FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Feed the Future Africa Great Lakes Region Coffee Support Program (AGLC) Policy Roundtable

Topic: Ensuring a higher proportion of coffee moves through the fully washed channel

May 2016 • Kigali, Rwanda

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GLOBAL KNOWLEDGE INITIATIVE
Institute of Policy Analysis and Research - Rwanda

Introduction to the Challenge

AGLC Background

- AGLC is a 3-year USAID-funded initiative that addresses 2 major challenges in the coffee sector in Rwanda (and the Africa Great Lakes region)
  - Reduce antestia bug/potato taste defect (PTD)
  - Raise coffee productivity
- Partners
  - Rwanda: Inst. of Policy Analysis and Research (IPAR) and Univ. of Rwanda (UR)
  - USA: Michigan State University (MSU) and Global Knowledge Initiative (GKI)
  - Numerous public and private sector partners
- Components: • applied research • policy engagement • capacity building

Applied research component

- AGLC draws upon a broad mix of quantitative and qualitative methodologies, including:
  - Coffee farmer/household surveys (and CWS survey)
  - Experimental field/plot level data collection
  - Key Informant Interviews
  - Focus Group Discussions
- Comprehensive coffee sector data base
  - Goal to integrate information from these four data collection activities
  - Provide empirical basis for policy engagement and farmer capacity building

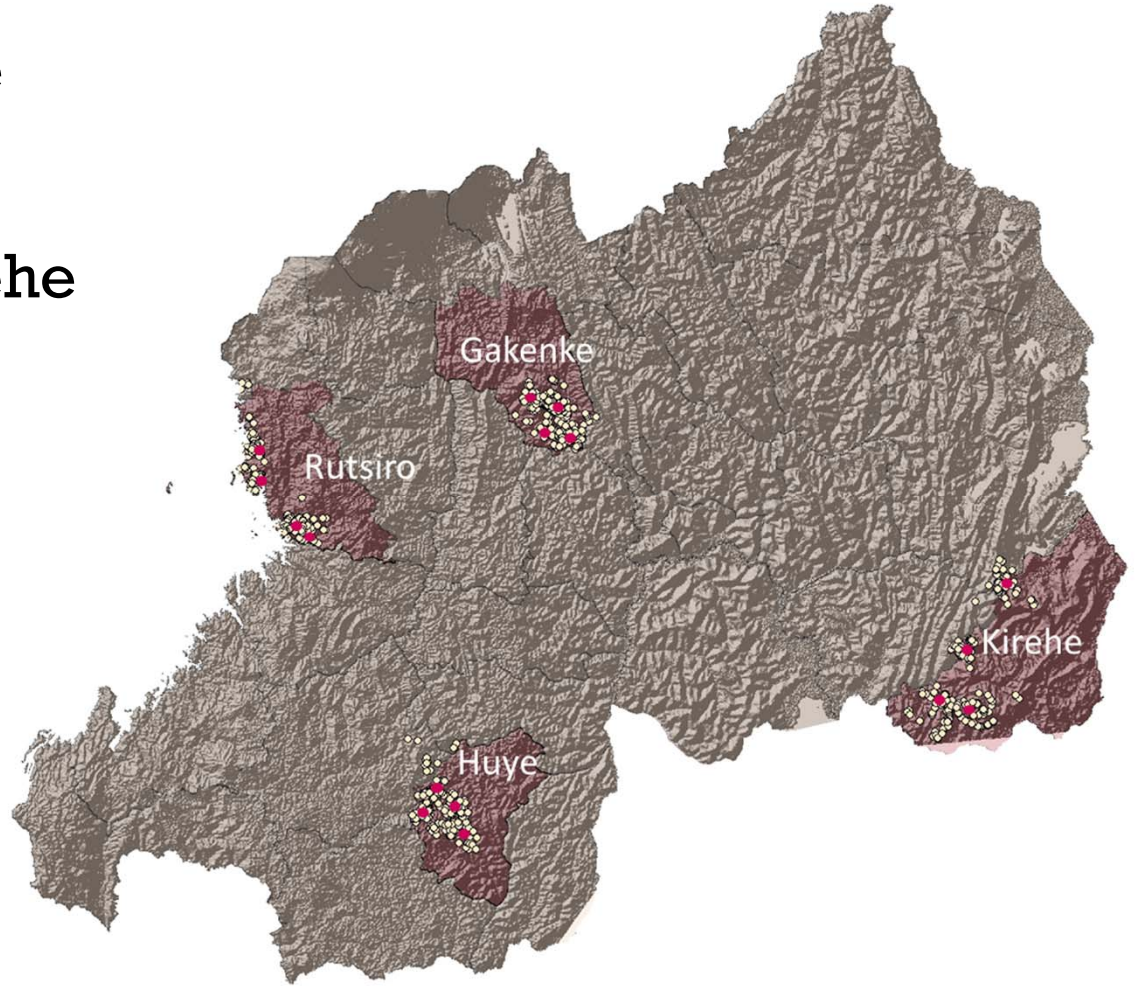
Guiding question:

How might we increase the proportion of coffee in the fully washed channel?

Methodology

Baseline survey of coffee growers

- Geographically dispersed sample across four coffee growing districts: Rutsiro, Huye, Kirehe and Gakanke.
- 4 CWSs in each District (2 cooperatives, 2 private)
- 64 HHs randomly selected from listings of each of the 16 CWSs
  - (64 x 16 = 1,024 HHs)



Baseline survey, cont.

- Focus on fully-washed coffee. Sample does not include HHs not on CWS listings
  - Advantage: In depth focus on core of Rwanda's coffee sector strategy (FW)
  - Disadvantage: Ordinary coffee (parchment) producers underrepresented
- Survey instrument includes diversity of topics:
  - 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 • barriers to investment in coffee • basic household demographics
- Programmed (in *CSPro*) on 7" tablets for data collection
- 10 enumerators (working in 2 teams of 5)

Qualitative Data

- Key informant interviews
  - Key coffee sector leaders including public sector representatives, farmer organizations, and private sector stakeholders.
  - Focused on challenges identified by stakeholders and provided insights into critical areas of convergence and disagreement among various specialty coffee sector stakeholder groups.
- Focus group discussions
  - Held with major coffee stakeholder groups including coffee farmers, washing station managers, coffee exporters, others.
  - Groups of 5-7 members of each stakeholder group

Fieldwork

AGLC Baseline survey interview with farmer in Gakenke

Focus group discussion with farmers at Buf Café washing station

Overview parameters of sample

- Head of HH 81.5% Male; 18.5% Female
- Head of HH completed primary school: 38.1%
- Mean age of head of HH: 51 years
- Median number coffee trees on farm: 400
- Head of HH member of cooperative: 55.4%
- Median cherry produced in 2015: 600 Kg
- Mean cherry price received in 2015: 198 RWF
- Median HH cash income: 340,000 RWF
- Share of total cash income from coffee: 44%
- Percent of coffee farmers reporting antestia: 55%

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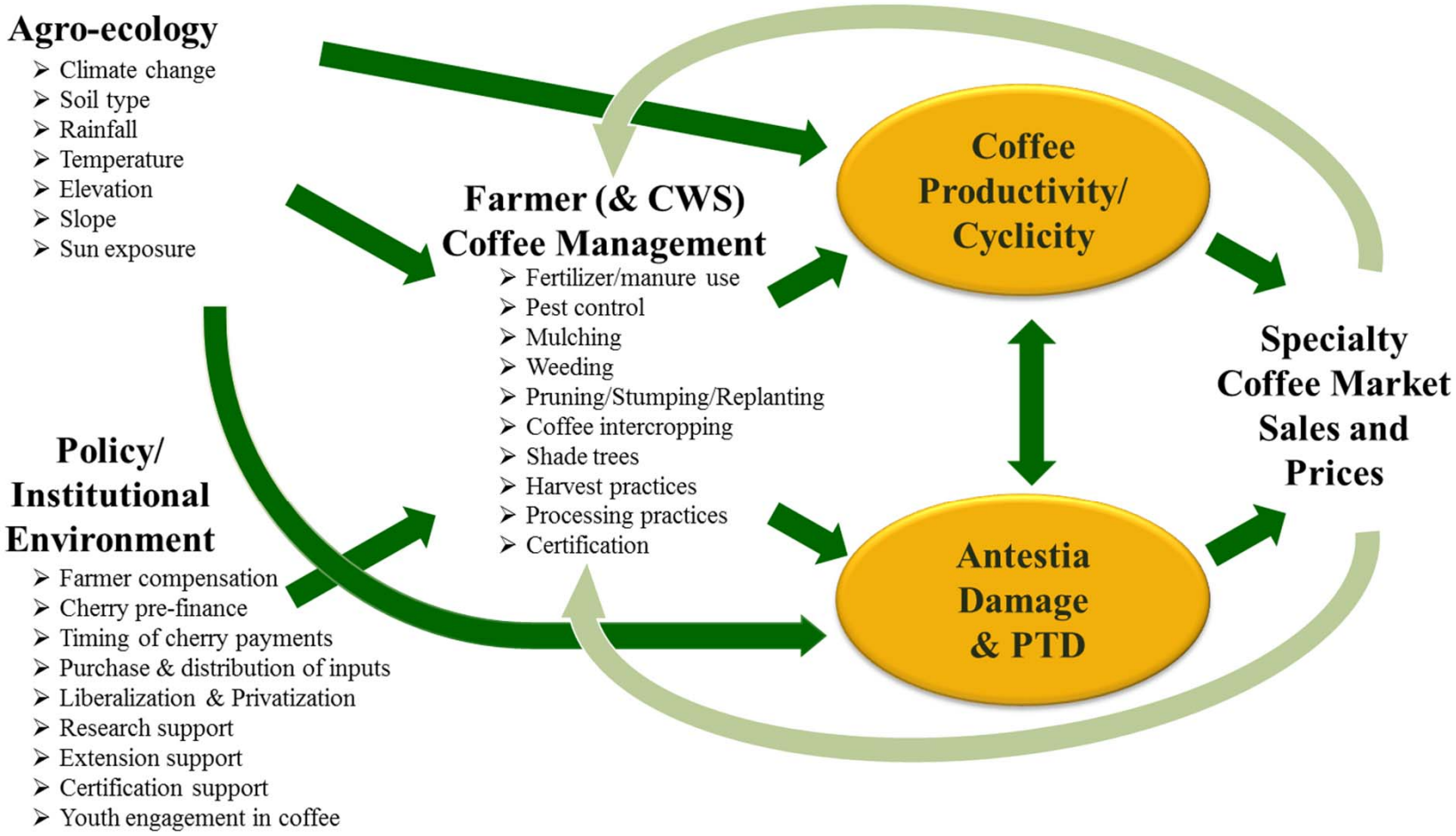
Research Findings

AGLC Conceptual Framework for Coffee Productivity, Cyclicity and Potato Taste Defect



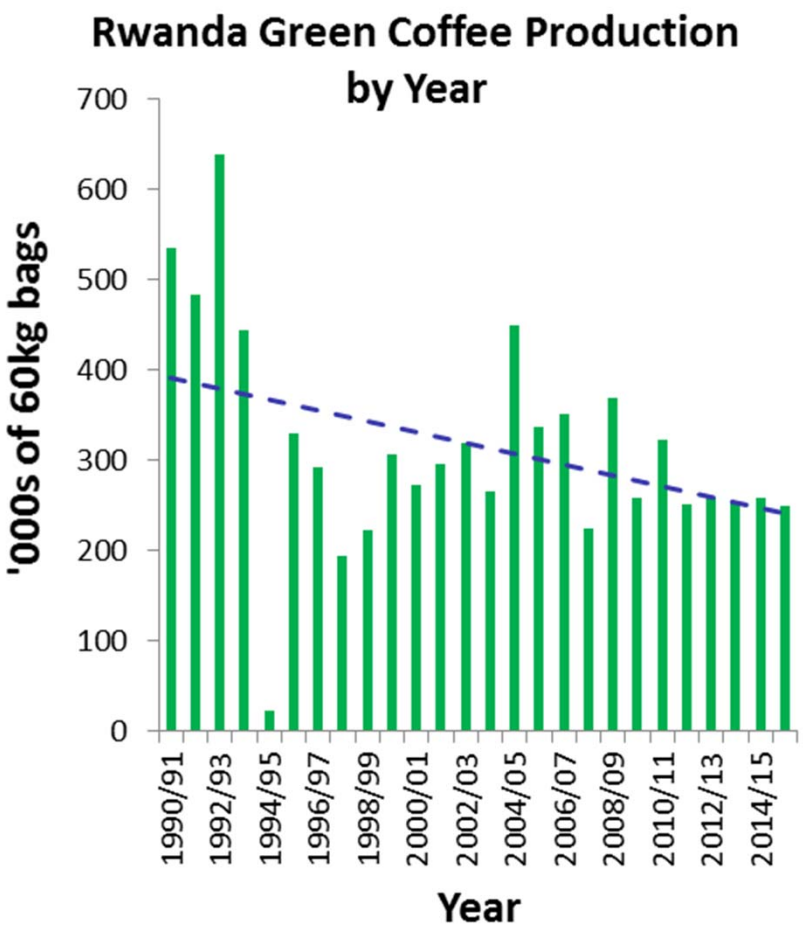
Sub-questions addressed in findings

1. How much coffee are farmers selling as cherry?
2. How is coffee quantity related to price?
3. Who were the main coffee buyers in 2015?
4. What are the main benefits and drivers of selling cherry over parchment?
5. What are the barriers to farmers selling cherry to CWS?
6. When do farmers opt to sell parchment?
   - Choice behavior
7. How do cherry prices affect farmer's decision?
8. What have we learned form Key Informant Interviews?

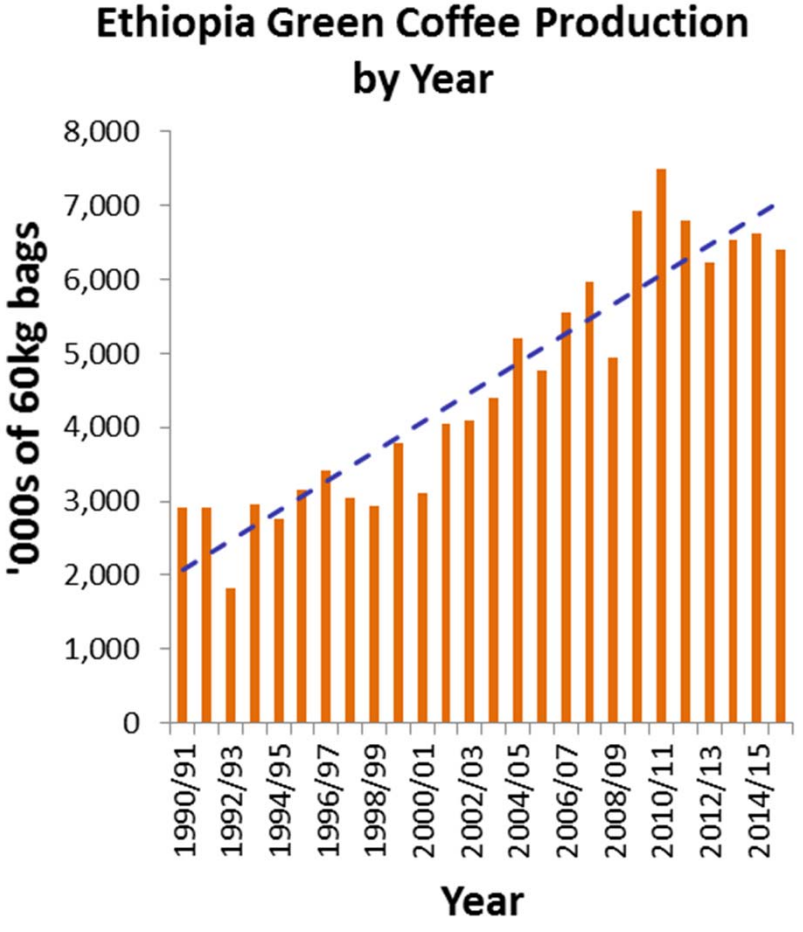
Premises to challenge

1. Coffee farmers are price takers
   - Prices are set exogenously
   - Locally prices receive are inversely related to quantity and their productivity
2. Farmers need incentives to sell to the fully washed channel
3. Long-term success of the sector depends on growth in production and productivity
   - Fully washed channel
4. Farmers consider price and distance in their decision to sell cherry vs parchment
5. Labor and time savings/profitability the main economic benefits of selling cherry/fully washed coffee

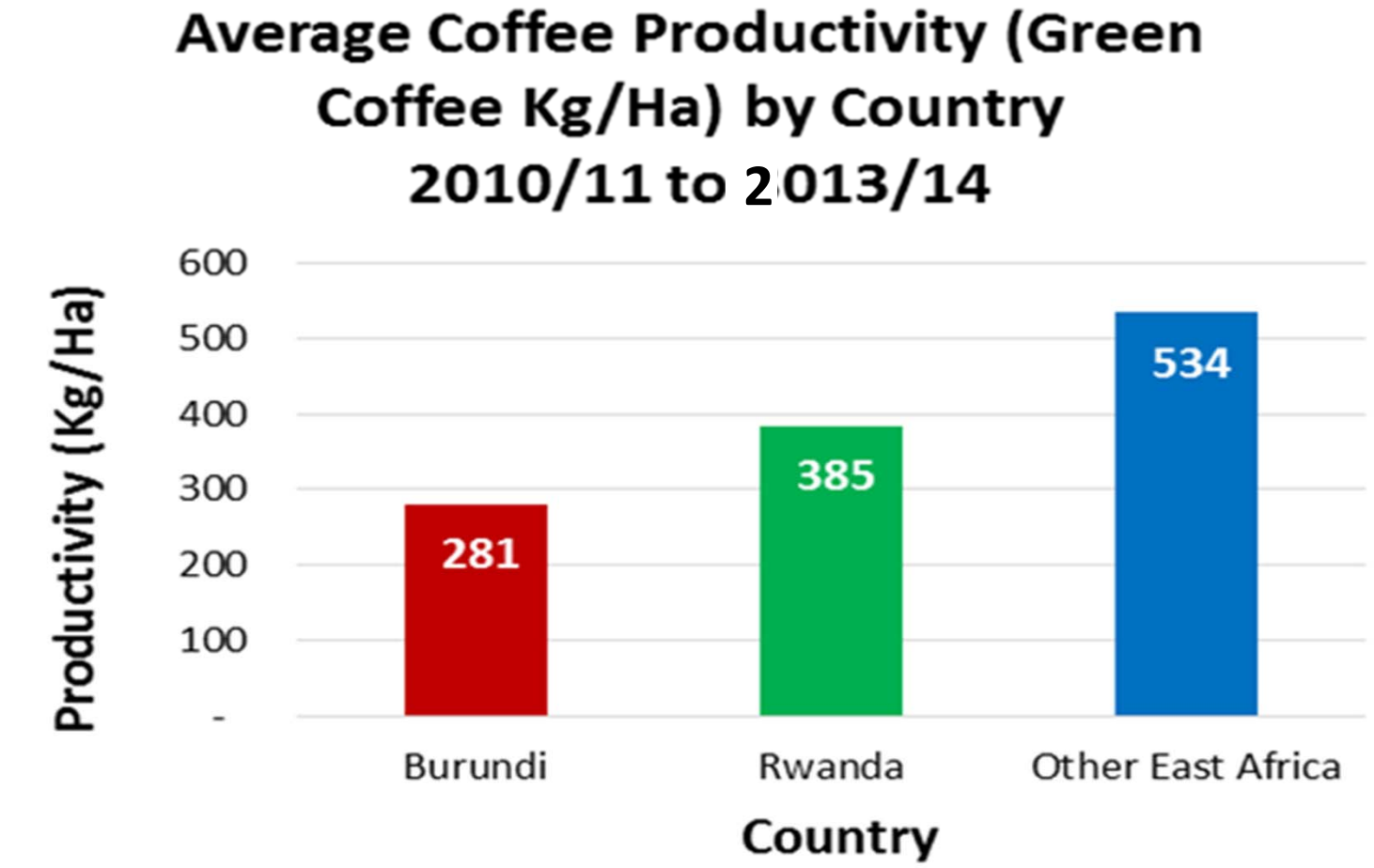
Trends in coffee production



Source: International Coffee Organisation (ICO)

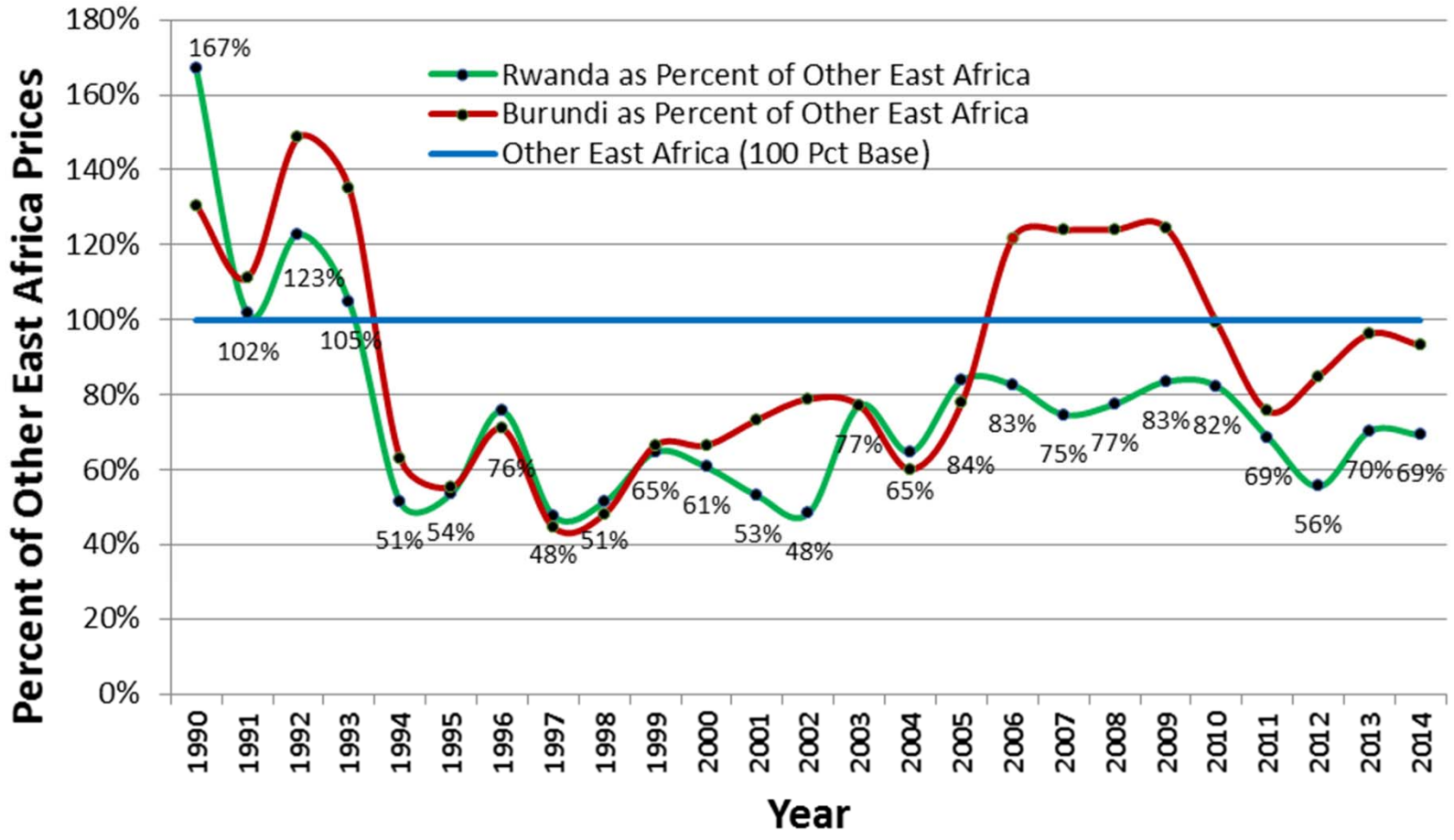


Source: International Coffee Organisation (ICO)



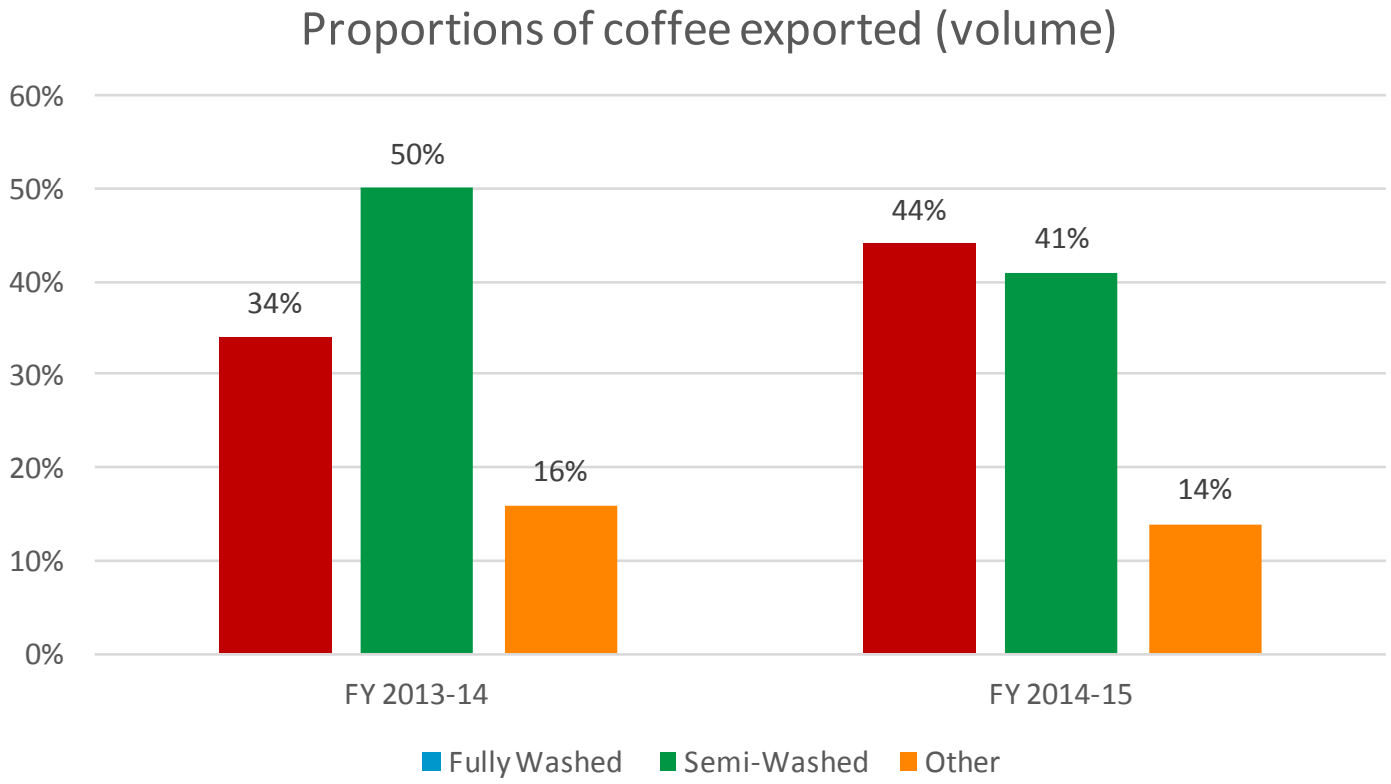
Source: International Coffee Organization (ICO)

Rwanda, Burundi Average Arabica Coffee Grower Prices as a Percentage of Other East Africa Prices[1] by Year

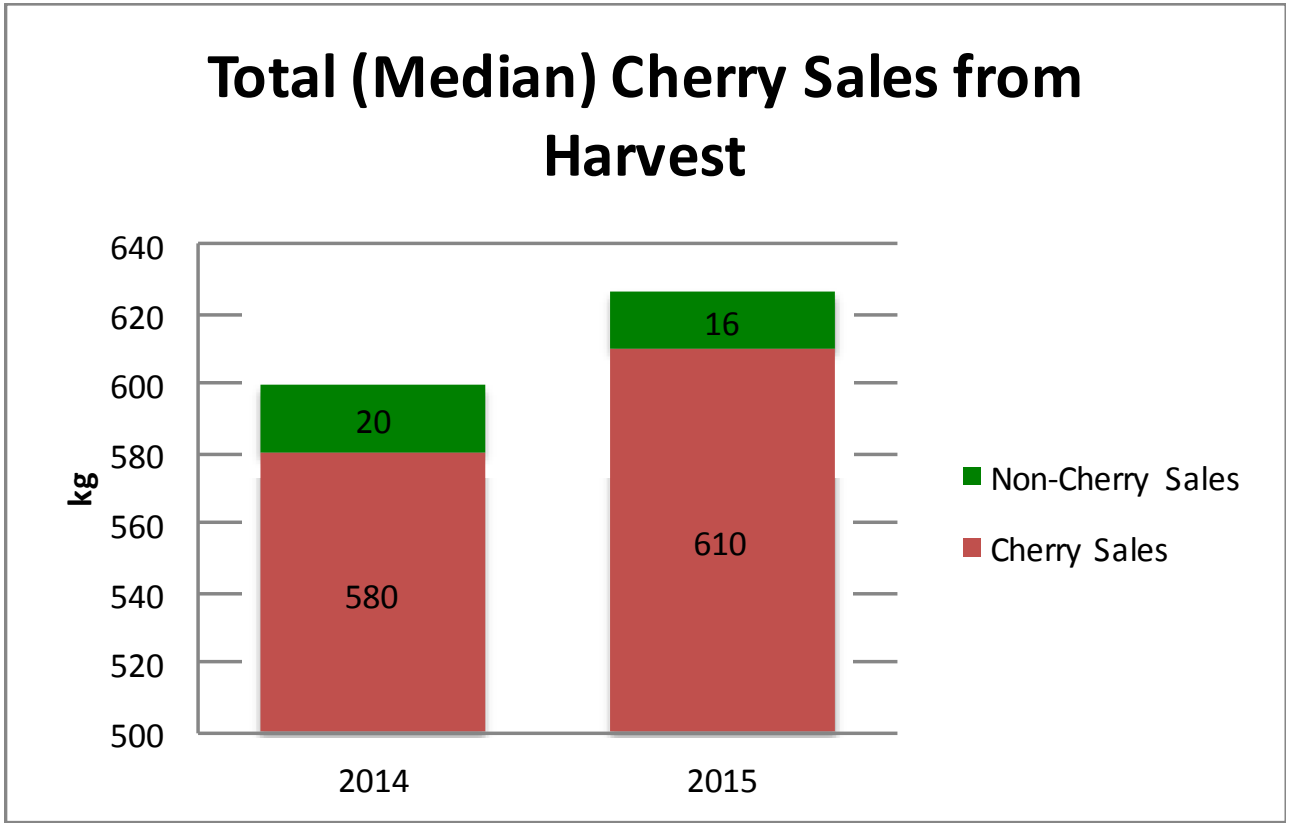


[1] East Africa includes: Kenya, Tanzania, Ethiopia, and Uganda

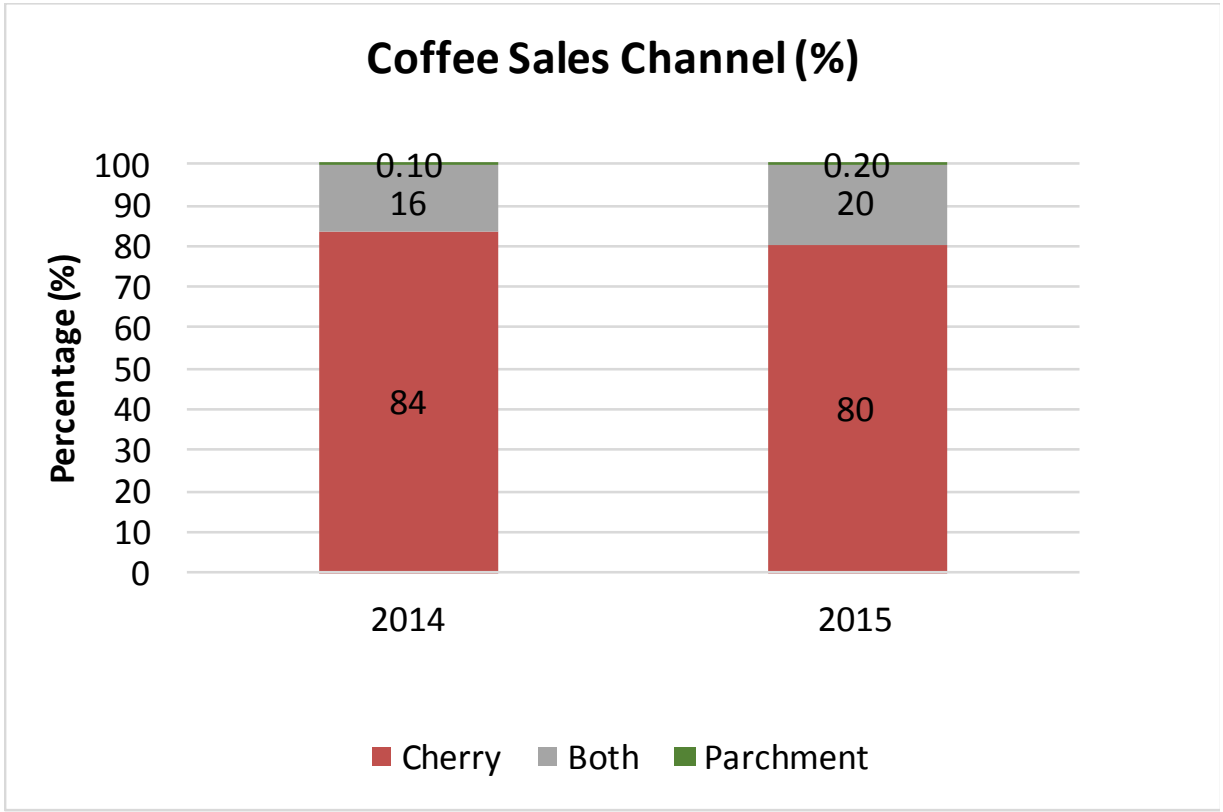
Source: International Coffee Organisation (ICO) and other official sources


Proportions of coffee exported (volume)
60%
50%
40%
30%
20%
10%
0%
34%
50%
16%
44%
41%
14%
FY 2013-14
FY 2014-15
Fully Washed
Semi-Washed
Other

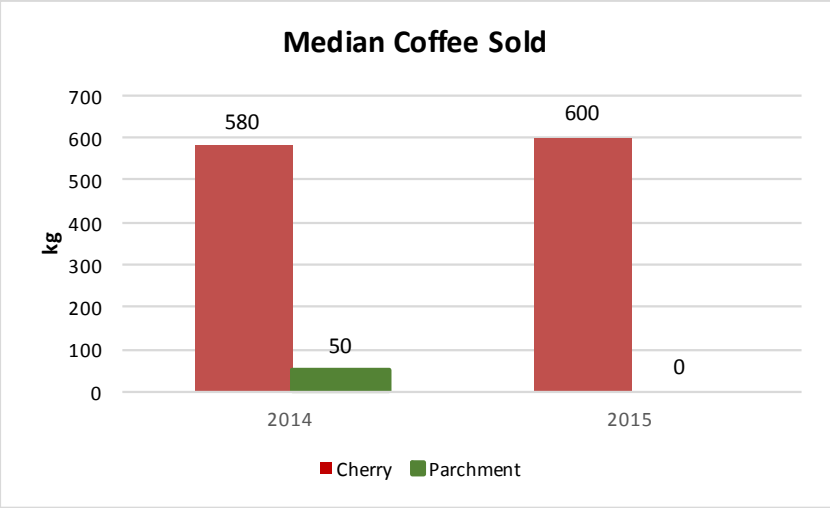
Cherry sales

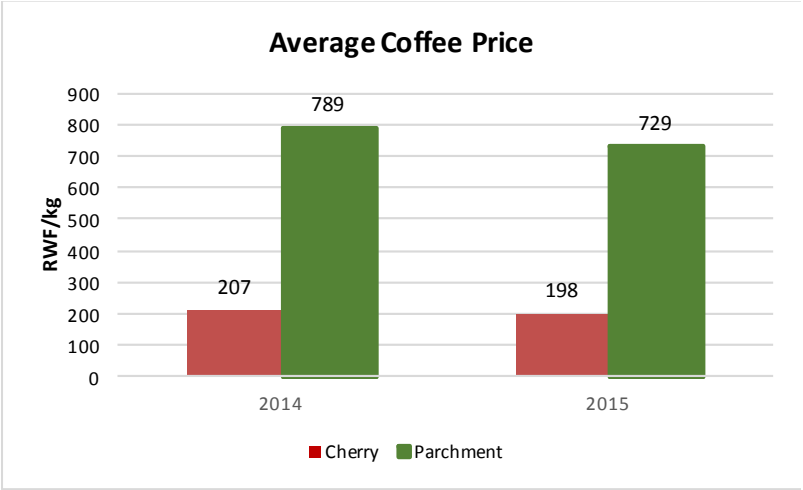


Sales Channel

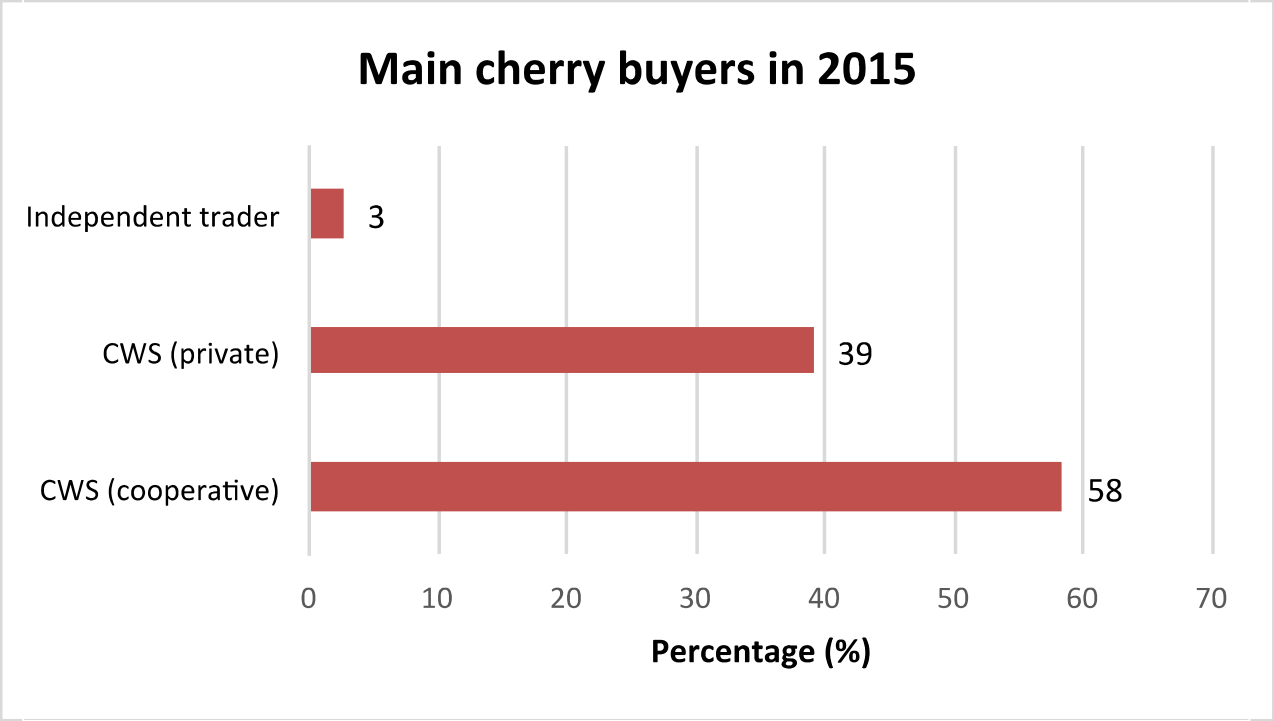


Price and Quantity

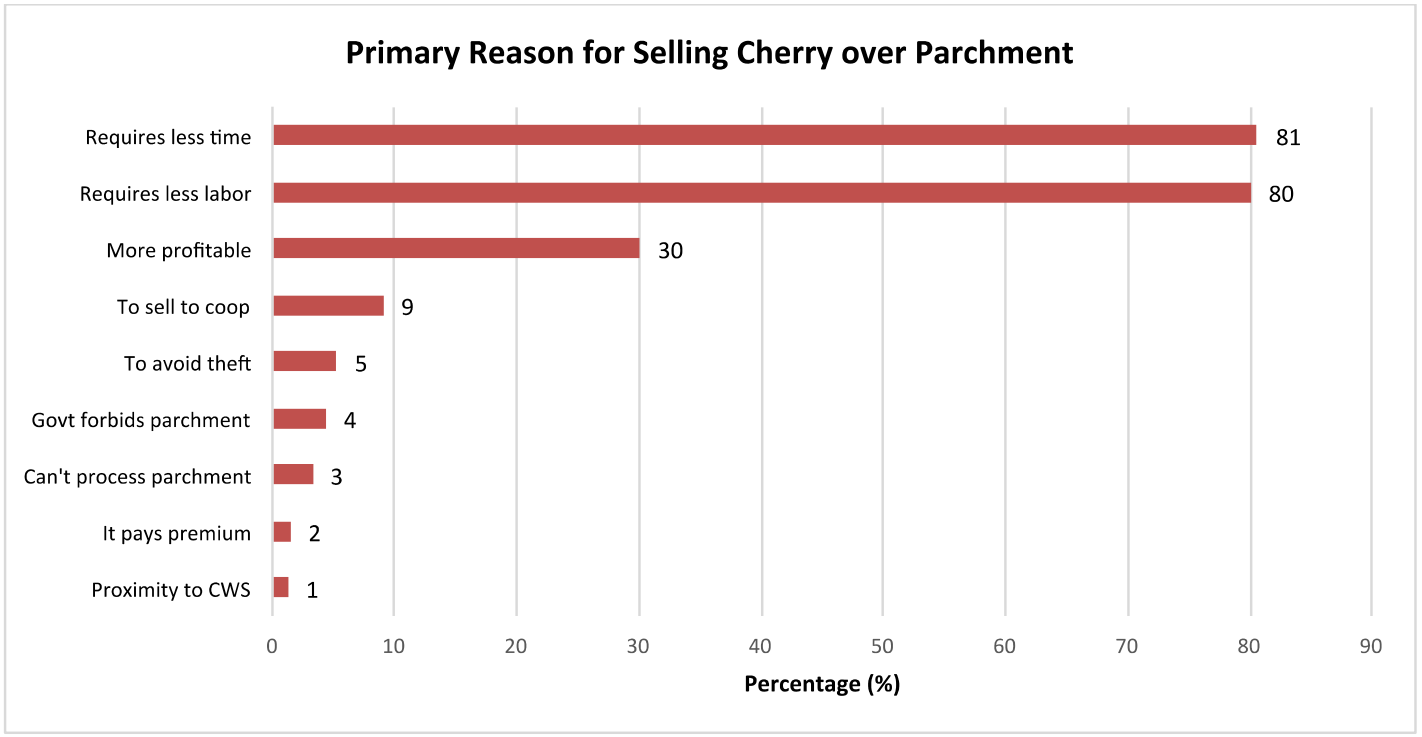




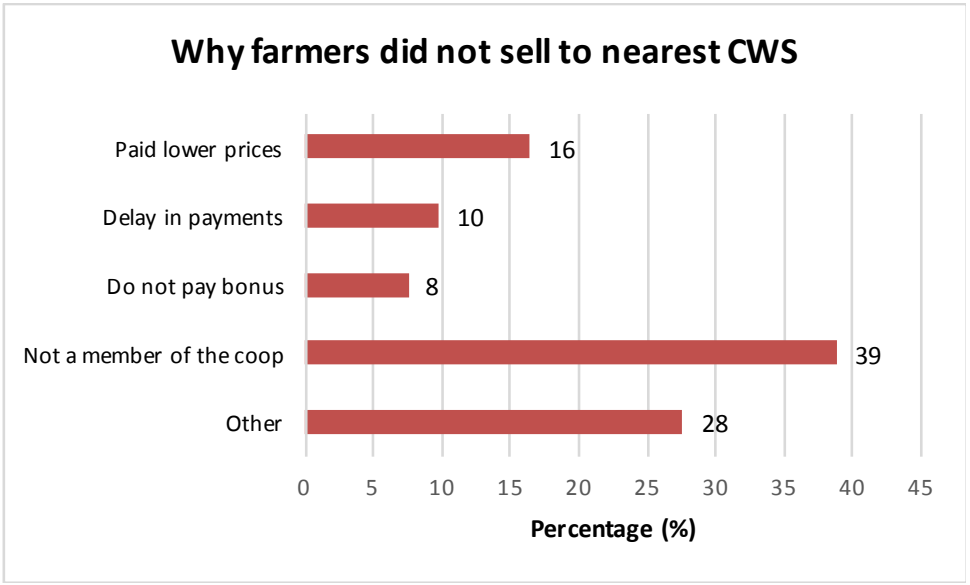
Coffee Buyers



Drivers of selling Cherry

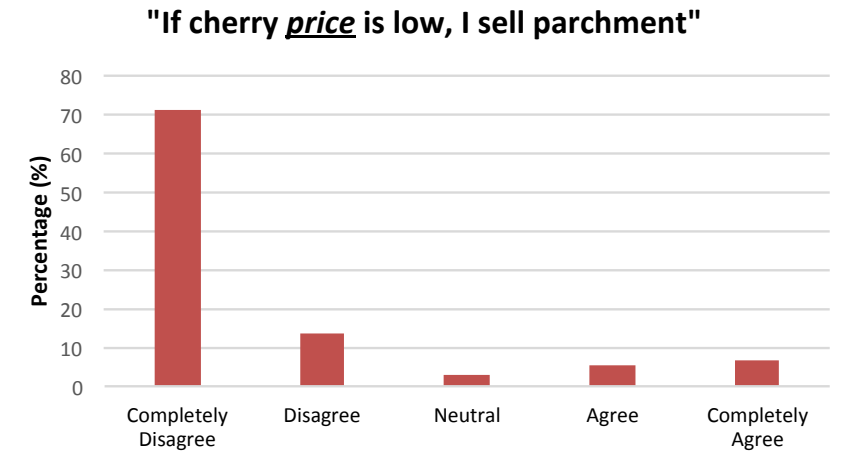


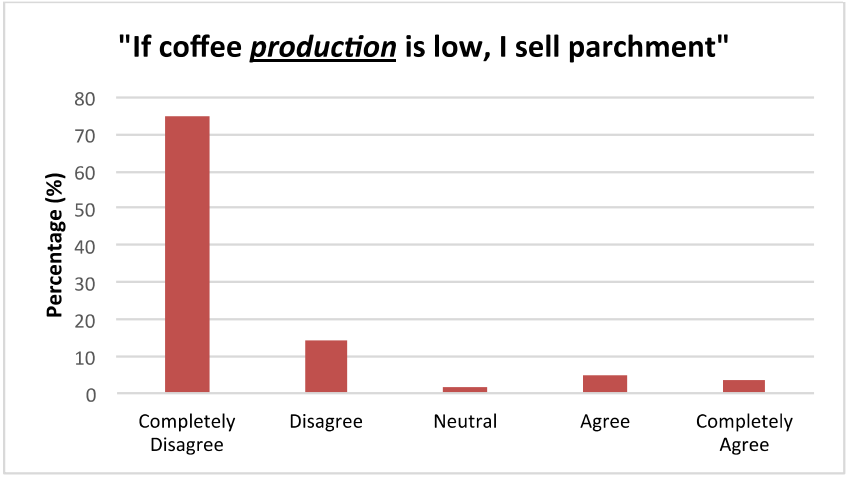
Barriers to selling to CWS



18% were turned away because of oversupply
12% were turned away because CWS was closed

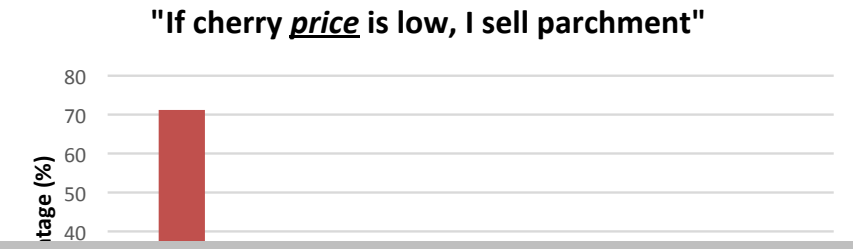
When do farmers opt for parchment?



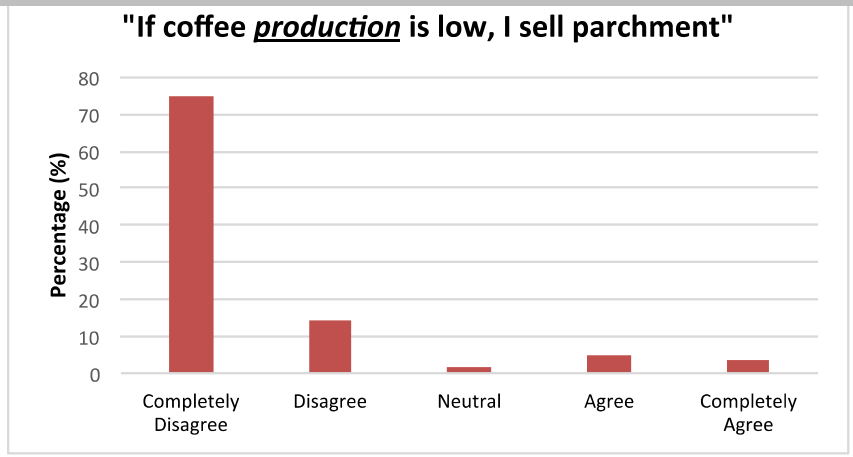


DO1

When do farmers opt for parchment?



How would this look like for farmers outside of our sample/CWS?



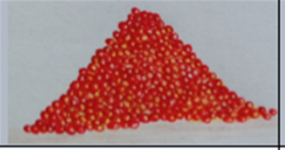
Slide 27

DO1 David L. Ortega, 5/12/2016

Percent of Households Selling Cherry and Parchment by Main Buyer

HHs selling and main buyer	Cherry Sales	Parchment Sales
Percent of HHs selling		
Sales	96.9%	18.9%
No Sales	3.1%	81.1%
Total	100.0%	100.0%
N	1,024	1,024
Main buyer (for those with sales)		
CWS (cooperative)	58.3%	1.0%
CWS (private)	39.0%	0.5%
Independent trader	2.6%	98.5%
Total	100.0%	100.0%
N	1,009	202

Farmer Choice Behavior

40 Kg basket of cherry			
			SAME AS LAST SEASON
Price (RWF/KG)	**150** RWF	**750** RWF	
Distance (Km)	**7** Km	**1** Km	
Your choice:	OPTION A:	OPTION B:	OPTION C:

Cherry prices: 150, 200, 250, 300

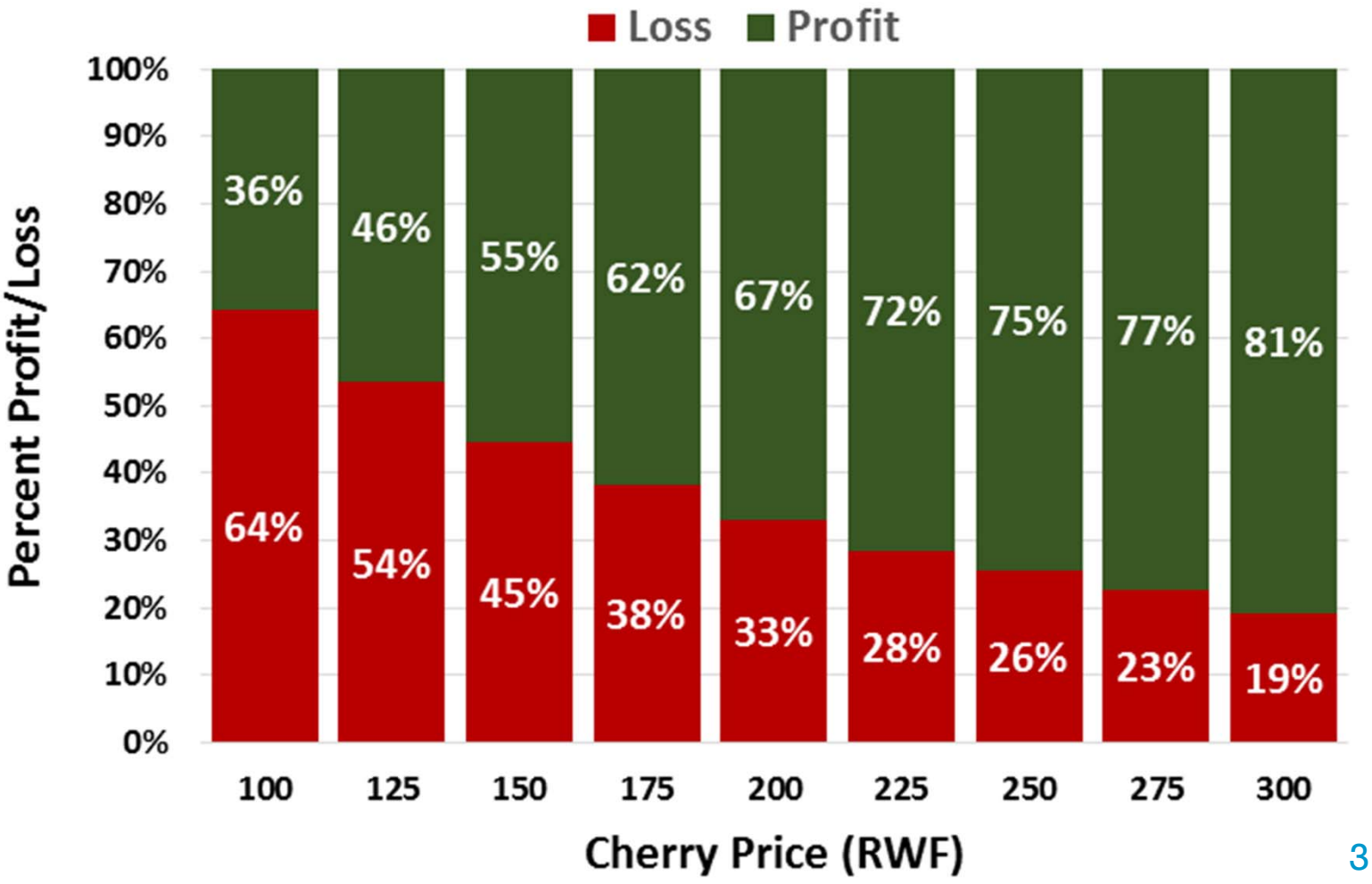
Parchment prices: 750, 1000, 1250, 1500

Distance: 0, 1, 3, 7 kilometers

Farmer Choice Behavior

- Choices:
  - 53% Cherry
  - 10% Parchment
  - 37% Same as last year (mostly Cherry)
- Coffee Valuation (relative to last year):
  - Cherry: 0.22 utils ~ 216 RWF/kg (+)
  - Parchment: -8.09 utils ~1568 RWF/kg (-)
- Distance Costs
  - 62 RWF per kilometer for 40 Kg bag (1.55/kg)

Percent of Coffee Farmers Making Profit/Loss (Pos/Neg Gross Margins) Under Selected Hypothetical Cherry Prices



Evidence from Key Informant Interviews

1. Many farmers choose to process parchment coffee due to the ability to get up-front payment
2. Another factor may be a recognition that their coffee is not high enough quality for specialty
3. Farmers may also not accurately value their time, and so do not take into account how long processing takes
4. Zoning policy, which is designed (among other things) to increase the proportion of fully washed coffee, is popular with most respondents
5. They believe it will increase coffee quality, and incentivize CWS to better support farmers
6. The major concern about zoning is that it may harm cooperatives that own CWS that fall across various zones.

Evidence from Key Informant Interviews

Parchment vs. fully washed:

"…there are those who sell specialty coffee and those who sell ordinary coffee. So when this specialty is sold there is some margin that is added from 5 cents to a dollar…. when prices are good people prefer to sell the parchment but for us we know well that even the specialty coffee gets more money, the only problem is that farmers want money immediately. For people with specialty coffee …a dividend is given to farmers at the end of the season depending on the profit they got."

– Key Informant

Evidence from Key Informant Interviews

Parchment vs. fully washed:

"…when they sell their coffee to the middlemen, they mostly sell it as parchment, meaning they do pulping and drying their coffee so to sell them to the middlemen where they are sold as ordinary coffee. All those days of making parchment are not counted by farmers…that they are making loss. But today to have quality coffee in our country, it needs us to first eliminate those middlemen. It can't be immediately, but slowly we can uproot it."

– Key Informant

Evidence from Key Informant Interviews

Need for zoning

"…in places we have like 5 CWS in a short radiance, so if someone owns a CWS and may help farmers in giving them inputs, when it comes time to buy the cherries they find farmers are selling them to someone else, and those are issues that are stopping the actual production from improving. They are now talking of zoning which would solve those issues if it's implemented well. We used to go to the CWS and say "you understand that the more and better inputs you put the better results you get," and they could say "that's true but we can't force the farmers at the end to sell us the cherries and for that reason I will never make that money back."

Key Informant

Evidence from Key Informant Interviews

Potential challenge with zoning

"…The first people who see zoning as a problem to them are cooperatives that work in different districts and sectors, because in zoning a CWS shouldn't cover an area bigger or more than a sector itself. But there are cooperative that have farmers as their members in 5 to 6 sectors and that's the major issue - because they won't be given all those sectors and so the cooperatives pose a question of what will happen to our members."

Key Informant

Literature: Challenges with competition in weak contractual areas

- In areas where contracts are weak, relational contracts (e.g. long term, social arrangements) can fill the gap
- However, in such scenarios, competition can theoretically reduce trust. In other words, if a CWS has a relationship with a group of farmers that is not contractual, competition could make it less likely to trust farmers, and farmers less likely to trust CWS (Macchiavello and Morjaria 2015)
- This has anecdotally been seen in key informant interviews and policy roundtables

Literature: Challenges with competition in weak contractual areas

"A direct policy measure from our results, could be to improve contract enforcement. …While it might be too much of a task to improve the country's formal court system, technology could provide a short-cut to potentially reap the benefits. We are aware of a setting where this has occurred, Costa …In general other countries have introduced policies aimed at influencing spatial distribution of entrants (such as, zoning regulations, monopsony licenses, minimum distance rules). These are much easier to enforce but prone to abuse (for instance Kenya's collapse of the coffee sector when it introduced zoning)." (Macchiavello and Morjaria 2015)

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Literature: Challenges with competition in weak contractual areas

"From a public policy perspective, the evidence rationalizes policies, such as zoning regulations, monopsony licensing and other entry restrictions, commonly observed in the developing world and emphasizes the importance of promoting contractual enforcement in agricultural value chains." (Macchiavello and Morjaria 2015)

Summary and discussion points

Recap of challenge and findings

1. Relationship between price farmers receive and their productivity/output
2. Farmer investment in productivity is the critical factor
3. Proportion of fully washed coffee decreasing 14-15'
4. Farmers seek fully washed channel to save labor and time
5. Low prices and oversupply are the main barrier for farmers selling in the fully washed channel
6. Farmers elsewhere in East Africa receive higher cherry prices and most have growing production.

What did we learn from the choice experiment?

- Most farmers are already selling cherry
  - Member of CWS
  - Dislike for Parchment
- Distance is the most significant factor determining choice of whether to sell cherry or parchment
- Price is a major factor conditioning choice
- Results are lower bound given that our sample sells mostly to CWS.

Discussion questions

- What do we conclude from the data?
  - For farmers outside of the sample/CWS?
- How can we articulate the challenge and what else do we need to know?
- What are the major policy levers that can help move more coffee through the fully washed channel?
- How might we encourage stakeholders to work together to provide incentives for all farmers to sell more cherry?
- How would the zoning policy affect the amount of coffee moving through the fully washed channel?

Thank You!

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