



## About FORQLAB

Welcome to the 4th newsletter of the FORQLAB living lab consortium on food losses and food quality. We invite you to a deep dive into the latest updates. Our consortium has been bustling with activity, and we're eager to share the insights and progress made by our students, researchers and other partners.

While the final workshop occurred in Nakuru, FORQLAB is still producing outputs. From June till October 2024, 11 Master students from Van Hall Larenstein, Meru and Egerton universities will finalise their research work. Meanwhile, university staff is to organise the practice briefs and co-write a scientific article. FORQLAB will also host a food loss cinema at the NFP World Food Day on 16 October 2024 in Amersfoort.

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Participants enjoy the food loss photo exhibit, at the FORQLAB workshop in Egerton University, Nakuru

## First batch of avocados to be exported to Europe

There are four avocado cooperatives involved in FORQLAB: Abothuguchi Avocado Farmers' Cooperative Society, Mt Kenya Avocado Farmers' Cooperative Society, Mt Kenya East Avocado Farmers' Cooperative Society all from Meru county and Nandi Avocado Farmers Cooperative Society from Nandi. In earlier meeting, they decided to work together on a structural basis. As a result of their joint effort, on 11 July 2024, the first batch of their avocados will be harvested for direct export to the Netherlands and Belgium, arriving the next day. Special Fruit, a company from Belgium, will receive the avocado shipment and extensively inspect the quality before starting the ripening process. The avocados will then be subjected to a second quality inspection will take place. Eventually, Special Fruit will also track the feedback from retail.

This is a huge and exciting test for the avocado cooperatives. The coops and their export partners have put in a lot of work to organise the shipment and complete the many export formalities and procedures. This required both horizontal and vertical coordination among chain partners. The cooperatives have successfully coordinated between them and gained trust of downstream partners. Cooperatives producing an uniform quality and thereby reducing losses is one of the priorities in FORQLAB.



Weighing avocados before packing for export by Riziki export company

The cooperatives used to sell to buyers without transparency. They have now organised the avocado chain themselves and taken the lead in communication and coordination. This is also made possible thanks to Peter Bouma, HAS Green Academy who contacted business partners and thanks to the full and intensive support from Airflo Ltd Kenya and Special Fruit Belgium. All partners cannot wait to see the results of this first shipment. Everyone is also committed to critically analyse the product quality and share the lessons about chain coordination, all in order to improve next time. The collaboration around this first shipment is thus a solid foundation for the 2025 export season.

### Farmers knowledge exchange in Nandi

Kenya's avocado sector suffers from up to 40% losses at harvest and further down the value chain. This underscores the importance of farmer exchange and learning about technical and organisational solutions to reduce losses and improve product quality. This was the goal of the farmer exchange visits and meet-up organised by FORQLAB in April 22 April 2024.

10 farmer leaders from three cooperatives in Meru visited the Nandi cooperative. Nandi farmers had already visited Meru for training and exchange last November. In Nandi, the farmers visited a prominent avocado farm and the aggregation centre in Kapsabet. Farmers discussed challenges and solutions in production, cooperative management, finance, and market access, all while sharing knowledge and experiences openly and freely.

Peter Bouma, lecturer from HAS Green Academy, part of the FORQLAB delegation, observed a significant transformation in both the farmers and their cooperatives. "The farmers now seek to bring on board more specialised experts to solve complex problems," He noted.



Farmers visiting avocado farm in Nandi

Although FORQLAB collaboration between universities is coming to an end, the partnerships and linkages formed by the farmers should continue in different forms to ensure that the right expertise is available to drive further growth and continuity.

Bouma adds, " The success of FORQLAB and its living lab approach should be replicated in other value chains in the country, which also experience significant food losses."

## Farmers knowledge exchange in Githunguri

10 farmers from Kitinda and Kaptama Dairy Farmers Co-operative Societies engaged in an insightful learning exchange at Githunguri Dairy Farmers Co-operative Society to share lessons and strategies on how to mitigate milk losses and improve quality. This knowledge exchange visit that took place on April 22, 2024 gave the farmers the opportunity to share the challenges around quality management and learn about Githunguri Dairy Farmers Achieving excellence in dairy production.

This was the second farm exchange in FORQLAB. While the first exchange in December 2023 was organised by Egerton university, this time staff from Van Hall Larenstein joined too. The farmers visited two farms where they were able to observe the daily practices and ask questions. The two farms chosen for the visit were selected based on their size and output which were comparable to the ones owned by the visiting farmers. Both farms were small, each having not more than 6 cows.

Important learning points that came up are meticulous feeding practices, hygiene, and shelter for the animals. The visits also highlighted the value of extension service to address issues of milk rejection due to adulteration or microbial contamination. The farmers also visited a milk collection centre to see the process of testing delivered milk for quality before storage in cooling tanks.



Farmers having a discussion on feeding methods in Githunguri, Kiambu county in Kenya

The learning exchange will build on Kaptama and Kitinda Dairy Farmers' Co-operative Societies creating individual Back Home Action Plans (BHAPs). These action plans demonstrate the societies' dedication to translating the exchange's insights into concrete enhancements within each cooperative.

### Workshop and photo exhibition Nakuru

FORQLAB consortium organised farmer exchange and training, and applied research to find the viable options to reduce food losses and improve product quality through technological and governance solutions. After all, sharing knowledge and expertise among stakeholders is essential. The project held a final knowledge exchange week between 20 and 23 April in which the Dutch partners Van Hall Larenstein University of Applied Sciences, HAS green academy and AERES, were visiting Kenya and the local partners Meru University of Science and Technology (MUST) and Egerton University and farmers in the dairy and avocado sector.

As the completion of the FORQLAB project draws closer, a close-out event was held in Egerton university – Njoro on 24th April 2024. The event brought together, all stakeholders involved in the project, to share lessons learnt on reduction of food losses, value creation in living labs model and mapping the next steps.

Speaking at the event, Elizabeth Kiamba, Agriculture Advisor at the Netherlands embassy in Nairobi, commended the project, highlighting its importance in steering the positioning of these key value chains. This is not only locally, but also in line with the trade cooperation with Kenya. This also aligns with the Netherland's Diamond approach that seeks to create synergy among private sector, knowledge, research institutes, NGOs, and Government.



Ken Owino (NFP) and Lisa Robin Rotteveel (Q-Point) led a session with a photo exhibit and a food loss pub quiz at the FORQLAB Workshop, held at Egerton University, Nakuru

To conclude the event, FORQLAB ended the week with an interactive pub quiz session hosted by NFP and Q-Point. Visual display of the challenges and solutions in both value chains was shown in forms of pictures taken by the involved participants during an exhibition at CoELIB Egerton media centre.

## Reflecting on two years of FORQLAB

On 23 May 2024, a milestone seminar was held in Delft, the Netherlands, marking the culmination of two years of dedicated efforts. The hybrid seminar in Delft hosted by InHolland University of Applied Science, saw attendance from not only consortium partners but also representatives from the Dutch ministry of agriculture.

Marco Verschuur FORQLAB project leader, Van Hall Larenstein University of Applied Sciences delivered an insightful overview of the research and assignments conducted on dairy value chains. He praised the dedication of students and teachers in seeking practical solutions to the challenges faced by farmers. Verschuur highlighted that so far 14 thesis have been completed, 12 business case reports delivered and a further 9 in progress. There have also been 6 cooperative scoping reports and 12 practice briefs.



Participants of the FORQLAB hybrid seminar

Woody Majiers, professor at InHolland University of Applied Science, provided an overview of the research and assignments conducted on avocado value chains. His presentation noted that 18 different research projects have been undertaken which seek to influence the final product quality for the consumer and reduce the level of waste. Peter Bouma-Has Green Academy presented on the various private sector stakeholders linked with farmers during the program. He commended the farmers for taking decisive actions, such as ending relationships with exporters who did not meet their needs, thereby enhancing their market access and profitability.

Eric Mworira, lecturer, Meru University of Science and Technology, expressed gratitude on behalf of Meru and Egerton University teams visiting the Netherlands. He shared: "The two weeks were incredibly insightful, giving us an opportunity to observe the mode of education at Dutch Applied Universities and gain a glimpse into the Dutch agricultural sector. From agroforestry surveys to visits to various farms, food forests, and open air museums. The experience was enriching. We also valued the project reflections at Inholland University of Applied Sciences, celebrating the achievements of the past two years."

### Kenyan student exchange programme in the Netherlands

We are proud to announce that four Kenyan students have successfully completed a 5-month exchange program in the Netherlands. The students from Meru University of Science and Technology ( MUST) were hosted by Van Hall Larenstein University of Applied Sciences and the program is sponsored by the European Union through Erasmus+

The participating students, Annet Cheptoo, Kennedy Manyara, Junesharon Kinoti and Shelef Bala, each delved into specific research topics within the avocado sector. Their studies aimed to uncover practical solutions to minimise food losses, enhance efficiency, and promote sustainability.

Reflecting on her experience, Cheptoo appreciated the interactive lessons and group discussions, stating, "I have learned to be more active and participate." Manyara echoed her sentiments, emphasising that the exchange program was a valuable learning opportunity. He highlighted the practical problem-solving skills he acquired, which he believes are crucial for real-world applications.



MUST exchange Students L-R Annet Cheptoo, Junesharon Kinoti, Kennedy Manyara and Shelef Bala

Kinoti noted the immense benefit of learning in a new culture and environment. She observed that this exposure helped in finding common ground and fostering strength and unity in diversity. Bala contends that he now possess a holistic understanding of the entire chain and its complexities. " My analytical and problem-solving skills have been sharpened, enabling me to approach agricultural challenges with a strategic and informed mind. " He adds.

The students also visited Dutch companies and other stakeholders. Now back in Kenya, the students are focused on concluding their research projects and disseminating their findings to various stakeholders, particularly the farmers. They are grateful for the networks developed under FORQLAB and plan to leverage these connections to share their newly acquired knowledge.

## Student excursions in the Netherlands

In the framework of the FORQLAB project, all Master students of Van Hall Larenstein joined a number of excursions. They visited Ante BV, a dairy technology business and EOSTA, an importer of tropical fruits.

They also visited the "Food for Thought" exhibition in Amsterdam, which includes a section on the Kenya horticulture export to Europe.



VHL students at Ante B.V

## FORQLAB Community

FORQLAB's online community is 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](#)



## The FORQLAB partners are:

