



## What is FORQLAB?

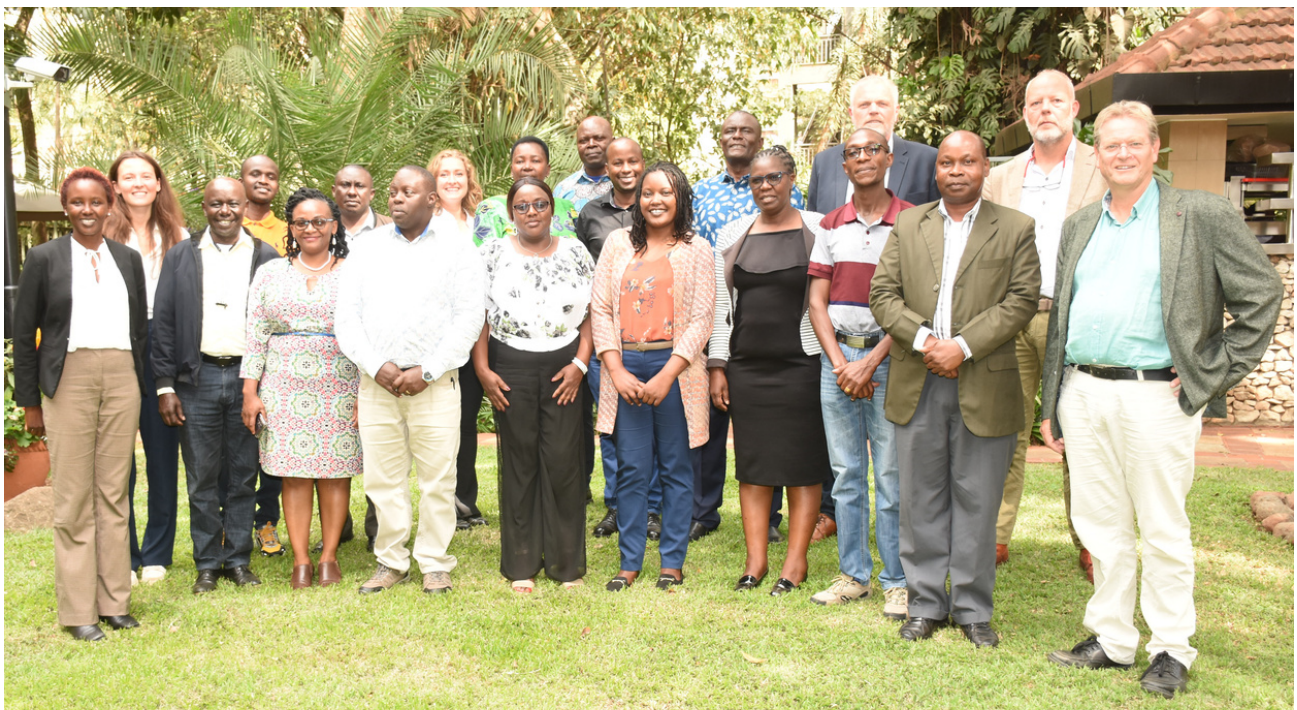
The acronym stands for 'Food Waste Reduction and Food Quality Living Lab'. In this living lab, universities, farmer cooperatives and business partners work together around two action research questions for the avocado and dairy sectors in Kenya :

- What technical interventions and
  - What governance interventions
- are required to encourage safe products and reduce food losses?

The FORQLAB partners are Meru university and Egerton university in Kenya, and four Dutch universities of applied sciences: Van Hall Larenstein, HAS Green Academy, InHolland and AERES. These partners will engage with seven Kenyan farmer cooperatives and their business partners in the avocado export and domestic dairy sectors. The expected results of FORQLAB include ten Master theses on food loss and quality; followed by capacity building with the cooperatives to improve their practices and finally the uptake of this approach in education.

## In this newsletter

- What is FORQLAB?
- Focus areas
- Inception mission
- Highlights 2022
- Agriterra scoping of cooperatives
- FORQLAB Friday
- Planning 2023
- Follow us on NFPConnects



Participants at the FORQLAB inception workshop, 7 Oct 2022 Fairview hotel Nairobi

*"I was born in Kenya and now I teach at VHL in Leeuwarden. My worlds come together in FORQLAB. The issue is clear: we need to team up for a structural reduction of post-harvest losses and the related food quality issues. That goes for the export of avocados and also for the dairy in the domestic market. I believe, the knowledge and technology exist, but its practical orientation and application at farm level is lacking."*



In FORQLAB, Esther Kapsoot is handling the communications

## Focus area: post-harvest management by farmer cooperatives

The research focus is to provide additional insights and action perspectives with regard to:

- market development and potential for mid-tech options, including revenue models and business operations, with a focus on local implementation;
- applicability and feasibility of small-scale post-harvest management and food processing technologies for local markets using local experience;
- the revenue model and cost efficiency of such technology and its potential local impact on food waste, food availability/prices and food security.

## Focus area: quality assurance, safety and traceability

The research focus is on food products that circulate within informal and local markets:

- the technical feasibility and social acceptance of ICT applications that trace food products.
- options to better link organized, small-scale producers to a specific market with added value;
- proof of concept for a ICT based service for organized, small-scale farmers.



*"I know the context of Kenya quite well, as I worked in the flower export. Now I am with HAS Green Academy and we have the knowhow to extend the shelflife for perishable food products. We look into improvements of the packaging and the processing and issues like ambient temperature and humidity. We can learn from the big exporters, but we need to adapt the solutions to the context of Kenya."*

In FORQLAB, Peter Bouma leads the avocado activities

## FORQLAB Inception mission

From 29th September to 8th October 2022 a mixed team of teachers and students visited the 7 dairy and avocado farmers cooperatives that participate in FORQLAB.

During this meetings with cooperative farmers and board members, the objectives were discussed and the living lab concept explained. The cooperatives and their business partners committed to share information with researchers and collaborate to solve the food loss and quality issues.

## Cooperative partners are:

Avocado:

- Abothuguchi avocado growers coop society
- Mt. Kenya avocado coop society
- Mt. Kenya East avocado farmers coop society
- Nandi avocado farmers coop society

Dairy

- Githunguri dairy farmers coop society
- Kaptama farmers coop society
- Kitinda farmers coop society



"A few years ago, VHL conducted research on the Climate Smart Dairy practices in Githunguri sub-county. The dairy coop is well established with a strong dairy hub. They manage to reduce incidences of mastitis and improve the quality of milk, both help to reduce food loss. According to the meetings we had, the Bungoma coops really look forward to exchange with the Githunguri coop.

In Forqlab, Marco Verschuur leads the dairy activities

## Highlights from 2022

### Food loss audits

Master students of VHL conducted four food loss audits in dairy (Bungoma and Githunguri counties) and in avocado (Nandi and Meru counties). The students found quite some differences in food losses, apparently influenced by how the cooperatives market their produce.

In avocado, losses can go up to 50% at farm level, and 40% during collection and grading in the warehouses. Cooperatives are relatively young and starting to engage in collecting and transporting.

In dairy, cooperatives have an established role in milk collection. Losses occur when they reject milk due to spoilage (mastitis, contamination or adulteration). It was noted that rejected milk finds another route to consumers.

In Githunguri, most losses are found on farm level, while in Bungoma losses happen at collection level.

Read the student reports [here](#)

### Scoping by Agriterra

Six of the partner cooperatives received another visit in December 2022. FORQLAB commissioned Agriterra Kenya for a scoping visit. This scoping is an exercise with each cooperative to identify its strengths and weaknesses in cooperative governance and its business case. Special attention was paid to the challenges and solutions for post harvest handling of produce. All cooperatives received their report and advice from Agriterra.

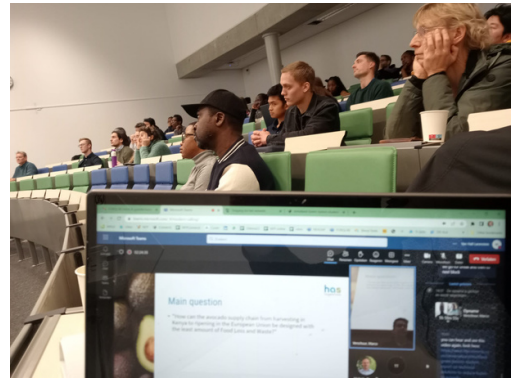


*'Well-organised cooperatives can reduce food losses at the start of the value chain.'*

Esther M. Kalanza, business advisor at Agriterra Kenya presents the findings of the scoping visits [in this recording](#)

## Dynamic FORQLAB Friday at Van Hall Larenstein Velp

Last March 3, staff and students from FORQLAB university partners met in a hybrid meeting, live at VHL Velp with Kenya participants joining online. Two guest lectures by NFP and Agriterra were followed by presentations from student research teams. Some teams presented their findings, others just got started and presented their plans. A lively exchange on food losses in Kenya followed. Watch all presentations on [this page](#) at NFPConnects.



### FORQLAB planning 2023

- Feb: HAS Green Academy start of 3 group assignments on avocado
- Feb-June: Egerton start of 1-2 MSc theses
- Feb-July : InHolland start of 3 BSc theses
- Feb/March : VHL Master students prepare their research assignments
- March 3: guest lectures Agriterra and NFP for students (at VHL Velp)
- April: Meru U. start of 3 MSc theses
- May: VHL start of 2 MSc theses
- July: mid-term living lab meetings (Kenya)

### Follow us on NFPConnects !

FORQLAB is having its online community at a new platform hosted by Netherlands Food Partnership. It's a space to come together, exchange and share and find common ground and energy for action.

You can find this newsletter and many other updates from FORQLAB at this link <https://www.nfpconnects.com/communities/forqlab-living-lab-on-food-losses-in-kenya>

The FORQLAB university partners are:



## FORQLAB

### Food Waste Reduction and Food Quality Living LAB

