



Model Farm for a Low-Carbon Coffee Value Chain

Development Stage



This Model Farm invention is part of a larger project focusing on the development of a low-carbon coffee value chain in Kericho, Kenya. It will centre around the development and implementation of a regenerative coffee farming system designed for maximum carbon uptake in biomass and soil. It will also add to the projects underlying objectives of increasing food security, farmer income and resilience to the impacts of climate change. The Model Farm will be adapted to the ongoing project activities and will allow for direct integration of existing strategies related to the setup of a bio-solutions production facility. The project also incorporates the development of a coffee roasting station. Combined these interventions will drive climate benefits in coffee production whilst supporting farmer livelihoods sustainably.

Finance & Planning



€50,000

Investment



Daan Vreeburg

Initiator



LOCATION:

Kericho, Kenya

SIZE OF PLANTED PLOT:

TBD

SIZE OF POTENTIAL AREA:

TBD

CLIENT:

Agriterra

COMMODITY:

Coffee

INDUSTRY:

Food

GOAL:

Developing a strategy for introducing regenerative coffee practices

MAIN FOCUS:

Carbon sequestration, food security

PARTNERS:

Moyee Coffee
Fairchain Foundation
KALRO
Kipkelion District Cooperative



Assignment

Moyee Coffee, The Fairchain Foundation, Agriterra, Kipkelion District Cooperative Union and Kenya Agriculture Livestock and Research Organization (KALRO) have formed a consortium to develop a low-carbon coffee value-chain in Kericho, Kenya.

During coffee production, 40% of the GHG emissions come from the production and use of synthetic fertilizers and pesticides. Another 40% comes from the rotting of the cherry once the coffee bean is removed. The other 20% includes all other production activities, incl. transport to western markets(!). Therefore, this project aims to develop bio-solutions as alternative for synthetic inputs. Furthermore, the coffee cherry will be used to develop a high-value compost specifically optimized for coffee trees.

This project consists of three elements to support 7,200 smallholder farmers to transition from traditional coffee farming model, consisting of mainly mono-culture coffee and the application of synthetic fertilizer and pesticides to a regenerative farm model.

This project consists of three main pillars:

- Developing a bio-solutions production facility at KDCU, producing bio-compost, bio-fertilizer and bio-pesticides produced from local waste materials, to be sold as an affordable alternative to synthetic fertilizer and pesticides (ongoing).
- Implementing a Model Farm and Regenerative Coffee Strategy by Renature
- Developing a coffee roasting facility at Origin in Nairobi (Ongoing).

This should lead to: Improving farmer income, improved food security and improved resilience against climate-change related shocks for 7,200 smallholder farmers in the Kericho, Kenya.

Investment Need: 750.000 euro's is already invested by the consortium, RVO has supported with an additional 750.000 euro grant. Now an additional 50.000 euro's is needed to engage reNature to set up a model farm and implement a regenerative agro-forestry model for 7,200 coffee farmers.

Who?

The consortium consists of:

Moyee Coffee: Moyee Coffee will invest in developing a low-carbon specialty coffee, roasted and packaged in Kenya, providing a market linkage for smallholder farmers.

Agriterra: Agriterra will select and support high-potential Primary Cooperatives (PC's) to produce this sustainable coffee and support the PCs in governance, financial management and women and youth participation.

Furthermore, Agriterra will train the extension officers and lead-farmers on low-carbon farming practices, setting up bio-compost production facilities at the Union and support the implementation of an intercropping strategy.

reNature: reNature will provide technical services through setting up a tailor-made, replicable Model Farm including a management and implementation strategy for introducing regenerative farming practices.

Fairchain Foundation: The Fairchain Foundation will provide traceability and transactions marketplaces using blockchain technology. Fairchain will survey the smallholders farmers. Fairchain Limited will build a roasting facility in Kenya.



Kipkelion District Cooperative Union (KDCU): A farmer-led and farmer-owned coffee mill in Kenya, will provide local value-addition of the low-carbon specialty coffee and set up an organic demo farm and nursery for intercropping trees to support the project.

Kenya Agriculture and Livestock Research Institute (KALRO): Strategies for climate-smart and low-carbon agricultural practices such as intercropping, to ensure food security, will be provided by KALRO (Coffee Research Institute), and implemented by partners and beneficiary PCs and farmers.

How?

How will this consortium improve the livelihoods of smallholder farmers in the Kericho region?

- Ban the use of fertilizers, limit the use of pesticides
- Support the cooperatives by improving their governance and financial management structures
- Set up local bio-solutions production facility to increase the use of bio-compost, bio-fertilizer and bio-pesticides to improve the soil-health and increase productivity
- Support the implementation of a comprehensive intercropping strategy for farmers.
- Hire Extension Officers dedicated to low-carbon farming
- Buy Coffee at a 20% premium and decrease delivery-payment term from 6 months to 4 weeks
- Roasting at Origin: Set up a local roasting facility in Kenya to create local job-opportunities and support structural transformation of Kenya.

- Create a transparent value-chain through Fairchain's blockchain application
- Actively involve women and youth in the development of this low-carbon coffee value chain

In this project, we work together with the Sustainable Development Goals Partnership (SDGP), a programme from the Netherlands Enterprise Agency. The Netherlands Enterprise Agency uses SDGP to contribute to achieving food security and private sector development on behalf of the Dutch Ministry of Foreign Affairs.

Development Challenge

Kericho's farmers are currently cultivating coffee and other subsistence crops in a conventional monoculture system, which is inefficient, harms biodiversity, degrades soil and landscapes, including important Water Towers in the Lake Victoria Basin. Productivity is low and farmers struggle to earn a living income from coffee and other products, forcing them to adopt slash and burn agricultural practices while expanding in fragile landscapes.

Intervention

reNature will create and implement a Model Farm including an in-depth analysis of the local biophysical and socio-economic context, the creation of a tailor-made regenerative farm design and its implementation as well as a strategy plan for management and implementation.

Objective

The objective of this project is to provide viable, regenerative livelihood opportunities for farmers to bind carbon in the soil and to eliminate the need for farm expansion into the forest. At the same time the interactions between the existing and degraded farms and the ecosystem are to be improved drastically.



Financial Details

reNature Model Farm: € 50,000

Inspirational Impact

This project will provide a regional showcase of regenerative farming livelihoods that exist in harmony with the surrounding ecosystem. The visible farmer benefits in terms of food, biomass and fodder production as well as other ecosystem services intends to inspire other farmers in the area to adopt the model. At the example of the farm, they can not only learn how the practices work but also why there are beneficial.

Environmental Impact

The environmental impact of this project is intrinsically linked with the productivity of farmland and, thus, the prosperity of its farmers. Regenerative techniques will improve soil fertility and its capacity to store carbon as well as water. Erosion and desertification will be counteracted, whilst implying a farming system that is more resilient to climate change. This will improve the climate impact of the project. Additionally, diversification and enhanced soil life will benefit biodiversity in the area, as does the diminishment of the use of chemicals.

Social Impact

While the improvement of existing coffee farms is focusing on benefits for the farmers' livelihood, the project will also provide them with opportunities to diversify their farming systems, and to grow additional food, fuelwood or biomass next to the major cash crops. The project will place a major focus on incorporating the holistic context of the farmers and their community taking into account local traditions, values and cultures.

Economic Impact

Increased diversification and climate resilience will provide additional income streams for farmers and increase their economic resilience to shocks. A focus lies on reducing input costs resulting in higher profitability as well as a more efficient use of land and space to increase productivity.



12,000

Community Members



73% More

Biodiversity



13% More

Soil Humidity



12 Ton More

CO2 sequestration per ha/year