory and policy issues facing the coffee sector that need to be resolved in order for the incentive structure facing all actors to align consistently with the two overarching imperatives. These policy issues, or constraints, consist of questions that need to be resolved both at the level of macroeconomic policy and in terms of sector level regulatory measures. The section below lays out each issue and presents the study team's recommendations for resolution.

Constraint #1: A growing differential between the regulated bank and unregulated cash foreign exchange rates

The growing pressure on the BIF/USD exchange rate has widespread repercussions for actors in the coffee sector. The requirement that, as of February 2017, all coffee export receipts be deposited in accounts at the BRB where they are translated into BIF at the official bank rate effectively prevents coffee sector exporters from keeping liquidity denominated in foreign exchange. It also obligates them to make specific requests to access foreign exchange reserves from their commercial banks with the BRB as a fall back supplier, if such reserves are not available when they need to import goods or services.[8] While these requirements, which amount to a system of administrative foreign exchange rationing, pose some additional transactional costs and subject coffee exporters to added foreign exchange risks,[9] they

[8] At least one CWS operator has experienced problems in obtaining timely access to foreign exchange to pay for important overseas marketing expenses, which has affected its ability to develop specialty market sales that rely on close relationships with foreign buyers.

[9] These risks arise because exporters have reduced ability to hold liquidity denominated in both local and foreign currency.

do not, in themselves, pose fundamental problems, since most CWS operator and exporter costs are incurred in Burundi using Burundian francs.

Rather, the major problem for coffee sector actors lies in the fact that the advent of foreign exchange rationing in the coffee sector comes hand-in-hand with a widening of the gap between the official bank rate and the cash market rate. At the current official bank rate, the BIF is overvalued relative to the cash market rate by almost 48 percent. This high differential poses two main problems to coffee exporters and all players in the sector:

It acts as an implicit foreign exchange tax on the sector as a whole. The use of the official rate to convert coffee sector export receipts reduces the BIF value of the foreign exchange received relative to its value at the cash rate. Since the cost structures of farmers and processers are mainly in BIF, this effectively inflates the foreign exchange value of all these costs and detracts from enterprise profitability. Since virtually all revenues in the sector are derived from export sales in dollars (local roasted coffee sales are minimal), this amounts to a reduction in the total BIF value available to all coffee sector actors—farmers, CWS operators, dry mills and exporters. Everyone is penalized and the sector's profitability and sustainability is jeopardized.

It creates distortions that push actors away from official market mechanisms. While coffee exporters operating in the official market are required to translate all foreign exchange at the official rate, smaller actors in the cash market—particularly in the border areas facing Rwanda—have access to the more favorable cash market rate. They are therefore able to outbid official CWS operators in the market for cherries and buyers of parchment coffee linked to Burundian washed coffee exporters. This contributes to cross border movements of coffee and represents a significant drain on Burundi's foreign exchange earnings. With a differential in rates approaching 50 percent, there are strong incentives for these invisible cross border flows to continue and even grow, despite administrative measures to repress them.

Recommendation

Adjust the official bank rate through a devaluation of the Burundian franc

⫸A significant devaluation of the Burundian franc to bring the official exchange rate more in line with the cash market rate, ideally accompanied by a policy to subsequently keep a flexible rate to prevent a widening divergence between the two rates, will send a strong positive signal to all actors in the coffee sector. It will improve overnight the financial profitability of all actors who sell coffee internationally and will widen the margin for such actors to raise their purchasing prices from farmers—helping to achieve the goal of reversing the long-term decline in production. At the same time, a BIF devaluation will reduce incentives for informal cash market transactions and unrecorded cross-border movements of coffee. This will, in turn, lead to increased flows of exports going through official channels (and notably through the fully washed as opposed to the washed channel) and of foreign exchange flowing through the mandated accounts at the BRB.

While it is beyond the scope and competence of the study team to suggest a target devaluation percentage, to be effective, such a change must be of a significant magnitude for it to influence economic behavior. As an example, if the current differential between the cash and official bank rate were reduced by half (which is small considering the historically large difference between the two rates at the time of the study), moving it from 1,760 BIF/USD to 2,180, this would have increased the total BIF value of 2016-17 coffee exports by 24%--or 16.6 billion BIF. If all this monetary injection were translated into increased cherry prices, this would have worked-out to an increase of 176 BIF/Kg—on a minimum 2016 cherry price of 409 BIF/Kg. Injections of such a magnitude of local currency into the sector would serve as a powerful jump-start for a new premium market oriented coffee strategy. It would also signal the GoB's seriousness about such goals as raising coffee farmer incomes and providing processors with incentives to make the investments needed transition to a focused on the higher quality premium market.

The study team acknowledges that while the ideal situation for the coffee sector would be a large scale immediate devaluation of the Burundian franc followed by the adoption of a policy of minimizing the difference between the cash and bank rates, this is a decision that is difficult for the GoB to make and which would pose challenges to priority sectors such as health and education that the GoB chooses to favor with access to foreign exchange at the official bank rate. One option for easing this transition would be to simply adopt a gradual phasing-in of the devaluation over an extended time frame accompanied by public announcements to give the exchange rate movements some predictability. This would allow actors in the foreign exchange market some planning time to anticipate changing rates and gradually adjust their cost structures to account for a drop in the foreign exchange value of the Burundian franc.[10]

An additional option that is now under discussion is for the use of a preferential rate that would apply only to coffee sales. Such a measure may be effective in relieving the pressure on coffee sector actors, by raising the BIF value of green coffee exports that could be used to raise margins for CWS operators and pay higher cherry prices to farmers. However, the persistence of different exchange rates over time could lead to economic imbalances and would be very difficult for the BRB to manage in practice. Thus, this is a choice the consultancy team would support only as a stopgap transitional measure leading to a general devaluation.

Another set of options that would provide some relief to coffee farmers, short of an immediate large magnitude devaluation, would be for the GoB and the MINAGRIE to revise their policies of input subsidization and its partial funding through the deductions (*redevances*) made on coffee sales. In the current formulation, farmers (and other actors notably CWS operators) pay the 1.8% *redevance* deduction from export sales which is used to fund fertilizer and other inputs for distribution to coffee farmers, which in turn, is subject to an additional 60% contribution requirement from participating farmers under the national input subsidy program. While this input financing system would be appropriate in

[10] This strategy would also require the BRB and the GoB to maintain strict monetary discipline to prevent inflation spikes that would undermine the value of any pre-announced devaluation schedule.

a context where actors in the coffee value chain were receiving the full local currency value of their coffee exports, the conjugated effect of the implicit foreign exchange tax from the overvalued Burundian franc with the combined *redevance* and contribution requirement is highly dissuasive. Therefore, in the absence of a full devaluation that would lead to higher cherry prices, the study team believes that there is a strong rationale for moving to a full 100% subsidy on inputs to coffee farmers with the abrogation of the 1.8% *redevance* and the farmer contribution requirement. In a very real sense, farmers, and the coffee sector as a whole, have already paid for such inputs through the nearly 50% implicit tax on coffee exports. While normally the study team does not favor 100% subsidies, this exceptional measure is justified on a temporary basis by the large magnitude of the BIF overvaluation. A return to normal policies, bringing input subsidies to the coffee sector in-line with other crops, would be necessary after phasing-in the full devaluation.

Constraint #2: insufficient incentives for farmer investment in coffee production

While all actors acknowledge the problem that low cherry prices are contributing to declining coffee production, the institutional mechanism set-up in 2008 to set the floor price for cherries, an inter-professional *concertation* of representatives from the different corps of INTERCAFE membership, has manifestly not succeeded in resolving this challenge. The INTERCAFE price setting process involved the representatives of farmers, CWS operators, dry mills and exporters coming together to negotiate on margins and farmer floor prices taking into account NYBOT market prices. Each year an initial floor price for cherries was set and allowed for bi-weekly adjustments when NYBOT price movements surpassed a certain threshold. During the five years from 2012 through 2016, this mechanism generally yielded BIF/Kg cherry prices that were significantly below 500 BIF/Kg. Only in 2014 when international prices were above $4.00 a Kg, an exceptionally high level, did the INTERCAFE price beak the 500 BIF/Kg threshold. With the sole exception of 2014, cherry floor prices remained in a band from 400 to 473 BIF/Kg. As noted above in the discussion on farmer production incentives, with an average cost of production of 464 BIF/Kg in Figure 5, this level of minimum prices is simply not high enough to incentivize the majority of farmers to invest more of their own resources to increase production. In 2017, the INTERCAFE negotiation process yielded a result of 484 BIF/Kg which the GoB felt was too low. After discussions with the INTERCAFE members, it was agreed that the GoB would make below market credit available at 9% (as opposed to normal interest rates in the 16% to 18% range) to CWS operators though commercial banks via a special 3% on-lending facility administered by the BRB. This allowed CWS operators enough reduction in interest costs to agree to a fixed minimum price of 500 BIF/Kg for the whole season.

As this recent history and the need for GoB intervention in 2017 shows, the current process for regulating farmer cherry prices is severely flawed. It should be noted that the negotiation process used, in which representatives of the farmers and processers/exporters negotiate on margins starting back from the NYBOT price levels to reach agreement on minimum farmer prices, creates a situation in which inefficiencies at the processing level can be covered-up with negotiated agreements to protect processors' margins by lowering farmer prices. The study team notes that, in the spreadsheet used in the negotiations in 2017, the figure of $0.80/Kg of green coffee was retained as a representative beginning season estimate of the combined depulping and dry processing margins. This figure is quite

close to the production cost estimate of $0.71/Kg for depulping costs in a 'normal volume' year that were calculated by the USAID BAP project for SOGESTAL Ngozi in 2010 taking into account all its central service costs and fixed asset depreciation charges.[11] With an added $0.10/Kg for dry milling, it would seem that the basic blueprint for estimating normal processing costs used in the 2017 INTERCAFE floor price negotiations was based on a processing cost structure similar to that of a SOGESTAL. Since many CWS operators in Burundi do not have the same level of infrastructure to maintain or the centralized service functions traditionally maintained by SOGESTALs, it would not be surprising if actual processing costs for many CWS operators in average volume years were significantly smaller than what seems to have been assumed in the $0.80/Kg level retained in the 2017 INTERCAFE negotiations. Although it may be hazardous to infer too much from this one year's case, it would seem the structure of the consultative forum for fixing prices has likely worked to the disfavor of farmers. This also is tacitly confirmed by the GoB's decision to intercede in 2017. This conclusion is further reinforced by the fact that so many farmers have curtailed investments in their coffee (some abandoning it altogether), while at the very same time coffee processing has come to be seen as a highly profitable business opportunity in Burundi, as witnessed by the extraordinary growth of CWS, dry mills and export operations that has occurred in recent years. Thanks to low cost cherry, even minimally efficient and poorly managed CWSs can find a way to turn a profit.

Thus, the issue of regulating the minimum cherry price continues to be a critical point of contention for the sector. As we have seen, the minimum floor prices do tend to define the prices received by most farmers—particularly outside of the provinces benefiting from a dense network of washing stations. It thus fulfils a useful protective role in zones where competition is not well developed. It is clear that a new procedure with transparent consistent principles needs to be established. The study team's recommendation for this re-establishing such a mechanism is presented below.

Recommendation

Establish a multi-year floor price based on farmer cost of production data

⋙It is important for any minimum price setting mechanism to have a clear and transparent objective. Given the overall imperative of encouraging farmers to invest in production, the study team recommends that the actors in the coffee sector come together to agree to set a floor price that exceeds cost of production for a defined category of farmers such that they will be motivated to increase their production spending and labor effort. This implies that there be reliable and impartial data on farmer cost of production, such as that collected in the AGLC survey. Furthermore, it is important that this process lead to a stable and predictable minimum price that will not vary over multiple campaigns, thereby providing farmers with some degree of confidence that investments in production (such as new plantations, regenerative pruning or mulching) that yield returns over several campaigns will be justified.

[11] BAP Coffee White Paper #2; Tom Lenaghan, Stephan Jean-Pierre and Guillaume Nkeshimana, "Calculating costs for SOGESTAL coffee washing stations: some lessons for discussion." November 7, 2010.

The study team thus recommends that a cost of production survey of coffee farmers be conducted every three years by an impartial scientifically qualified body and that this be used to set a minimum cherry price that would be fixed for the three-year interval. The price should be fixed not to guarantee the profitability of all types of coffee farmers, but to ensure that those farmers with efficient production practices who also have the have the most potential to raise production receive sufficient incentives to increase their investment. In practice, looking at Figure 5 from earlier in this report, which uses the AGLC data to show how costs of production vary with farm size, this will likely means fixing a minimum price such that it is sure of incentivizing the larger farmers toward the right-hand side of the chart—not necessarily the smaller, less efficient farmers on the left-hand side. It is among these larger farmers (the top two quintiles) that the most potential to turn-around production can be found—since as noted they have more room to raise productivity through increased investment than do the smaller farmers and they own approximately 75 percent of the country's coffee trees.

While it is beyond the competence and scope of the study team to suggest a specific minimum cherry price level, we note that the 2017 minimum price of 500 BIF/Kg, while probably too low to justify significant new investment on the part of farmers at the average production cost point of 464 BIF/Kg, is not unreasonable for setting an operational distinction by farm size between those that are able to operate at a lower cost of production (generally with more than 265 trees) and those that are handicapped by their small size and high production costs (with under 265 trees). In general, taking the cost data in Figure 5, a minimum price set in a band between 500 and 575 BIF/Kg would probably be sufficient to ensure some level of increased investment for farmers with at least 265 trees.

There are also some important contextual elements that need to be taken into consideration in setting the actual level of the minimum cherry price. These include:

The proposed devaluation of the Burundian Franc is of critical importance to the fixation of a cherry floor price. The level of the minimum price needs to be closely linked to the question of the foreign exchange rate. Without a large magnitude devaluation of the BIF, it will be much harder for CWS operators to be profitable at the higher-end of the suggested price band. If there is no significant devaluation of the BIF therefore, objectives for the increasing the cherry floor price above the 2017 level will need to be much more modest.

The objective of the price setting should be to set minimal incentives for farmers—not to ensure that they benefit from market upturns. We note that the above suggested mechanism delinks the cherry floor price from the NYBOT market price. In the case of high market prices, rather than regulate an increased cherry price for farmers, the study team believes it is preferable to encourage open competition between CWS operators to ensure that farmers benefit from market upturns. We have seen that competition can be effective in encouraging prices to rise above floor levels, in areas where there are higher densities of CWSs. Within this context, to ensure that this happens, it is important for ARFIC and the GoB to take actions that favor open competition between CWS operators in the market for cherries and to encourage investments in new washing stations. This point is reinforced in a number of the policy recommendations given below.

Periods of low market prices will place CWS operators under pressure—there is likely to be some failures and/or consolidation, as well as some improvements in CWS efficiencies. To be clear, the above suggested floor price mechanism transfers the assumption of some downward market risk from farmers to CWS operators. Prior to 2017, the price fixation mechanism essentially made the farmer price the residual after working back from the NYBOT with deductions for processors and the various mandated check-off deductions for *redevances*. With the methodology suggested above, this can no longer happen. As a result, CWS operators may find their gross margins being squeezed during market lows. With a total of 28 different private companies exporting at least one ton of coffee in 2016-2017 and 33 cooperative actors, many of whom have widely divergent business models, fixed costs and end market targets, some degree of market exit or consolidation during market downturns is to be expected. This selection process will have a tendency to favor CWS operators with lower processing costs, as well as those who are able to sell into the premium market (or even the specialty market). Although this will generate calls for interventions and changes in the cherry pricing policy, such periods of consolidation can actually help the coffee sector to transition to a more efficient overall level of operation and to sharpen its focus on the premium market.[12] A viable washed market is similarly important for coffee producers in areas not served by an operating CWS or in areas where CWS may be forced to shut-down during transitional periods.

Constraint #3: An uncertain regulatory environment for washed coffee

The washed coffee segment plays a secondary, but important role in the coffee economy of Burundi. Washed coffee is produced by farmers who process cherry themselves using manual depulpers available locally and then rinsing and drying their parchment on woven sisal mats. The parchment is sold to collectors who generally supply washed exporters who arrange for or do their own dry milling and export. Over the last decade, the washed channel of the market has come to be dominated by two large foreign-owned companies (OLAM and SUCAFINA through its BUCAFE subsidiary) with the progressive retreat of many Burundian private washed coffee exporters.

Export prices for washed coffee are significantly below fully washed prices—generally being from 67% to 85% of average fully washed prices over the past five years, as shown in Table 7. Washed coffee remains interesting to farmers and exporters, however, as its cost of processing is much lower (informal sector and household operators do the most of the depulping and drying). It has also historically been relatively free from regulatory interventions, which has allotted actors more freedom—especially in regard to the purchase of parchment coffee from farmers in cash transactions. In comparison with the fully-washed channel, where farmers supply cherry periodically to a washing station but are paid later (usually at the end of the season in August), washed coffee sales offer farmers the ability to capture the value added from initial processing and to sell for cash at almost any time during the season and

[12] While market consolidation among CWS operators is likely to be inevitable and will, in general, promote greater efficiency by allowing the successful CWS operators to expand and achieve the scale necessary for making investments in marketing and promotions, it will also be important for ARFIC to ensure that it does not lead to situations of local monopsony with a re-creation of the geographic exclusivity zones that existed with the SOGESTALs prior to 2008.

afterwards. Thus, despite lower prices when converted to cherry or green equivalent, washed coffee sales are useful to farmers for offering an easy source of liquidity. Finally, the washed coffee segment provides a natural market conduit for poor quality cherries ("B cherries") that do not meet the selection criteria for entry into the fully washed supply chain and for the portion of the harvest that occurs in many areas in the early and late season, as well as the fly season, when volumes are low and washing stations are closed.

The coexistence of the washed and fully washed segments is not without a certain tension—even though they generally serve different end markets and that there is a natural complementary in terms of quality specialization. These tensions seem to be increasing over the past several years. For the first time in 2014, during a time of historically high market prices (NYBOT at an average of $4.13/kg during the production season), the GoB intervened in the market for washed coffee to temporarily halt exports in order to channel more coffee into the higher-priced fully washed market. In that year, the public authorities issued a ruling in July prohibiting small-scale depulpers from operating and suspending export sales of washed coffee until August—during the last part of the production season. Since 2014, the authorities have continued to intervene to issue periodic interdictions on washed exports that are relaxed towards the end of the season, as well as to set minimum prices for washed parchment coffee, which had not been a traditional regulatory practice. However, actors in the segment report that territorial authorities actually interpret the minimum prices as maximum allowable limits and that they are sometimes pressured to not exceed the official parchment price.

Table 7
Washed Coffee Prices Relative to Fully Washed Coffee ($/Kg of green coffee, yearly averages)

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Average Fully Washed Price	$ 4.85	$ 3.19	$ 2.80	$ 4.00	$ 2.75	$ 2.89
Average Washed Price	$ 4.19	$ 2.40	$ 1.87	$ 3.01	$ 2.17	$ 1.95
Washed as % of Fully Washed	86%	75%	67%	75%	79%	67%

Source: ARFIC

These regulatory interventions seem to be motivated by the desire to re-orient cherry flows from the washed to the fully-washed channel, which enable greater value added (to processors) and are thought to reduce opportunities for cross-border leakage. Similar reasons seem to be motivating the regulations emitted by ARFIC for the 2017/18 season which, for the first time, required all washing stations operators in the fully-washed chain to purchase lower grade reject "B cherries"—essentially encouraging farmers to channel these lower quality cherries to the fully-washed chain rather than to buyers linked to washed coffee exporters who traditionally operate in this domain.

These regulatory actions indicate a particular vision on the part of ARFIC and the GoB in which it is desirable to reduce washed coffee volumes in order to channel them to the fully washed channel—and to go so far as to repress price increases in the washed market. While the study team believes that the main future of the coffee sector in Burundi lies in the growth of the fully-washed segment and in its progressive upgrading to supply the premium market, we also believe that taking regulatory actions to actively shrink the washed segment is counterproductive. The main problems with such regulatory

actions are that they serve to dilute the needed focus on improving quality that fully-washed CWS operators and farmers must maintain to increase the percentage of sales through the premium market or even higher. The marginal value of most "B grade" cherries in the hands of CWS operators is certainly less than with washed coffee specialists such as OLAM ad BUCAFE. CWS operators concerned with quality are unlikely to run such cherries through their normal wet process lines (as this would contaminate the equipment and impart taste defects), but would be forced to develop parallel washed coffee processing lines of their own to treat these cherries. Indeed, the team spoke directly with processors struggling precisely with this difficult and costly situation. Thus, closing-off opportunities to market poor quality cherries in the washed channel, will simply require operators in the fully washed channel to develop new procedures for treating poor quality cherries that will in turn yield poor quality green coffee. This will further require them to develop separate marketing strategies from their normal product line, all of which is a distraction and cost to their bottom line.

Finally, it should be noted that taking actions to discourage the washed channel also increases farmer's motivations to sell parchment coffee across the border into Rwanda. Table 8 shows the team's estimates of the value of cross border movements of coffee based on the differential between official exports from Burundi and production figures. Although it is not shown in Table 8, in the six years prior to 2012, exports and production in Burundi were either almost equivalent, or showed a 10-12% surplus of exports relative to production—indicating persistent inflows of coffee from Rwanda and/or Tanzania (flows across the Congolese border are minimal). Thus, in the eight years prior to 2014, when washed coffee transactions were suspended in Burundi, there was only one year (2012) that seems to be characterized by significant outflows—and that was limited to 4% of total production. In contrast, since the discriminatory measures against washed coffee trade began in 2014, there have been even larger outflows of 6% of production in 2014 and 7% of production in 2016. The single year with the exceptionally large inflow (2015) may be explained by the unusually large differential in official minimum cherry prices between Burundi and Rwanda in that year, which was 25% higher in Burundi. In most other years the two prices track closely.

Since the cross-border trade in cherries is limited, as it only feasible on a relatively small scale between neighboring production zones, most of these movements are of parchment coffee held by families or traders that eventually is sold to washed coffee exporters in Burundi or Rwanda depending on the direction of the flows. It therefore makes sense to value these flows at the average export price for washed coffee from Burundi which is done in the "Residual Value" line in Table 8. This shows a potential net loss of foreign exchange of $2.5 million in 2014 and $2.0 million in 2016.

While it is not possible to attribute all of the net foreign exchange losses in 2014 and 2016 to the single effect of the past restrictions on washed coffee operators, the type of actions taken since 2014 have a real and discouraging effect that will continue as long as there is no countermanding sign from ARFIC that increases the level of confidence of the main washed coffee exporters that they have a firm place in the Burundian coffee economy.

Table 8
Estimates of Cross Border Movements of Washed Coffee

	Unit	2012/13	2013/14	2014/15	2015/16	2016/17
Production	MT	24,358	9,793	14,853	16,446	15,493
Exports						
Fully Washed Exports	MT	12,883	5,607	14,087	15,324	12,028
Washed Exports	MT	10,483	5,235	2,930	3,043	2,418
Total Exports	MT	23,366	10,842	14,017	18,367	14,445
Residual difference bewteen production and exports						
Production minus Exports	MT	992	-1049	836	-1921	1048
As % of Production	%	4%	-11%	6%	-12%	7%
Residual value @ ave washd price	USD	$2,380,056	-$1,961,514	$2,516,360	-$4,168,349	$2,044,025
Burundi Floor Price	BIF/ Kg cherry	443	400	558	473	409
	USD/Kg cherry	$ 0.31	$ 0.26	$ 0.37	$ 0.31	$ 0.25
Rwanda Floor Price	RWF/Kg cherry	199	187	262	170	161
	USD/Kg cherry	$ 0.32	$ 0.29	$ 0.38	$ 0.23	$ 0.21
BIF/$ on August 1st		1429	1525	1520	1549	1647
RWF/$ on August 1st		613	651	690	727	785

Sources: Exports and Washed prices-ARFIC; Production-ICO; Exchange rates—fx-rate.net website

Recommendation

ARFIC should take real and symbolic actions to affirm its commitment to supporting the washed coffee segment

⋙ARFIC can move to restore the confidence of washed coffee exporters with actions on a number of levels. The most important of these would be making simple public statements of its support for the washed coffee segment of the market and disavowal of any intentions to promote the fully-washed coffee segment by penalizing washed coffee players. Simple firm and consistent communication to this effect would have a positive effect. Some washed coffee players mention that they have been waiting for seasonal authorizations to commence buying operations, but that ARFIC has not provided these, which is contributing to their doubts about the attitude of authorities concerning their activities. In such a context, seasonal letters to officially recognize the opening of the washed buying season and making it clear that such authorizations will not be revoked during the season would also be useful. Finally, ARFIC should move to rescind its regulations requiring all CWS operators to buy the wet process reject B-category cherries from farmers. While they would be free to do so if they wish, this requirement imposes an unwanted burden on those CWS operators whose business plans do not include purchasing low quality cherries. Reversing this requirement would both send a positive signal to washed coffee traders and exporters and provide a measure of operational relief to those CWS operators who have no desire to increase their volumes by processing low quality coffee. In short, the approach to the

washed segment should be to create the right incentives to entice producers into the fully-washed channel, rather than to force them away from washed coffee. The carrot will be more effective and sustainable than the stick in the long run.

Constraint #4: Unnecessary restraints on competition between CWS operators in the market for cherries

Over the past three years there have been substantial fluctuations in the annual regulations issued by ARFIC governing cherry purchases. The key issues of contention revolve around authorizations for new CWSs and for secondary collection centers. ARFIC's 2016 seasonal regulations governing the approval of new CWSs included the provision that the three-member technical inspection committee charged with assessing whether the proposed station meets the specified technical requirements also ensure that the new station does not negatively affect the quality of coffee produced by nearby washing stations (*que l'exploitation de la station n'affecte pas la qualité du café des autres stations de dépulpage-lavage environnantes*). This broad statement potentially allows the technical inspection committees to adopt aggressive interpretations that could be used to withhold authorizations of new stations that would potentially drain cherries from any existing stations in the region. However, in 2017, this language was removed from the seasonal regulations. In 2018, again, the regulations changed one more time with the insertion of a prohibition on new washing station implantations less than 5 km from any pre-existing station.

The regulations governing the use of secondary collection centers have also seen substantial revision during the last several years. These centers, are used by CWS operators to extend their buying reach by establish cherry collection points to which farmers can deliver cherries that are then transported for rapid processing to a coffee washing station. The freedom of CWS operators to establish such centers is an important determinant of the level of competition for cherries—particularly in such zones as Kayanza and Ngozi where production is fairly dense and there is deep network of CWSs, many of which can share drawing area with collection centers linked to other CWS operators. Regulations were issued in 2016 governing the functioning of collections centers which sought mainly to ensure that collection centers met minimum technical/professional standards of operation and that they be required to keep at least a one-kilometer distance with regard to pre-existing washing stations. The main regulatory concern with such centers was to guard against independent traders purchasing and transporting cherries for sale outside of a clear governance structure linked to recognized CWS operators. This was enforced with requirements that farmers be furnished with sales identification cards (fiches) just as if they were selling at the CWS itself and that the floor price for cherries be respected. The approval process for collection centers was shared by ARFIC, as the technical review agency for registering requests from CWS operators for opening collection centers, and local territorial authorities (*Gouverneurs*) who approved final requests. In 2018 this system was abrogated with new regulations that simply outlawed the purchase of cherries outside of CWSs. The only exception is made for "transit centers" in areas that are not covered by washing stations. To receive approval for such transit centers, CWS operators must make a request to ARFIC which then conducts an inspection and issues a decision. No guidelines on

what constitutes a request or motivates a decision are given. The new procedures state that ARFIC "informs" local territorial authorities, but that these no longer have a role in the decision to authorize collection/transit centers.

These recent regulatory changes show a general movement to restrict competition among CWS operators. While some regulation of competition is desirable, such as the establishment of distance restrictions for the implantation of both CWSs and collection centers, efforts to limit competition in the market for cherries will weaken incentives for CWS operators to come off of floor price levels and therefore work against the overall strategic sector imperative of increase farm level prices. The study team's recommendations for improving the regulatory environment governing competition for cherry purchases is given below.

Recommendation

Reaffirm the current regulations governing new CWS implantation so that actors have confidence in their long-term maintenance and return to the system used in 2016 to regulate secondary collection centers

⋙Given the fluctuating rules on new CWS construction, the study team thinks it is important that these be reviewed and reaffirmed so that actors and potential investors in new washing stations will fully understand the rules governing competition and future approvals of new CWSs. It is important that the regulations governing the placement of new CWSs be set so that they are not subject to annual fluctuations of the type that have prevailed over the past three years. The study team thinks the current regulations on CWS implantation present a good regulatory model that allows for open competition without ambiguous language that could be used to refuse new washing stations on the simple grounds that they compete with existing ones. The use of distance restrictions between new and existing CWSs is a transparent way of providing some level of protection to existing CWS operators without prohibiting all competition.[13]

In contrast to the rules on new CWS construction, the current regulatory texts on collection centers are highly flawed. The blanket prohibition on collecting cherries outside of CWSs represents a major restraint of the competition among CWS operators. The lack of precision on how "transit centers" should be operated, on how they should be equipped, on the process of application to open them, and on the criteria applied by ARFIC for attribution of authorizations all stand in sharp contrast to the 2016 regulations on cherry collection which addressed all those concerns in a clear and transparent manner. The study team also believes that the inclusion of territorial authorities in the decision-making process for the opening of collection centers was a desirable feature of the prior regulations, since these actors often possess a deeper knowledge of local conditions than ARFIC administrators. We therefore recommend that the 2016 cherry collection regulations be re-applied as soon as is feasible.

[13] The 5 Km distance in the current texts seems reasonable to the study team, although in some zones of very high production, a smaller distance level might be preferable. In any case, the 5 Km limit should not be increased.

Constraint #5: Unnecessary restrictions on financing and payments during coffee purchasing campaigns

In its 2017 campaign instructions, ARFIC issued regulations that forbade CWS operators from contracting loans with foreign banks or using foreign sources of funding for "pre-financing" of coffee purchasing campaigns. The rationale for these prohibitions was related to concerns about shortages in the repatriation of foreign exchanges from coffee sales, as CWS operators contracting foreign loans would commonly have loan repayments deducted from their total sales remissions. In 2018, ARFIC then issued new instructions forbidding cash payment for cherries and specifying that CWS operators were only allowed to pay farmers one, or exceptionally two times, in a campaign. In practice this has been interpreted as meaning payment after the close of the harvest campaign—usually in August—and a second payment at the end of the season when sales receipts are available. There are provisions in the 2018 regulations for exceptions to the two payment limitations for advances, based on specific farmer requests. These prohibitions on the use of cash are widely interpreted to apply to in-season payments of farmers on receipts of cherries, not on the actual use of cash as a means of payment at the usual payment dates in August—indeed the use of non-cash means of payments is virtually unknown in Burundi at present. The main motivation behind these regulations seems to be to reduce the impact of cash availability in the competition for cherries and also to reduce small-scale cash market transactions that may be fed by actors changing foreign exchange at more favorable cash rates.

Taken together, these regulatory decisions have two main effects. The first is to cut-off CWS operators' access to international suppliers of credit. This effectively prevents CWS operators from accessing such international providers of seasonal working capital as Root Capital who have developed a specialization in funding coffee campaigns by sourcing funds from social impact investors at rates that are at below commercial market levels. This reduces such actors' ability to offer farmers cash payments during the season. The second effect of both regulatory decisions is to place limits on the ability of CWS operators to freely structure the terms of their payments to farmers, basically pushing them in the direction of delaying as much as possible all cash payment for cherries. The net effect of this is to transfer much of the raw product financing burden in the fully-washed coffee segment from CWS operators to farmers—who are expected to wait patiently for payment for the duration of the coffee production season.

Recommendation

Eliminate restrictions on buying campaign pre-financing and on CWS operators' terms of payment to farmers

⩥Concerning the objection to foreign source campaign pre-financing, which is based on the fear that this will detract from foreign exchange receipts, when loan repayments are made, there should be a solution that would be possible to implement with cooperation between ARFIC and the BRB. This would be that ARFIC could simply require all CWS operators who contract foreign loans to request approval for them, to ensure that they are realistic in terms of expected cherry volumes and rates, and then specify that all loan disbursement pass through the same accounts at the BRB that are used to receive coffee sales receipts. This would allow the regulator to combine loan disbursements with coffee sales receipts and compare them with contract values to verify that the totals match-up. Any shortfall in

exact matching of cash flows would be attributable to interest payments—which could be verified against the approved loan contact and which, in any case, will be small in contrast to the total volume of sales.[14] For these amounts, the GoB should be willing to overlook what would be a residual amount in the interest of increasing the financial efficiency and profitability of tax paying CWS operators.

As to the restrictions on the scheduling of payments to farmers, to address the concerns that early season cash payments may encourage unofficial market foreign exchange transactions and to ensure full traceability the GoB and the sector as a whole could make a major effort to transition farmer payments from a pure cash basis to banking system and/or mobile money transfers. Such an initiative would need to be designed in cooperation with the farmers, CWS operators and the appropriate financial system partners (MFIs, COPECs, banks or mobile money operators). With this type of system in place, CWS would be free to make regular payments to farmers in accordance with whatever schedule would be appropriate and possible with no fear of contributing to parallel market cash transactions. Once in place, this would also lead to significant cost and security benefits to CWS operators. There are many design issues to be overcome, which would no doubt require technical assistance, but moving to a generalized payments system such as this would certainly make it feasible for ARFIC and the GoB to loosen restrictions on CWS operators' purchase terms to farmers.

A major difficulty with these restrictions is that they place CWS operators at a disadvantage with traders and exporters in the washed segment, who have no such restrictions on cash payments or timing. The recent GoB interventions since 2014 to discourage washed coffee transactions are, in part motivated by the desire to reduce the competition from washed coffee traders offering cash terms to farmers during the harvest season—when farmers have the most need. But, instead of trying to suppress washed coffee activity, a better alternative would be for ARFIC to relax the restrictions on CWS operators, encourage them to look for attractive offers of finance and to allow them to offer payments terms that they and their farmer suppliers want to see. This would help to even the playing field with washed coffee players without pushing washed coffee transactions underground (and across the border). It would also potentially lower financing costs borne by the CWS operators, improving their margins and potentially enable them to pay farmers more for their cherry.

Constraint #6: delays in the finalization of CWS privatization

The privatization process that began in 2008 has come to an impasse ten years later. The third and last round of privatization of the 77 remaining viable washing stations has not occurred despite the elaboration of an official GoB document outlining the government's disengagement strategy in September 2014. In addition, the longstanding issue of the reserved ownership shares for cooperatives

[14] Any excess of cash inflows into the account over sales contract values would be indicative of non-performing loans. These would be associated with extra foreign exchange inflows to Burundi, above and beyond what is justified in the coffee sales contracts. While this would be a problem for the CWS operators and their lenders, it would certainly not be a problem for Burundi's foreign exchange reserves.

of producers in the privatized CWS lots emanating from the first and second rounds of privatization is still unresolved—with the state having exercised its right to assume temporary ownership ("portage") of the shares reserved for farmer cooperatives issuing from the first and second rounds in the absence of any implementable plan for completing the transactions as specified in the privatization documents with duly constituted cooperatives.

This situation is both serious and, at the same time, of declining importance with each passing year. It is serious because the persistence of delays in resolving these issues sows doubts in the minds of sector players and investors about the commitment of the GoB to disengagement—which reduces overall confidence in the sector's future. On the other hand, the centrality of the privatization issues to the coffee economy in Burundi declines each year—as more CWSs are built, as more dry mills are constructed, and as the sector develops new markets and modes of operation.[15] All of this can go on quite efficiently for a long time as the remaining public stations simply fall further into disrepair and the SOGESTALs operating them will find it increasingly difficult to maintain financial viability. If the principles of encouraging farmer investment in new production and favoring competition between CWS operators outlined in this report are respected, there is no reason to not expect that private and cooperative players will continue to step-in and take-over where public stations under SOGESTAL management are no longer able to function, with or with-out completion of the last round of the privatization program.

Still, the study team is of the strong opinion that it is in the sector's and the GoB's best interest to avoid the slow death scenario for the remaining public washing stations. Completing the remaining privatization transactions will result in a more favorable financial environment for formulating an exit and compensation strategy for the SOGESTAL private shareholders. It will also help the GoB maximize the remaining asset value of the washing stations. And most importantly, it will speed the transition to a more uniform overall institutional environment with all CWS operators having similar financial and fixed-asset structures without ownership links to the public sector. This will result in a more "level playing field" in which new private and/or cooperative owners will see a clearer path that will reward more efficient management and facilitate transition to the higher paying premium and specialty coffee markets.

To re-start the privatization process and get over the last hump, it will be necessary to cut through the main institutional obstacle to completing privatization: resolving the contentious issues surrounding farmer participation in the privatization transactions. The study team's recommendations for re-starting this process are given below.

[15] And as SOGESTAL export volumes decline more broadly. The data in Figure 12 above show that SOGESTAL exports declined from just under 60% of total fully washed exports in 2012-13 to 24% of the total in 2016-17. This trend is likely to continue even without any further privatization transactions.

Recommendation

Restart the privatization process by pressing through with the remaining transactions following the recommendation in the September 2014 GoB revised disengagement strategy

⋙The main obstacle to the re-starting of the privatization process seems to be the incapacity of the GoB and cooperative sector partners to follow through on the repeated decisions to involve farmer cooperatives as shareholding partners in the privatizations. This was a central part of the initial privatization strategy in 2008 in which it was decided to reserve 25% of shares in the CWS lots for farmer cooperatives. In the second round of privatization in 2012 a similar requirement was included with 30% of the shares being reserved by the GoB for farmer cooperatives. Neither of these agreements have been implemented and the state has exercised its pre-emptive rights to take control of the shares, rather than cede them for the agreed price to the CWS investors selected in the privatization process. The remaining 77 public stations in the third wave are to be privatized in two groups: a group of 30 CWSs reserved entirely for farmer cooperative investors and 47 CWSs to be privatized as in the second wave with 70 % of shares for the winning investor and a 30% reserved part for local farmer cooperatives.

While the study team did not have the time or resources to conduct a full examination of the complex issues involved in these privatization dossiers, it seems that there are two main problems that are preventing forward movement: (1) the lack of solid local cooperatives able to serve as shareholding partners; and (2) doubts about the ability of cooperatives and/or (more likely) their external funding partners to come up with the agreed purchase amounts due to the GoB for it to cede its shares and to ensure continued working capital funding of the CWSs.

The study team understands that several donors may now be funding cooperative institutional formation and structuring trainings for some of the cooperatives in the first and second rounds. We wish to signal that this is highly important work that needs to be completed as soon as possible. If such institutional strengthening work for all CWSs in all three waves has not been started or funded, this needs to be a high priority for the GoB and for donors supporting the coffee sector. But as soon as possible, cooperative partners for the first and second round lots need to be trained and duly constituted so that the contractual time line for finalizing the reserved share transactions can be re-started with a new time deadline for arranging the required payments for the shares. As stated in the 2014 GoB disengagement strategy, this may be in the form of cash payments or in the form of annual installment payments based on coffee sales with a fixed schedule over a longer time period. It will be critical that, once share payments agreements are made with the newly constituted cooperatives, they must be implemented within the allotted time frame or the selected winning private investor (or majority shareholding entity now owning these CWSs) will need to be offered the option to purchase the reserved shares in place of the cooperatives, as called for in the original privatization documents.

For the CWSs slated for sale to private investors in the third round, a similar approach should be followed. Starting as soon as possible, the GoB with, its financial and technical

partners, will need to prepare and train the farmers to participate both as minority shareholders and as sole owners for the CWS to be reserved for them. Again, soon after the conclusion of the privatization transactions, or upon termination of the training, the GoB should negotiate and sign share purchase agreements with payments terms and schedules. If these are not adhered to, then any funds paid should be returned to the farmer cooperatives by the GoB and the selected private investors should receive options to purchase the reserved shares.

In the case of minority shares being purchased on an installment plan in any of the three rounds, it will be important for a supply schedule to be established up-front specifying volume targets for the cooperative to make in each campaign. By inserting such 'safety valve' minimum volume thresholds into these long-term share purchase agreements, with provisions for annulment of the agreements if the targets are not met, the GoB can guard against the risk that cherry payment deductions could lead to declining volumes which would threaten the viability of the CWSs—potentially causing loses to the majority shareholders. [16]

In the case of the 30 CWS reserved for sole cooperative ownership, similar principles can be followed. The cooperatives should be given a time frame to come up with the required purchase price or to make payments on an agreed annual schedule if they are unable to mobilize the purchase amount. If they are unable to adhere to the agreed annual installment payments schedule, then the GoB should refund any payments made to date and let the CWSs out for rebid to private investors. The idea included in the 2014 disengagement strategy of having the cooperative or external funding partners engage a management company to assist in the management of the cooperatively owned CWS can easily be incorporated into this approach by making such an entity responsible for making any installment payments on behalf of the cooperative.

This approach to the issue of farmer cooperative participation in privatization is simple. It rests on the principle of external support to ensure that cooperatives have the required governance capacity to be credible shareholding and managing partners, along with conditional agreements for share purchase, which, if not adhered to, entail the annulment of the ownership transfer. Adopting this approach to the issue of farmer cooperative participation in CWS ownership would allow the restarting of the privatization process on transparent grounds with clear expectations to all.

One of the possible objections to such an approach is that some in the cooperative movement question the interest of paying for minority shares or even for purchasing shares in old CWS that have been in the public domain for a long time. These concerns are valid. The above approach presupposes no judgement on this question. It may well be more interesting for farmers to get their own funding to build entirely new CWSs and enter into strings-free production agreements without the added complications of participating in

[16] The possible decline in CWS volumes due to share purchase deductions from cherry payments to farmers would be particularly hard to justify to the majority shareholders, since it would come at no fault from any actions on their part and since most of them have stated their willingness to purchase the shares being reserved for the farmers.

privatization transactions. If this is the case, then they are unlikely to make purchase payments or accept deductions from their cherry revenues to pay station purchase fees. In such cases, then either the transaction will not go forward, or they will be in violation of their purchase agreements and the planned ownership transfers will be canceled. It makes little sense to delay privatization transactions involving farmers because of the fear that they may not be interested or be able to pay; if they are not interested or cannot pay, then the concept of their participation in privatization will have proven to be invalid and the process itself will need to continue without them. As we have seen by the presence of over 30 cooperative washing stations already in operation, not participating in privatization transactions does not at all mean farmer cooperatives are shut out of running CWSs.

Program Recommendations

The regulatory and policy suggestions presented above will all contribute to aligning the incentive environment so that it contributes to the twin imperatives of increasing farmer motivation to invest in production and encouraging actors in the fully washed channel to focus on the higher quality international premium market. However, for Burundi to make rapid progress in both these areas, there are also capacity constraints facing farmers, CWS operators and public sector regulators that must be addressed. In the section below the study team provides a brief listing of its recommendations for institutional support programming. This includes both suggestions for existing projects, such as the World Bank's Projet d'Appui à l'Amélioration de la Productivité et de la Compétitivité du Secteur Café (PAPCSC) as well suggestions for additional institutional capacity support programing. These suggestions are designed to accelerate the turn-around in production volumes and the transition of the fully-washed coffee segment to a higher level of quality based on the assumption that the policy measures suggested in the prior section are adopted.

The study team's specific programming suggestions are given below.

Focus existing production support programs so that they support high-potential farmers in coordination with CWS operators.

The analysis of AGLC survey data on production shows that there is considerable potential to raise investment levels among larger farmers. With the enactment of higher floor prices, the loosening of restrictions on secondary collection centers linked to CWS operators, and a significant devaluation of the Burundian franc, incentives will be aligned so such farmers will be willing to invest—using more labor and inputs. Projects such as PAPCSC, can facilitate this investment by targeting such high-potential farmers for training and facilitating input supply linkages, while at the same time expecting that they will contribute by purchasing inputs either at the non-subsidized market rate or with a partial subsidy that is consistent with the MINAGRIE's electronic voucher input subsidy program. The key element will be to focus targeting for trainings, market linkages and any available input subsidies on farmers who have real potential to use this support so that it yields significant increases in production. The best way for targeting such farmers is for the implementing agencies under the PAPCSC (INTERCAFE, CNAC and ARFIC) to work closely with CWS operators, including cooperatives and privately-run CWSs, to identify high potential zones and farmers linked to specific CWSs. While this may involve revising existing farmer

selection criteria to focus more on the largest farmers (over 265 trees) with the most productive potential, rather than on equity-based criteria—which will be controversial, we believe that such a focus will accelerate the rebound in coffee production that needs to occur.

Develop a technical support program to conduct the proposed tri-annual cost of production survey of coffee farmers.

The proposed minimum cherry price mechanism relies on good data and analysis of production costs. It will be essential for this be based on methodologically sound and impartial survey data. This would likely involve finding a qualified technical partner to supervise and administer a survey on a regular basis (e.g., at 3-year intervals) in conjunction with the MINAGRIE. An ongoing program that tracks coffee households can be beneficial in other ways as well. Sector planning will be enhanced by regular empirical data that tracks farmer investment levels, whether farmers are planting or replacing coffee trees, trends in attracting younger farmers to the sector, and so on. Local consultative institutions are available on a contract basis to support independent research and evaluation activities such as these, and the existing AGLC survey can serve as a starting base for elaborating the necessary survey tools.

Implement a support activity/project to encourage transition of farmer cherry payments from a cash to an electronic basis in cooperation with CWS operators.

At the same time that ARFIC and the BRB move to reduce restrictions on campaign financing for CWS operators, the GoB and its technical and financial partners could make a major contribution to formalizing coffee cherry sales practices by encouraging actors to abandon cash transactions and move to electronic transfers by MFIs, COOPEC, banks and/or (what may be most promising) mobile money providers. This would pay dividends in terms of reducing CWS operator cash management costs and minimizing risks related to large cash transactions. It would also allow for a diversity of payment schedules to farmers for cherry deliveries during the season. An additional benefit would be that it would encourage saving of coffee revenues among households able to do so. This would likely require support from an NGO/project to work with farmers, CWSs, financial institutions and mobile money operators to develop workable models, debug software, do testing trials and support the full roll-out on a large scale.

Implement an institutional strengthening and accompaniment activity/project for coffee farmer cooperatives that are potential share purchasers in the CWS privatization program.

The study team understands that some donors (including the IFC) are funding some training and institutional strengthening efforts to formalize cooperatives around CWSs privatized in the first and second rounds. These efforts should be expanded and systematized to include cooperative institutional strengthening programs for all the CWSs concerned by the GoB privatization program. At a minimum, these institutional strengthening efforts should focus on: cooperative formation and governance; governance structures and business planning for private share-holder based enterprises; and cash management and financial accounting for coffee washing stations. For the 30 CWS slated for 100% ownership by cooperatives, a more intensive program of capacity building will be needed to include financial and operational management of coffee washing stations. It may also be desirable to create a

project-based technical and contracting unit that would be responsible for administering the foreseen management contracts between CWS management companies and these sole-owner cooperatives.

Implement a coffee marketing support activity/project for CWS operators.

A key institutional capacity constraint that limits the potential expansion of the premium market segment is the lack of marketing experience, contacts and knowledge among CWS operators. One of the main advantages of the foreign-owned CWS operators is that they have superior market linkage capacity with international buyers—either through their in-house corporate sales operations or by the simple fact that they possess the language skills, personal contacts and long-standing familiarity with international coffee buyers in different market locations. It is true, as some observers told the study team, that there are significant quantities of good quality coffee at the premium level that is sold at commercial grade prices simply because there is a lack of market contacts and promotional efforts in target markets to sell the coffee at premium prices. Part of the problem lies in the small scale of many Burundian CWS operators, as they cannot afford the substantial investments required to conduct promotions and manage sales efforts with importers and roasters in destination markets.

To help address such problems, the study team recommends that the GoB and its technical and financial partners consider establishing a coffee marketing support activity/project that would provide both technical support and funding for firm-level marketing and promotion efforts for CWS operators. This could include support in such areas as: prospections and funding for marketing consultants/agents to represent CWS operators in target markets; organizational assistance and funding of promotional shipments with grouped lots and dispatching via agents/importers; promotional materials development; technical assistance and training on coffee market risk management instruments (futures market hedging, forward sales contracting, etc.). This activity could be structured to develop the technical implementer as a consulting service provider for CWS operators, with the employment of a mix of international and local coffee marketing experts, with the objective of creating a sustainable for-profit entity that would continue to provide sales and marketing assistance to CWS operators on a fee-paying basis after the end of the assistance project.

Conclusion

This report outlines some simple policy and accompanying program measures that, if enacted, the study team believes will reverse what has been decades of a downward spiral of low farmer compensation, low farmer investment, low productivity, low production levels—all leading to low quality and low export prices. The changes suggested here will all lead to higher farmer revenues, enabled through competition that favors farmers. Too often coffee sector actors view relationships in the value chain as a zero-sum game in which a fixed amount of value-added is divided among the margins of the different participants at each level.

But compensating farmers is not a zero-sum game, treating it so brings only a race to the bottom. Figure 13 illustrates how truly incentivized farmers can lead to a virtuous cycle in the coffee value chain that benefits all actors at all levels. The cycle is jump-started through policy change and with initiatives

by CWS operators and exporters that will increase prices paid to farmers for their cherry. This can come from policies that increase competition for cherry or simply through strategic initiative from washing station owners looking to improve coffee quality and accessing higher-priced premium coffee markets. Some CWS operators and cooperatives have already begun the process and have been highly successful in their business models as a result. They are the future of coffee in Burundi.

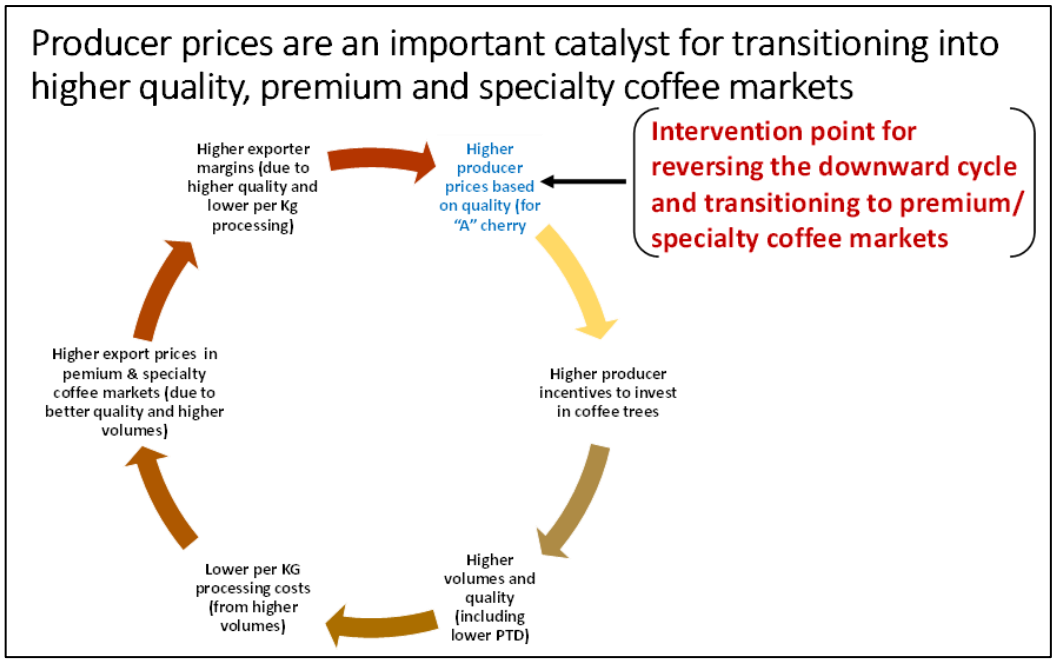


Figure 13

Improving farmer compensation has the effect of raising the incentives for farmers to invest more labor and cash in Good Agricultural Practices (GAP): more inputs, and even allocating more land to coffee production when the price is right. In turn, higher farmer investments in their plantations causes yields to rise. Overall production volumes and quality both go higher. Not only is there more coffee to go around but it is denser and with fewer defects. Potato taste defect (PTD) declines where farmers employ inputs in the right mix. Farmers also see higher value in fully-washed coffee and they reduce cherry reserved for the washed channel to only the lowest quality cherries (B cherry) along with early and late season harvest quantities. This shift away from washed channels adds further to the growing volumes of fully washed coffee.

Higher volumes of coffee produced benefit all actors in the value chain; all ships rise. With more coffee coming through the system, unit costs for CWSs and dry mills decline precipitously as fixed costs for equipment, administration, and marketing are spread across a larger base. The costs associated with overcapacity in processing begin to dwindle. Even producers benefit from higher volumes in that their transport costs to the washing station are diffused over more and fuller sacks of cherry.

Markets for premium and specialty coffee respond well to improved coffee quality and volumes. That is what these buyers look for and are willing to pay for. They can find commercial grade coffee anywhere. Top quality Arabicas that cup well can command a premium price. Strategically, this is where Burundi's

potential and comparative advantage lies. Allowing the industry to drag its feet in moving to premium and specialty grade coffees is costing Burundi dearly. Above all, policy and programs must advance the high-quality agenda and speed up the transition before it is too late. Before too many young people leave the coffee sector and a generation of knowledge is lost.

Higher coffee export prices enable margins to grow for processors and exporters, especially those who invest in building necessary market relationships with specialty buyers. These markets also help to stabilize prices as they become "decoupled" from the NYBOT C price. In turn, these higher margins provide greater latitude for incentivizing farmers through premium payments and more competitive prices for the following year, and the upward-bound, virtuous cycle is renewed, reversing generations of decline.

It is not such a complicated chain of events. We already see it happening for a number of forward-looking coffee companies in Burundi. These companies that have figured out that paying farmers fairly for their work in the coffee fields, accepting only high-quality cherries, adopting more efficient processing practices and investing in quality coffee for better-paying markets can be a highly successful business model. Indeed, they are Burundi's most successful coffee companies. It is now a matter of other stakeholders getting on board, embracing a new model and creating a supportive policy environment that will accelerate the transition both fairly and intelligently.

Policy Matrix

Policy Measure	Positive Effects	Negative Effects	Actors who Benefit or "winners": Actors who may be hurt or "losers":	Accompanying Measures: Accompanying Measures:
Enact a significant devaluation of the Burundian Franc	• Increased profitability for all coffee sector actors • Creates environment favorable to higher floor price for farmers; • Reduces incentives for cash market FX transactions and cross-border trade; • Increases incentives for generation of foreign exchange;	• Will lead to higher costs for actors who are able to access foreign exchange at official bank rate; • Causes perception that economic authorities are losing control;	• Coffee exporters and all coffee sector actors—especially farmers if conditions are right	• Need to reinforce coffee regulatory measures to encourage equitable distribution of increased BIF values of exports throughout the value chain (ex: minimum floor price, measure to support competition among CWs).
			• BRB and GoB officials who control access to foreign exchange with administrative decisions; • Importers of strategic goods favored in allocations of foreign exchange (health sector, etc…);	• Consider specific budget support and subsidies for priority import sectors that may be hurt by higher cost of foreign exchange; • May require communication strategies to highlight efficiency gains from devaluation.
Establish a multi-year cherry floor price for 'A grade' cherries—suggested band is 500-575 BIF/Kg. Revise every three years based on cost of production surveys	• Increase farmer incentives to invest in production—increased production volumes; • Encourage equitable distribution of returns in coffee sector; • Increase in supply of quality coffee from farmers to grow volumes in premium market segment	• May put pressure on margins of less efficient CWS operators; • Transfer of some market risk from farmers to CWS processors especially commercial grade coffee specialists; • Likely acceleration of consolidation among CWS operators; • Potential for withdrawal from market in years of low market prices if floor too high;	• Farmers—short and long term; • High quality coffee exporters & efficient CWS operators—long term;	• Will necessitate external support for survey on cost of production; will need to ensure impartiality and methodological soundness; • Production assistance should focus on larger farmers with capacity to increase levels of investment; • GOB/ARFIC will need to foster open market for possible CWS sales transactions to guard against shutdowns;
			• processors and exporters of FW coffee that focus on lower quality (commercial grade); • High-cost CWS operators	• ARFIC and GoB will need to be able to withstand political criticism from less efficient CWS who may exit; • Cessation of policies to discouraged washed coffee exports would provide "safety valve" for lower quality/lower efficiency in bad market years; it would also open an

				alternative market channel to CWS operators that may be attractive in years of low prices.
ARFIC and GoB should reaffirm support of washed coffee channel and cease issuing periodic regulatory rulings to suspend it from operating.	• Increased washed coffee volumes and profitability for exporters, small-scale depulpers and traders; • Strengthened market channel for lower quality coffee will facilitate focus in fully washed channel on improving quality; • Reduction in smuggling/cross-border exports in cash market; increase in FX earnings in formal sector.	• Measures will run counter to administrative culture at ARFIC and in territorial administrations where perceptions are that washed coffee operators are borderline illegal and washed volumes represent a zero-sum loss to fully washed segment.	• All washed coffee segment actors (exporters, depulpers, traders); • Farmers who sell to buyers of washed	• Fully washed CWS operators will need to have restrictions on payments and financing options removed to help them co-exist with washed coffee buyers;
			• Local and territorial administrators who can extract rents from washed coffee traders/exporters • CWS operators in fully washed segment with focus on lowest quality grade • Smugglers	• True opening-up of washed coffee flows will meet resistance from ground level administrators and require political support if it is to be enacted; • Potential to benefit from inflows of washed parchment from Rwanda/Tanzania exist.
Revise regulatory statutes to allow establishment of collection centers in a transparent fashion; Reaffirm long-term commitment to allow competition between coffee washing stations.	• Increased freedom of competition will favor most efficient CWS operators who should increase volumes/profitability • Farmers will receive higher prices for cherries due to increased competition • Volumes of coffee in the fully washed channel will increase due to wider purchasing footprint • CWS operators will have more confidence in regulatory stability which will positively impact investment	• Least efficient CWS operators will face difficulties purchasing cherries and reaching volume targets • Operational confusion could result in opportunities for "false collection centers" operated by itinerant traders to feed washed channel and cross-border trade	• Efficient CWS and those that are able to sell into higher priced markets • Farmers who get access to more selling options	• Farmers in most areas are reportedly very happy with collection centers. Efforts to give issue more visibility with farmer involvement would be useful. • Local Gouverneurs who are in closer contact with farmers can give useful input to the process. They were involved in the regulatory process until 2018.
			• Less efficient CWS operators and those that are not able to access higher market prices	• SDL operators who are unable to compete in a more competitive market may seek to exit the market by selling their stations to new or existing operators. These types of transactions should be favored as a necessary element of the strategic evolution of the sector.
Eliminate restrictions on buying campaign pre-financing from	• Will widen the options of financing available to private and cooperative CWS	• Could come at a marginal cost to foreign exchange earnings due to interest	• CWS operators who are creditworthy and can generate financing offers;	• Financing of CWS operators for cherry purchasing could benefit from associated large scale campaign to switch payments to

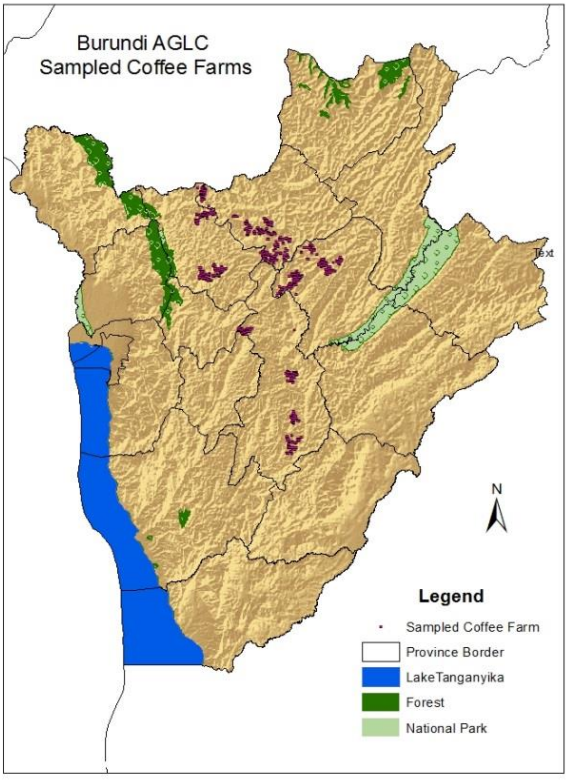
foreign banks and on CWS operators' terms of payment to farmers	operators—lower interest costs; • Will help to even the playing field between cash-based washed channel and credit-based fully-washed channel • Farmers will get access to cash earlier in season—reduce need for farmer/supplier credit to CWS operators • Reduce pressure on BRB to provide below-market refinancing for sector	charges accruing to foreign banks; • Increased complexity of cash flows makes it harder for ARFIC to verify full repatriation of coffee sales; this has been a major high-level issue in 2017. • More cash in market in smaller transaction amounts for cherry purchases carries risk of increasing flows through cash foreign exchange market	• Farmers who will get access to cash and a wider variety of payment options	farmer from cash to bank/COPEC/mobile money accounts. Would help reduce risk of feeding cash foreign exchange market. Would likely require some type of NGO/project support to carry out.
			• Local banks will be subject to more competition from foreign funders • CWS operators that are less creditworthy and do not have good financing options will be at a greater disadvantage compared to those that do have options	• BRB may wish to continue offering on-lending through commercial banks—this could provide financing options for CWS operators that find themselves shut out of the pure private market.
Rejuvenate the privatization process by pressing through with the remaining transactions following the recommendation in the September 2014 revised GoB disengagement strategy	• Completing privatization transactions would end all doubts about GoB long-term commitment to coffee market liberalization; good investment climate sign—independent of actual privatization transactions; • Will generate receipts for Public Budget; • Resolution of pending farmer cooperative share reservations would favor more healthy relations with privatized CWS operators	• Completing privatization transactions at a time when the investment climate is not perceived as being good could lower expected purchase prices; • Farmer cooperatives may not have financial backing/resources to complete purchases of reserved shares. • Farmer cooperatives may not have institutional solidity to be long term shareholding partners in private companies	• Operators of 1st and 2nd round privatization CWS would benefit from clearer capital structures • Farmers gain potential access to ownership shares in CWS operating companies • GoB benefits from privatization receipts	• There would need to be a substantial institutional capacity building project to work with farmer cooperatives so that they have the real possibility of taking their planned roles in the privatization—this has been pending since 2008.
			• SOGESTALs loose access to remaining public CWS—likely to result in closure for those unable to adapt to the new market structure	• Some form of compensation may need to be considered for private shareholders in SOGESTALs for capital investments that they are unable to recover

Annex 1

AGLC Burundi Survey Summary Methodology

The Africa Great Lakes Region Coffee Support Program (AGLC) successfully implemented a survey of 1,024 coffee producers in Burundi in the first quarter of 2016, followed by a 50 percent sample follow-on survey one year later, in 2017. The surveys were conducted in four major coffee-growing provinces representing four of Burundi's major coffee growing areas. The selected provinces were Kayanza and Ngozi in in the northern coffee-growing region and Karusi and Gitega in the central region.

From each province the team purposively selected four high volume coffee-producing Sectors and one coffee washing station (CWS) from each. The guiding objective of the Sector/CWS selection was to optimize geographic dispersion of the four CWSs in each province and also to ensure that the four would include two that were cooperatively owned and operated and two that were privately owned and operated. From the farmer listings at each of the CWSs, 64 farmers were randomly sampled for study, totaling 1,024 (16 CWS x 64 HH) coffee producing households in all (see map).



Survey instruments and enumerator training. The survey instruments were developed at the farm household and field levels. Sections of the questionnaire covered a diversity of topics including: coffee growing practices, antestia control practices, cost of production, coffee field size, number of trees, slope, location (GPS), cherry production, cherry sales, landholding, equipment & assets, household income, perceptions of barriers to investment in coffee and basic household demographics. The questionnaires were then translated to Kirundi, programmed for Samsung 7" tablets using *CSPro Mobile* software, and pretested in the field.

Data collection. Fielding of the surveys took a team of 10 enumerators approximately 50 working days. The survey instrument was comprehensive and included over 400 questions. The coffee fields section of the instrument required interviewers and farmers to walk to the coffee fields with the farmers to collect data on the physical characteristics of each field. The average interview took 2-3 hours to administer, so in most areas each interviewer was able to complete only two interviews per day. After the field

implementation, the data were uploaded from the tablets to a designated Dropbox folder for access by the project's technical staff for cleaning, coding and analysis in SPSS and STATA statistical software packages.

Descriptive parameters for the sampled coffee producer households in Burundi are summarized in the table below. Means and medians are shown for all continuous variables and percentages are shown as appropriate for key nominal variables.

Summary Descriptive Parameters of Sampled Households

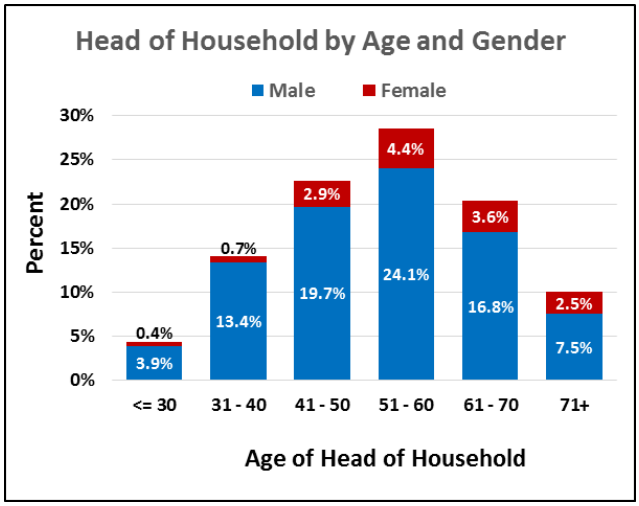
Variable	N	Min	Max	Percent	Mean	Median	S.D.
Gender of HHH (% male)	1024	-	-	85.4%	-	-	-
Age of HHH (years)	1024	21	95	-	53.8	54	13.60
Education of HHH (% primary completed)	1024	-	-	37.7%	-	-	-
Member of coop (% yes)	1024	-	-	45.2%	-	-	-
Sales to private CWS (%)	1024	-	-	25.1%	-	-	-
Sales to cooperative CWS (%)	1024	-	-	37.7%	-	-	-
Sales to SOGESTAL CWS (%)	1024	-	-	37.5%	-	-	-
Income 2015 (not including coffee) (BIF)	1024	0	15,140,000	-	659,359	280,000	1,222,847
Income 2015 from coffee sales (cherry & parch)(BIF)	1024	0	4,400,000	-	234,845	114,900	402,202
Coffee income as share (%) of total HH Income 2015	1010	0	1.00		0.36	29.00	0.30
Number of Productive Trees on Farm (sum from Fields)	1024	0	7,000	-	310	221	377
Total harvest 2015 (Kg cherry)	1024	0	8,000	-	466	250	720
Received premium (% yes)	1024	-	-	0.3%	-	-	-
Price per kg of cherry 2015 (mean sales price BIF)	942	200	650	-	498	500	67.58
Applied fertilizers (% yes)	1024	-	-	39.6%	-	-	-
Applied pesticides (% yes)	1024	-	-	85.4%	-	-	-
Applied manure (% yes)	1024	-	-	9.6%	-	-	-

Annex 2

Farmer Incentives and the "Youth in Coffee" Problem

Many coffee stakeholders interviewed talked about the "youth in coffee" problem in Burundi. This is the observed trend of fewer and fewer young farmers taking up coffee production. They say that the incentives for coffee production are simply not there today, an era characterized by low prices and increasingly demanding work required to produce high quality cherry for the fully washed, premium coffee channel. Older farmers with established plantations may be dissatisfied with coffee returns but they often decide to stay in coffee because of the significant cost of uprooting and repurposing land to other uses.

As the figure below demonstrates, young people are highly underrepresented in coffee. Only 18.4 percent of coffee households are headed by farmers aged 40 or less, and nearly a third are 60+ years of age. The inability of the coffee sector to attract young farmers puts into question the sustainability of the sector in the long term. If the pipeline cannot be filled at the entry level, where will coffee producers come from as older farmers continue to age and retire from farming? Will this era of low farmer incentives result in a lost generation of producers?



Gender and age are highly correlated in Burundi coffee. While heads of household tend to be men in all age groups, women heads of household tend to be concentrated in the older age groups. This is in large measure a consequence of the fact that women most often become heads of their households as widows, most commonly later in life. But this demographic reality creates some significant disadvantages for women heads of households who tend to have little household labor and often live alone.