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In cooperation with



Farmers entering data.  
© Muraho Trading Company



## COFFEE INNOVATION

Digitized Coffee Supply Chain for Improved Quality,  
Management, Sourcing, and Sustainability

Processing-focused digital tool to optimize  
post-harvest operations at the mill level

## CHALLENGE

Coffee processors need to be competitive to secure international buyers, which means streamlining operations and being able to replicate efficient service and produce consistent quality. Digital solutions add to a company's fixed costs and demand intensive onboarding and expertise. Increasingly, traders need traceability data to comply with EU anti-deforestation and other laws, but this is difficult to achieve with smallholder farmers. In Rwanda, this is a big challenge as coffee is produced by smallholder farmers, owning on average 0.3 ha per household, hence one lot of coffee can be produced from 100+ different farms.

## COMPANY DESCRIPTION

A coffee processing and export company producing high quality small lot coffee in Rwanda.

## INNOVATION

### DIGITALLY RECORD OPERATIONS AND PROCESSING FROM CHERRY RECEPTION TO GREEN BEAN EXPORT

This technology tool is focused on supporting processors, mill operators, and cooperatives with tracking operations and managing data throughout processing: From delivery of cherry from farmers to fully dried and ready for selling. With small lots, processors can record complex processing steps easily and enhance traceability and consistency.

## KEY COMPANY STATS

### NUMBER OF PRODUCER PARTNERS

5000+

### NUMBER OF STAFF

33 permanent staff, 27 seasonal staff and over 1,000 casual labour

## COST

### COSTS

Purchase of subscription (pricing calculated either on the basis of volume or number of farmers)

### EFFECTS ON REVENUE

Eventually expected to help reduce costs and preserve quality, resulting in higher revenue

## PREPARATION

### TIMELINE

Minimal onboarding

### MATERIALS AND EQUIPMENT

- Smartphone with camera
- Whatsapp
- Farmer network

### STAFFING REQUIREMENTS

Existing mill and processing staff should be able to operate

## LESSONS LEARNED

### CHALLENGES

- Adaption of staff demands intensive training and follow-up.
- Network issues persist in rural areas resulting in data upload being delayed in some cases.
- The system can provide a digital receipt for cherry purchase, but digital receipts are not yet widely accepted so paper receipts are also required.

### TAKEAWAYS

- Specialty coffee is more complex, so it required adding features so the app can now track drying time, fermentation and resting.
- Testing samples and tracking impact of processing on quality was not able to be part of the pilot, but is planned to identify processing quality issues in the future.
- Onboarding via tech can take time. Muraho discovered that their system, which required separate entries for different qualities of product, was creating an additional administrative burden and complexity, so they chaged this in the latest version (February 2024).

As a result of Muraho Trading's coffee processing digitization project:



System demonstration during GIZ staff visit. © Muraho Trading Company



### 3,500+ FARMER

households are registered and traceable



### FIVE COFFEE WASHING STATIONS

as well as one dry mill capture and upload data and workflows



### 500+ FARMS GLOBAL POSITIONING DATA (GPS)

registered, and collection is on-going

“

The coffee farmers are happy with the new system, each farmer is registered and brings their own 'ID' when delivering cherries which makes the cherry reception chain much more transparent. The industry, Muraho's buyers especially, are also welcoming the project.

”

## IMPLEMENTATION: MURAHO TRADING COMPANY (MURAHO) (RWANDA)

In order for a farmer cooperative, mill or group to join Muraho's network and use the processing tracking technology, the following steps need to be taken:

### STEP

1

Identify opportunities for quality interventions.

### STEP

2

Inform farmers about tech and create buy-in for a defined farmer network.

### STEP

3

Enter farmer details into the system.

### STEP

4

Record transactions, create lots and input processing steps for each lot in the system.

### STEP

5

Once feedback or cupping scores from a lot are received, review the processing data for that lot and record likely causes and learnings for the next harvest.



Training session for farmers. © Muraho Trading Company



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**MISSION:** The Fund's objective is to increase the profitability of smallholder coffee farmers, and foster greater, more equitable value distribution along the supply chain through promoting innovative farming systems, transparent and inclusive business models, and access to new markets.

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