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Farmers work in constructed vermi-culture house.
© Tropic Coffee Company Ltd.



COFFEE INNOVATION

Strengthening the Smallholder-based
Coffee Supply Chain in Cyato through Improved
Parabolic Drying and Compost-based Farming

🔥 CHALLENGE

Inadequate drying of coffee beans can lead to defects, such as mold, uneven drying, or fermentation. Tropic noticed that the red coffee cherries supplied by farmers were difficult to dry due to heavy rain. This, coupled with the general decline in production and the unavailability of organic fertilizer, led to an increase in the cost of producing quality coffee and a decrease in output, which threatened the livelihoods of these farmers.

🔥 COMPANY DESCRIPTION

Tropic Coffee Company Ltd. is a coffee processor and exporter in Rwanda with three washing stations.

INNOVATION

VERMI-COMPOST AND RAISED BED GREENHOUSE DRYING

Tropic is adopting a regenerative approach with income diversification centered around increasing coffee quality and reducing input costs. Parabolic dryers help mitigate quality risks by providing an efficient and well-regulated drying environment, resulting in a higher percentage of defect-free beans and overall better quality coffee and higher prices.

KEY COMPANY STATS

NUMBER OF PRODUCER PARTNERS

One (one washing station and one cooperative with 250 farmers in total)

NUMBER OF STAFF

20

🔥 COST

COSTS

Approx. EUR 60,000 for parabolic drying house materials and construction, vermi-culture (including worms) and other equipment

EFFECTS ON REVENUE

Effects on revenue not yet measurable, but farmers have already saved money they would normally spend on fertilizer.

🔥 PREPARATION

TIMELINE

Four to five days

MATERIALS AND EQUIPMENT

- Metal poles
- Tarpaulin
- Drying tables
- Vermi-culture house
- Buy bacteria for compost
- Bucket to collect compost tea
- Worms

STAFFING REQUIREMENTS

Approx. 20 to create demonstration plot and conduct staff training

🔥 LESSONS LEARNED

CHALLENGES

- Heavy rainfall delayed implementation of activities
- Remote areas had bad roads and poor access to construction materials

TAKEAWAYS

- Adding worms to the compost project sped-up composting production and yields
- Staff from Cyato washing station were trained on vermi-compost making and are now capable of passing on this knowledge to other farmers they work with, who did not participate in the training

RESULTS: TROPIC COFFEE COMPANY LTD. (RWANDA)

As a result of Tropic Coffee Company's improved parabolic drying and compost-based farming project:



Saving meeting at the Farmer Field School. © Tropic Coffee Company Ltd.



88 % OF COFFEES

show improvement in the cupping profile.



70 TONS

of compost were distributed to farmers in their respective groups or coffee farms.



The coffee drying time has decreased by

UP TO FOUR DAYS

increasing efficiency and the volume of high quality coffee that can be produced.



10 VERMI-CULTURE HOUSES

created to produce organic compost.



21 WOMEN

are newly employed as casual labor (compost making and coffee sorting).



Slow-dried coffee has a longer shelf life compared to direct sun coffee and is often preferred by buyers, which can

RESULT IN A PREMIUM PRICE

“

Now, we have an innovative way of drying the coffee whether it is in the rainy or dry season and this innovative approach improves the quality of the coffee that we process.

”

IMPLEMENTATION: TROPIC COFFEE COMPANY LTD. (RWANDA)

STEP

1 Clear land

STEP

2 Construct foundation

STEP

3 Build drying tables with wire mesh x 3 levels (fixed to the foundation)

STEP

4 Raise the parabolic cover

STEP

5 Create farmer groups within a village/ community (25 - 30 farmers) and use these groups to deploy farmer field school and demo plot

STEP

6 Complete farmer training (cooperative management, savings, Good Agricultural Practices, making compost)



Parabolic dryer. © Tropic Coffee Company Ltd

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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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