



# ETHIOPIA

A Quick Scan on Improving the Economic Viability of Coffee Farming



# OBJECTIVES OF STUDY

## Overall objective

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- Identify opportunities for potential benefits to coffee farmers from improved farm profitability and increased efficiency along the supply chain

## Detailed objectives

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- 1 Understand overall farm-level financial benefits for the dominant farmer type in each country and how they compare to other countries
- 2 Describe the main green coffee supply chain in each country at a high level to understand supply chain efficiency
- 3 Highlight key opportunities to increase farmer profitability in each country and explore next steps to increase value add for farmers and the industry

# ANALYTICAL PROCESS TO DEVELOP A BUSINESS CASE FOR COFFEE FARMING



| Approach  | Model Inputs   | Model Outputs   |
|---|--|---|
| <b>1</b><br>Define producer types               | <ul style="list-style-type: none"> <li>• Farm size</li> <li>• Coffee yields</li> <li>• Coffee quality metrics</li> <li>• Production volume</li> <li>• Number of growers</li> </ul> | <ul style="list-style-type: none"> <li>• Farmer types</li> </ul>  |
| <b>2</b><br>Establish farmer financial benefits | <ul style="list-style-type: none"> <li>• Coffee price premiums</li> <li>• Potential increase in yield</li> <li>• Incremental changes to costs</li> </ul>                           | <ul style="list-style-type: none"> <li>• Potential increase in net income for farmer</li> </ul>   |
| <b>3</b><br>Describe value chain structure      | <ul style="list-style-type: none"> <li>• Key actors in value chain</li> <li>• Costs and margins</li> <li>• Share of value captured</li> </ul>                                      | <ul style="list-style-type: none"> <li>• Map of supply chain</li> <li>• Supply chain overview</li> </ul>  |
| <b>4</b><br>Present recommendations             | <ul style="list-style-type: none"> <li>• Selected opportunities to optimize business case</li> </ul>   | <ul style="list-style-type: none"> <li>• High-level recommendations for priority opportunities</li> <li>• Potential partners to address gaps</li> </ul> |

Note: Assumes that demand for coffee will increase as coffee supply increases, thus maintaining static coffee prices

# POTENTIAL ANNUAL VALUE CREATION OF \$573M ACROSS 2M FARMERS



## Potential for yield improvements

- There is high potential for value add through yield improvements. Yields are low at 378 kg green / ha and there is potential to double yields
- Key levers include farm rejuvenation and adoption of best practices, suggesting need for training for smallholder farmers

## Demand for washed coffee

- There is modest potential for value add through processing improvements, primarily through conversion to washed coffee
- Conversion to washed coffee presents a critical lever to create value for both farmers and the industry, but requires investments at scale for central wet mills

## Certification premiums

- There is limited potential for value add through certification premiums
- Though demand for sustainable coffee globally was 40% in 2012 and 95% of Ethiopian production is organic, only 10% of the Ethiopian coffee supply is traceable and thus eligible for certification\*

## Supply chain efficiencies

- Farm-gate price is 60% of the FOB price, suggesting that there is potential for improving efficiencies in the supply chain
- Recently announced potential reforms of the Ethiopian Coffee Exchange will impact coffee farmers.

\* Source: ICO (2014)

# POTENTIAL REVENUE INCREASE FROM HIGHER YIELD AND PRICE PREMIUMS



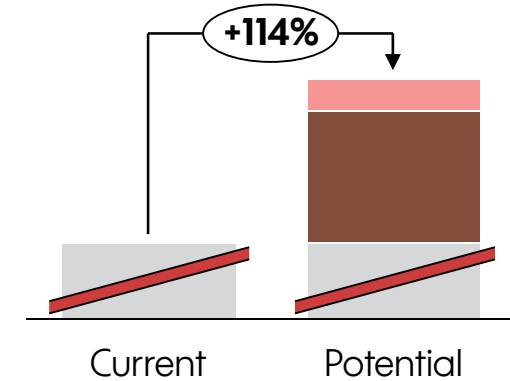
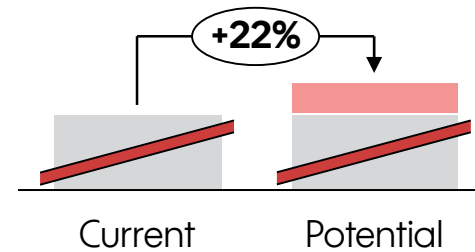
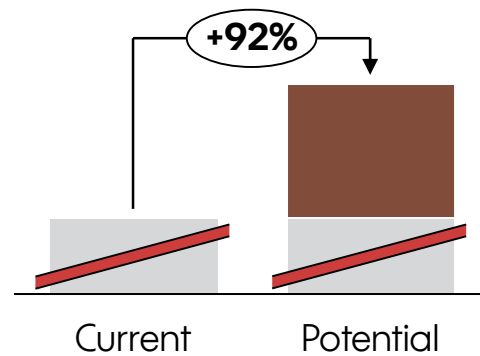
Net income from yield improvements (\$ / ha)



Net income from price premiums (\$ / ha)



Total net income increase (\$ / ha)



Yield improvements
  Processing improvements
  Certification premiums

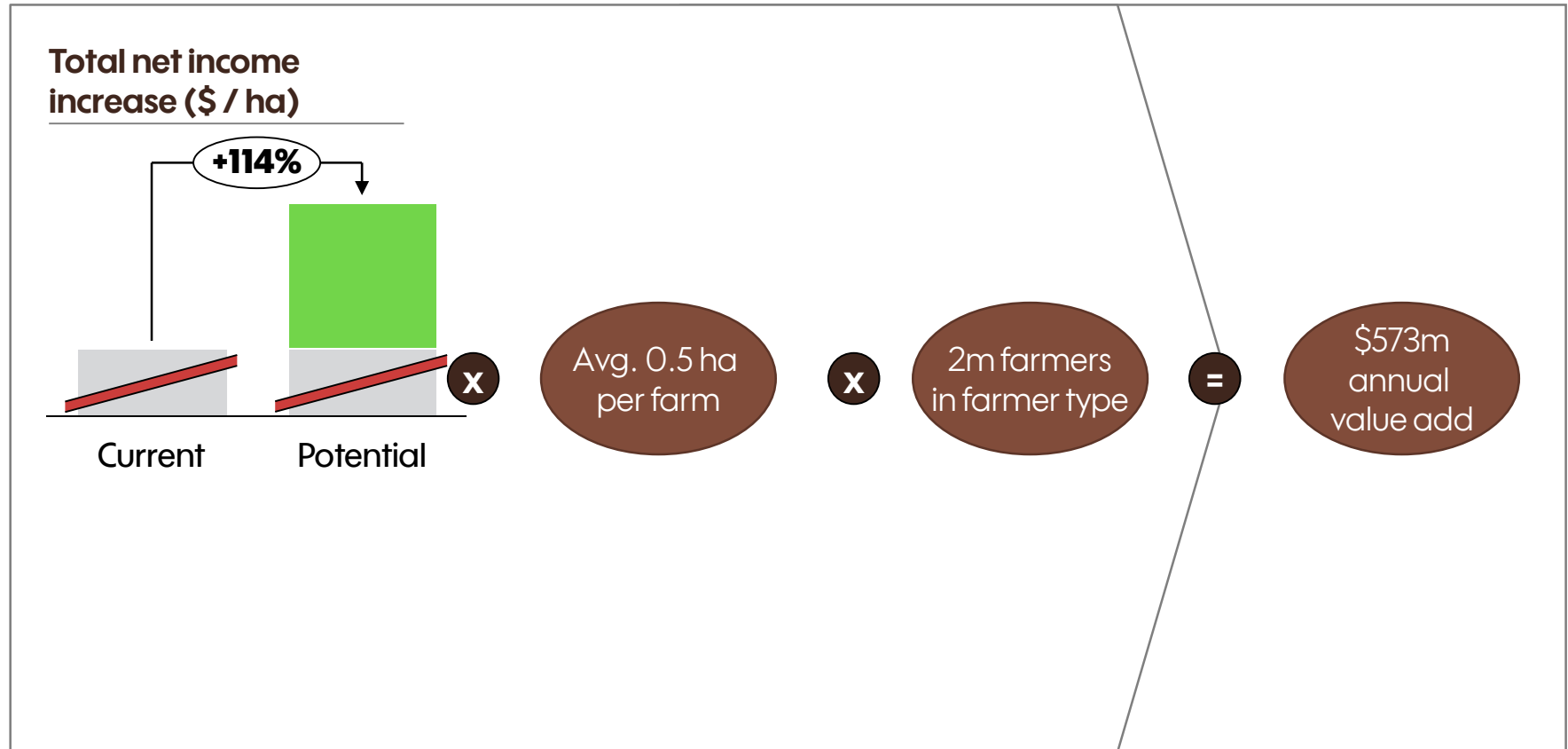
- Production is below potential with yields averaging 378kg green / ha
- Key levers for yield improvement include:
  - Rejuvenation by stumping
  - Adoption of best practices such as weeding, composting, and shade management

- Sales prices will increase by switching from unwashed to fully washed coffee through wet milling
- Quality improvements at hulling stations for unwashed coffee can also lead to higher prices
- While 95% of production is organic, regulations limit volume that is certified as such

- While there is significant opportunity to increase incomes through yield, price premiums are also an important component
- Costs and yields are among the lowest in the countries of this study, suggesting that increased investment can significantly boost yields and incomes

Note: Assumes that three interventions are separate and independent.  
Source: See appendix.

# \$573 MILLION OF POTENTIAL INCREMENTAL VALUE ANNUALLY

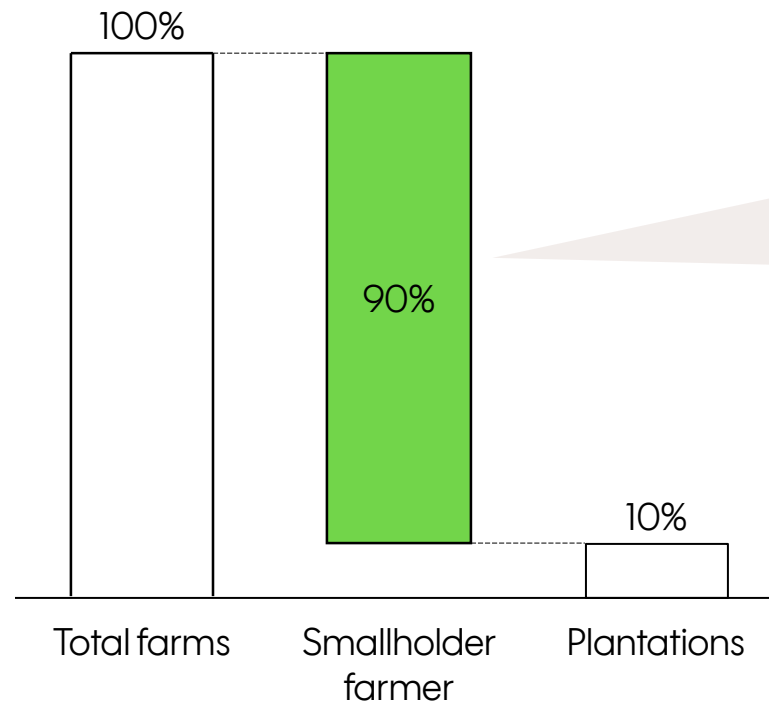


- There is an opportunity for a 114% increase in profitability for farmers, which translates into estimate \$573m annual potential value across the 2m farmers in this farmer type (smallholders)

Note: Extrapolated estimate annual value; improvements in profit for individual farmers may vary.  
Source: See appendix.

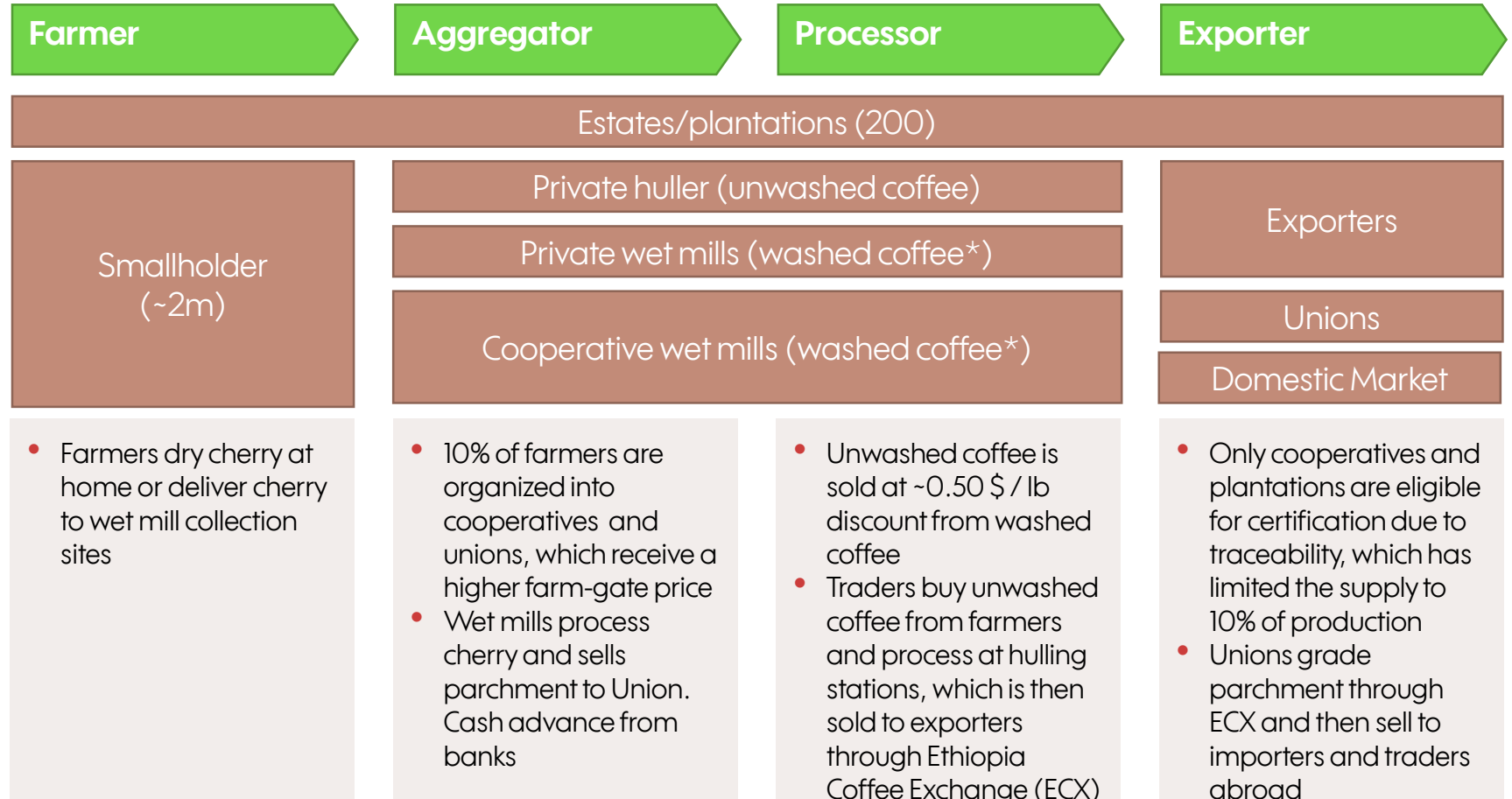
# IDENTIFYING FARMER TYPE WITH HIGHEST POTENTIAL IMPACT

## Farmer types by share of volume



- There are an estimated 2 million smallholders in Ethiopia, of which 10% are in cooperatives
- There are 200 plantations producing ~10% of the total production volume

# SUPPLY CHAIN OVERVIEW

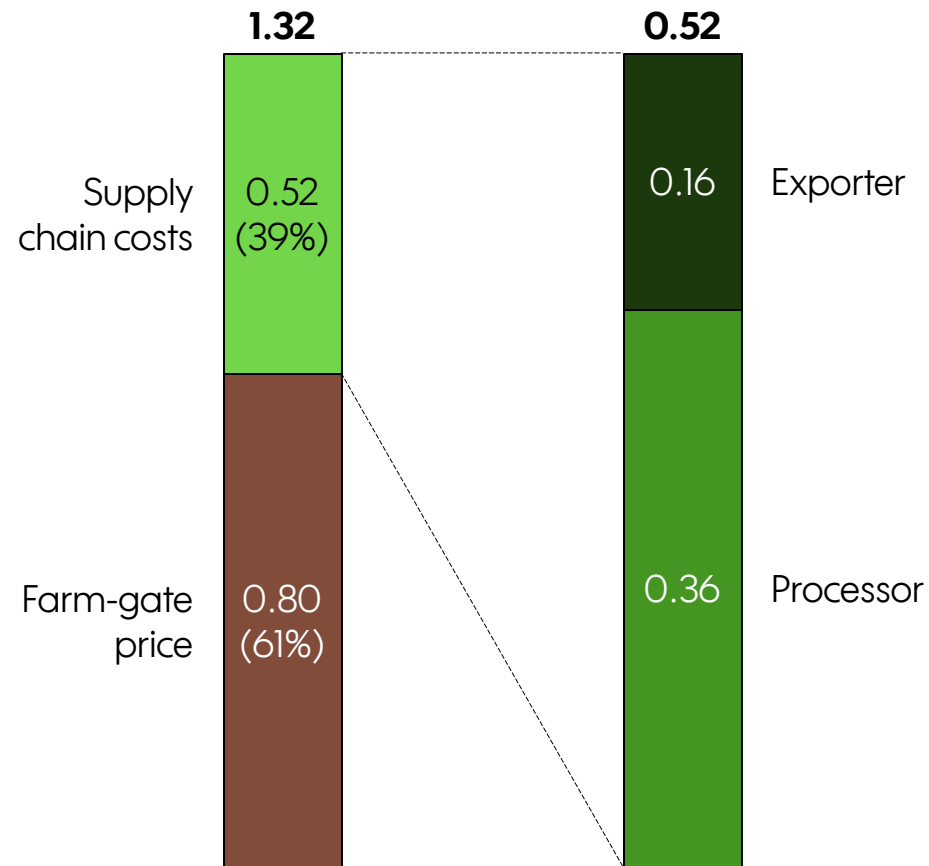


\* Also process sun dried coffee at a lower volume  
Source: Agri-Logic (2016), TNS (2014)



# SUPPLY CHAIN COST BREAKDOWN FROM FARM TO EXPORT

Supply chain cost breakdown (US \$ per lb green)



- Farmers' share of export price is relatively low (60% of the FOB price); as farmers selling to cooperatives or associations receive a slightly higher price, there is potential for a more efficient supply chain
- Taxes on coffee were eliminated in Ethiopia in 2002



# APPENDIX

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## DETAIL ON FARMER TYPES

| Type                  | Region | Farm size (ha) | Variety | Number of farms |
|-----------------------|--------|----------------|---------|-----------------|
| Plantations / estates | N/A    | Large          | Arabica | 200             |
| Smallholders          | N/A    | Small          | Arabica | 2,000,000       |



# DETAILED DATA APPLICABLE TO SELECTED FARMER TYPE



| Data point                                   | Unit       | Data      |
|--|------------|-----------|
| <b>Farmer data</b>                           |            |           |
| Average coffee farm size                     | ha         | 0.5       |
| Number of farmers in type                    | #          | 2 million |
| <b>Assumptions</b>                           |            |           |
| Exchange rate                                | USD to LCU | 22        |
| <b>Market Data</b>                           |            |           |
| Farm-gate price                              | cts/lb     | 80        |
| Average FOB export price                     | cts/lb     | 132       |
| <b>Yield</b>                                 |            |           |
| Average coffee yield                         | lb/ha      | 860       |
| Potential yield increase                     | %          | 100%      |
| <b>Price</b>                                 |            |           |
| Potential quality premium                    | cts/lb     | 43        |
| % of production eligible for quality premium | %          | 30%       |
| Potential certification premium              | cts/lb     | 1         |
| % of production eligible for certification   | %          | 3%        |

Note: Costs of production updated to 2016 exchange rates. All volume units are for green coffee equivalent.

| Data point                                | Unit  | Data |
|---|-------|------|
| <b>Production costs</b>                   |       |      |
| Operations                                | \$/ha | 13   |
| Inputs                                    | \$/ha | 20   |
| Labor                                     | \$/ha | 154  |
| Incremental costs of increasing yield     | \$/ha | 229  |
| <b>Processing costs</b>                   |       |      |
| Paid processing labor                     | \$/ha | 0    |
| Drying service                            | \$/ha | 0    |
| Other                                     | \$/ha | 0    |
| Incremental costs of improving processing | \$/ha | 0    |
| <b>Third-party costs</b>                  |       |      |
| Other                                     | \$/ha | 0    |
| Incremental costs of certification        | \$/ha | 0    |
| <b>Outputs</b>                            |       |      |
| Current revenue                           | \$/ha | 692  |
| Potential increase in net income from:    |       |      |
| Yield improvements                        | \$/ha | 463  |
| Processing improvements                   | \$/ha | 110  |
| Certification premiums                    | \$/ha | 0    |

# SOURCES



| Organization | Data inputs  | Detailed references  |
|--------------|--|--|
| TechnoServe  | Farmer data, market data, yield, price, costs, supply chain  | IDH and TechnoServe, Ethiopia: A business case for sustainable coffee production (2014); Stakeholder interview (2017); TechnoServe implementation project data |
| Agri-Logic   | Farmer data, market data, yield, price, costs, certification | Agri-Logic and GCP, African Coffee Sector: addressing national investment agendas on a continental scale (2016)  |
| Enveritas    | Farmer data  | Stakeholder interview (2017)   |
| Other        | Farmer data, market data, yield                              | USDA, GAIN Report: Coffee, Ethiopia (2016)   |
|              | Certification  | ICO, The State of Sustainability Initiatives Review 2014 – Standards and the Green Economy (2014)  |



## LIMITATIONS OF METHODOLOGY

This scan is intended to initiate conversations between coffee origins, rather than to be an exhaustive study of farmer economics. It seeks to provide a synthesis of existing databases, studies, and reports as well as a comparative analysis across origins. However, given wide variation in methodologies, regions, and characteristics of available information, there may be credible and important data sources not incorporated into this study.

Since national averages of production indicators do not represent real farmers, our scan focuses on one farmer type within each origin. These farmer types are not representative of the national averages and opportunities may not be uniform within each farmer type.

This scan is not meant to evaluate certification schemes, but rather assesses incremental contribution of certification premiums to farmers' incomes. Impacts of certification achieved through the promotion of best practices and improved access to markets are outside the scope of the scan. Prices are assumed to be static and therefore the scan does not account for volatility of coffee prices and exchange rates, both of which have a significant impact on farmer incomes. Climate change, droughts, and diseases such as coffee leaf rust also pose risks for farmers, but are outside the scope of this scan. Intercropping and other household incomes are also outside the scope of this scan.



### **Acknowledgments**

Enveritas, Ethiopia Commodity Exchange, Nespresso, JDE Coffee

### **About the Global Coffee Platform**

The GCP is the leading facilitator of the coffee sector's journey towards sustainability. The GCP improves the livelihoods, ecosystems and resilience of coffee farming communities and the sector as a whole by enabling producers, international roasters, governments, traders, and NGOs to align and multiply their efforts and investments, collectively act on local priorities and critical issues, and grow and scale successful sustainability initiatives across the coffee world.

### **About TechnoServe**

TechnoServe works with enterprising men and women in the developing world to build competitive farms, businesses and industries. A nonprofit organization operating in 29 countries, TechnoServe is a leader in harnessing the power of the private sector to help people lift themselves out of poverty. By linking people to information, capital and markets, we have helped millions to create lasting prosperity for their families and communities.