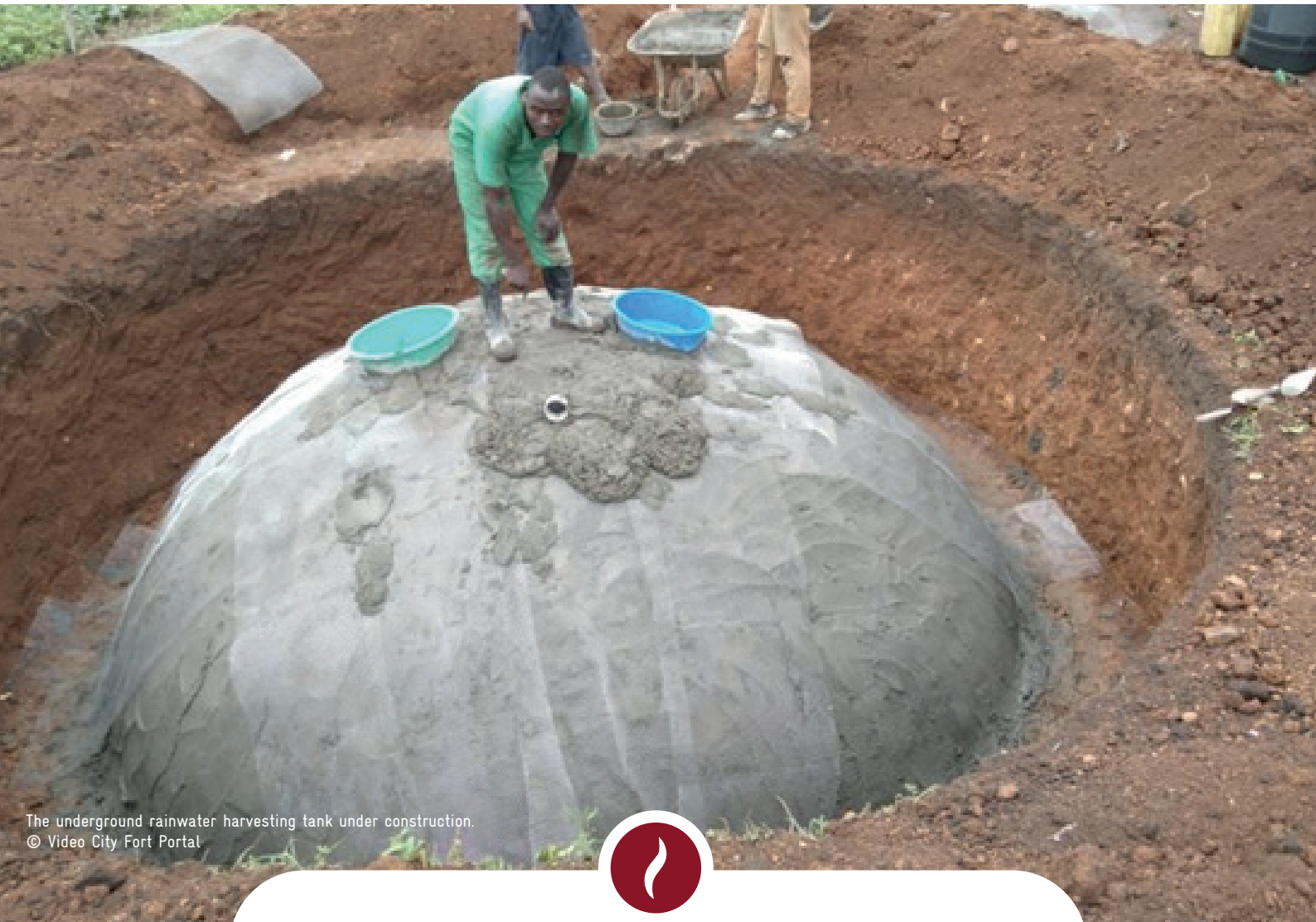


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The underground rainwater harvesting tank under construction.  
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# COFFEE INNOVATION

Rainwater Harvesting Technologies  
for Parchment Coffee Processing

## CHALLENGE

Traditional parchment processing of coffee can be a water-intensive and time-consuming process, which can slow down coffee production. However, it can also lead to better quality control and increased revenue. Coffee is traditionally sold in cherry and aggregated at a mill or by producer groups for processing, which limits farmers' ability to capture value-added processing steps. In areas where water sources are limited, this challenge is compounded, and women and girls may spend hours walking to water sources and performing household tasks such as food preparation.

## INNOVATION

### FARMER-PROCESSED HIGH QUALITY WASHED COFFEE USING RAINWATER HARVESTING AND SOLAR DRYERS

Building rainwater harvesting tanks, pulpers, fermentation tanks and solar dryers to use at the household level can provide farmers with a sustainable way to produce coffee and maximize the financial value of their work, including waste through making charcoal briquettes from coffee parchment. Collecting rainwater has additional benefits: saving time for fetching water, maintaining household hygiene, and providing access to water for coffee processing and other household activities during the dry season.

## COMPANY DESCRIPTION

Nyabuswa Coffee Farmers Association (NCOFA) is a coffee farmer and producer organization based in the Rwenzori region, Uganda.

## KEY COMPANY STATS

### NUMBER OF PRODUCER PARTNERS

40 groups

### NUMBER OF STAFF

Seven

## COST

### COSTS

Could not be determined

### EFFECTS ON REVENUE

Improvement of incomes and social welfare of target coffee farmers and their neighbouring communities

## PREPARATION

### TIMELINE

Could not be determined

### MATERIALS AND EQUIPMENT

- Concrete and tank materials
- Excavation equipment
- Solar dryers (plastic sheeting, bamboo or wood for frame, concrete skirt)
- Pulping machines

### STAFFING REQUIREMENTS

Could not be determined

## LESSONS LEARNED

### CHALLENGES

- COVID-19 restrictions made socialization and initial outreach to farmers challenging.
- Some project sites proposed were situated on hillsides, which may pose challenges in construction and increase risk of landslides.
- Remote sites increased transport costs and caused delays.
- Increased costs reduced the number of installations that were possible within the project timeframe.

### TAKEAWAYS

- Farmers have appreciated the rainwater harvesting technologies and are willing to replicate it using their own funds.
- Accessible water tanks also began enabling better hygienic practices in households.
- Providing assets at household level means that families continue to benefit as long as they can maintain them.

As a result of building rainwater collection infrastructure for better coffee processing undertaken by Nyabuswa Coffee Farmers Association (NCOFA):



The project beneficiary pumping water from the underground tank. © Video City Fort Portal

### 40 LOCAL ARTISANS

took a five-day training in the construction of underground rainwater harvesting tanks

### COFFEE GROWERS

can sell their coffee for an additional premium after pulping, washing and drying it

### 5,900 SQUARE METERS

of solar dryer sheet was procured to create household coffee parchment drying

### COFFEE FARMERS

can make and sell charcoal briquettes as supplementary incomes from the by-products of coffee hulling



The Project Coordinator demonstrating the use of a manual coffee pulper.  
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STEP

1

Site selection for underground water harvesting tanks

STEP

2

Measurements for different tank sizes and options

STEP

3

Gathering materials and equipment for construction

STEP

4

Dome construction, excavation, and plastering

STEP

5

Rain collection and pumping out water to use

STEP

6

Coffee harvesting and pulping

STEP

7

Parchment coffee processing

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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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