Lighthouse Farm Lab

Report - Netherlands September 18-22, 2023

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Context

The Lighthouse Farm Academy is a professional course that aims to bring together key stakeholders and decision-makers in the global food system, to provide them with academic skills and knowledge that will be coupled with their professional agency to equip them with the tools to propel change towards sustainable food systems along the entire supply chain. This modular course consists of three components:

1) Online Learning
2) Lighthouse Farm Lab
3) Premium Coaching

The Dutch Lighthouse Farm Lab, in collaboration with Hemus/ERF, is a five-day workshop that aims to provide participants with tools and approaches that can be applied in different global contexts, using the Dutch example, to improve decision-making across the agri-value chain. It is intended to fulfill the Lighthouse Farm Lab component of the Lighthouse Farm Academy (LHFA), to be taken alongside the Online Learning component.

The course's target audience includes food systems professionals from different backgrounds; this is important to create an interactive environment where knowledge can be built horizontally, across disciplines and fields of expertise.

This was the last pilot version of the Lighthouse Farm Lab before the official launch of the LHFA. It was developed in close collaboration with Wageningen University and Research, and Hemus and ERF.

Team

Lecturers

Dr. ir. Dirk van Apeldoorn - WUR
Lecturer Researcher - Crop Systems Analysis

Dirk is a passionate agronomist working on radical redesign of agriculture through crop diversity. He does this in a shared research and teaching position at Wageningen University and Wageningen Research. In an action research setting I train farmers and students with best that science and practice has to offer. My research is on unlocking ecological processes by combining diversity in space, time and genes into a working farming practice, which he subsequently tests in system experiments and on-farm trials. Dirk excels in working with farmers and inspiring future generations to do better.

Prof. Dr. ir. Edith Lammerts van Bueren
Former Professor and external consultant for WUR

An emeritus Professor at WUR and still collaborating as a consultant, Edith is active in the field of sustainable, organic agriculture in general (BioAcademy, RIDLV) and more specifically in the field of Organic Plant Breeding research and education (Wageningen University, ECO-PB, LIVESEED, Eucarpia, Bioverita).

Dr. Laura Riggi - SLU & WUR
Post-doc

An agro-ecologist with 10 years' experience working on ecological communities and biodiversity in agro-ecosystems, Laura works as a researcher at the Swedish University of Agricultural Sciences in Uppsala and at Wageningen University, with the Farming System Ecology group. Her research interests and expertise focus on the development of resilient, biodiversity-friendly and healthy ecosystems. In particular, quantifying human impacts on organisms and biodiversity, and providing expertise on local and landscape scale impacts of land-use change and management practices on natural ecosystem services.

Sanne van Leeuwen
Former researcher Agroforestry & Sustainable Farming Systems, Entrepreneur

Sanne describes herself as an enthusiastic young woman with a passion for agriculture and nature, never afraid of getting her hands dirty and preferably spending her time outdoors. It's her mission to help change our food system into a truly sustainable system that takes care of farmers, environment and consumers. She tries to combine theoretical knowledge with practical solutions, working at the organic arable farm Zonnegoed where innovations such as strip cropping, agroforestry and vegan (free from animal manure) agriculture are being practised on a large-scale.

Dr. Lenora Ditzler - WUR
Lecturer Researcher - Farming Systems Ecology

Lenora does agroecological research for the transition towards more diverse and resilient farming systems: current entry points and radical design frontiers. She also leads the scientific oversight of the Global Network of Lighthouse Farms.

Guest speakers

Gerjan Snippe
Co-owner and Managing Director at Bio Brass BV, Beetz BV and De Beleving BV

Bio Brass' objective is to make connections within the food chain as efficiently as possible and to combine this with tranquillity, space and variety in farming. This combination has ensured that an ever increasing number of people can now enjoy the beautiful, healthy, affordable, but above all delicious, organic vegetables.

Jan Groen
Founder-Owner Green Organics Group! and Chairman Bionext & BioNederland!

A self-described Positive "Impact" Changemaker, Jan is an experienced Board Member with a demonstrated history of working in the organic food production industry. Skilled in Marketing, Management, Negotiation, Food & Beverage, Business Planning, and Coaching. Strong entrepreneurship professional graduated from Vlerick Business School iGMO-Summit De Academie.

Team

Hosts

Rosemarie Slobbe - Hemus
Director

Currently the managing director of Hemus, as of 2023, Rosemarie has previously worked as policymaker at the Ministry of Agriculture of the Netherlands, as researcher at Wageningen Economic Research and as project leader of several projects in the field of nature-positive and organic agriculture in the Northern part of the Netherlands. Her mission at Hemus is to develop an agroecological farming system that blends in with the landscape by combining agroforestry, stripcropping and more protein-rich crops.

Roy Michielsen - B.V. Exploitatie Reservegronden Flevoland
Controller

Since 2015, ERF BV has been applying basic principles of nature-based solutions to farming by strip cropping. Now, 8 years later, strip cropping is implemented on large scale and has spread to other farms, with which Roy gladly shares his accumulated knowledge.

Facilitators

Lizzy Freed - WUR
Project Manager

Lizzy has years of experience in the farm advisory services of the USA and West Africa, with a passion for including and facilitating farmers in the transition to sustainability.

Andrea Bottarel - WUR
Education Developer

A former wine business professional, Andrea recently decided to redesign his role in the food system. He is currently completing the Master of Resilient Farming and Food Systems at Wageningen University and has a passion for communication in agriculture.

Don Lareau WUR
Facilitator

Don is a graduate of the Master of Resilient Farming and Food Systems , as well as a farmer. He was highly involved in the development of the pilot for the Dutch Lighthouse Farm Lab, as part of his internship. As a farmer, he manages a highly diverse organic farm in Colorado (USA) and possesses a wealth of knowledge of soil systems.

The "dragons"

Katie Kennedy Freeman - The World Bank
Senior Agriculture Economist

Katie works with the World Bank's Agriculture and Food Global Practice as a Senior Agriculture Economist in the West and Central Africa region focused on the areas of climate smart agriculture, circular economy, digital agriculture and the intersection of agriculture and energy.

Simone Uijttewaal - Uijttewaal Van Overbeek VOF
Co-owner

After graduating from Wageningen University and Research, Simone took over the family farm and decided to start the process of transitioning from a conventional production system to an organic one.

Miel Hooijdonk - Wageningen Academy
Programme Director

Miel is the Programme Director at Wageningen Academy. As such, he has been facilitating and directing a number of educational programmes, many of which have included work on living business cases by students of Wageningen Academy's MBAs.

Objectives

The Lighthouse Farm Lab (Netherlands) mission is to achieve three overall objectives:

- To have participants understand the current linear lock-ins of the food system
- To share the principles of alternatives to monocultural farming systems
- To have professionals from across the value chain reflect on their role in a potential transition, sowing the seeds for an individual plan

Each day of the course focused on a theme and wasstructured to include:

- Lectures introducing the key concepts in line with the daily objectives
- Field visits with practical farming experiences and interactions with local stakeholders
- A "hand-holding" session, during which the concepts and methods are applied to real case studies
- Allocated time for group work, in which teams apply the concepts to a case study of their choice

DAY	THEME	SESSIONS	LEARNING OBJECTIVES
1	Establishing a vision	Scaling up, out and deep	To understand how a working farm at the edge of large scale innovation established a vision and set out in making it true. To start grounding the different kinds of scaling in practical examples.
		Farm tour - introduction to Hemus/ERF	
		Hemus/ERF experience with strip cropping	
2	Understanding the lock-ins	Seed breeding for scaling	To understand what elements of the current farming and food system pose barriers to a transition to alternative production systems
		Findings of strip cropping	
		Field activity	
3	Exploring alternatives and societal transformations	Agroforestry in the Dutch context	To witness and understand experiences of different actors with the transition to an alternative production system, with a focus on agroforestry
		Scaling Deep - societal transformations	
		Tour of Flevolandschap	
4	Who needs to be involved?	Vertical and horizontal integration	To hear from other actors along the food production and distribution chain, to expand from the local view and reflect on one's potential role in the transition
		Tour of Biobrass	
		The state of the organic market	
5	Application of concepts	Group work presentations	To learn from other perspectives and test assumptions with expert feedback; to reflect on learnings and connect them to real-world application
		Reflection and takeaway lessons	

Group work - objectives and outcomes

Throughout the week, you and your group will explore how to scale innovations that can help incorporate more (bio)diversity in farming systems. You will see many examples of these innovations at farm- to regional-level, both at Hemus/ERF and beyond.

In concrete terms, by the end of the week you will present a "proposal" for scaling **innovations in biodiversity** to a team of experts from the Horizon Europe grant committee. Your group will represent a grant consortium (including Hemus and ERF) that are applying for a 500,000euro agricultural innovation grant.

You will need to show that your group:

1. **Understands the current system(s) in the Dutch context, in terms of biodiverse farming**
2. **Has thought through the challenges in scaling innovations that create more biodiverse systems up, out, and deep**
3. **Has identified which stakeholders need to be involved for each type of scaling**
4. **Has identified clear pathways or bridges to scaling/making more room for biodiversity in farming systems**

These questions should be answered in your final proposals, but the process to arrive at the "answers" should be iterative (e.g., you will meet new stakeholders who offer new perspectives on challenges). We will, however, have a loose focus on these individual questions each day.

MONDAY

Objective: Your group can describe/ illustrate the current system(s) in the Dutch context, in terms of biodiverse farming

Outcome: Bullet point explanation or conceptual diagram

TUESDAY

Objective: Your group highlights the challenges in scaling innovations that create more biodiverse systems up, out, and deep

Outcome: You have ranked/highlighted the key lock-ins for scaling

WEDNESDAY

Objective: Your group has discovered/classified which stakeholders need to be involved for each type of scaling

Outcome: A list or visualization of stakeholders that have power in scaling

THURSDAY

Objective: Your group has integrated insights from the last three days and developed clear pathways or bridges to scaling/making more room for biodiversity in farming systems

Outcome: A synthesized perspective on the system (1) insights they gained from integrating the concentric circles that then they 2) develop clear pathways and bridges

FRIDAY

Objective: Your group highlights the challenges in scaling innovations that create more biodiverse systems up, out, and deep

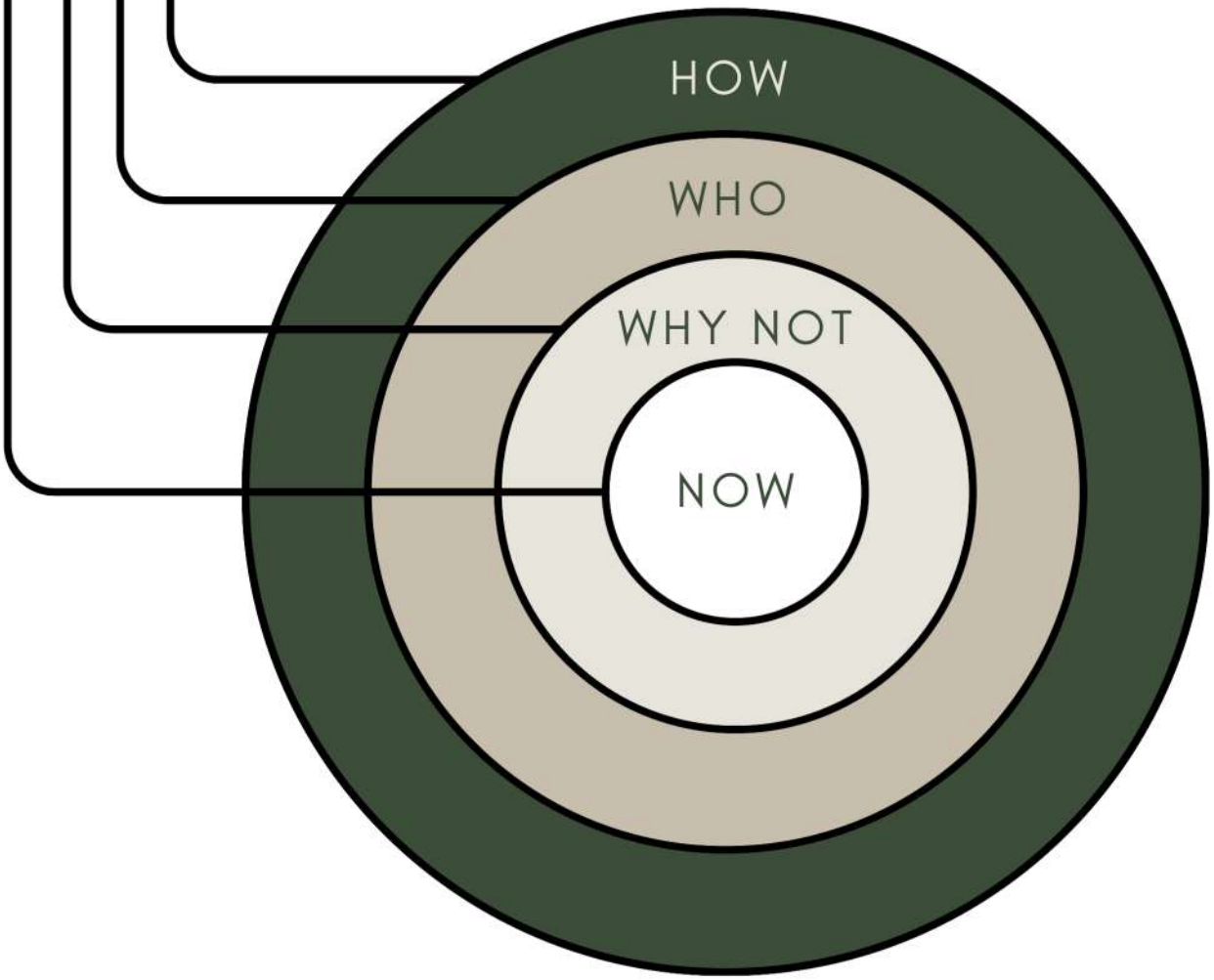
Group work - framework

Understands the current system(s) in the Dutch context, in terms of biodiverse farming

Has thought through the challenges in scaling innovations that create more biodiverse systems up, out, and deep

Has identified which stakeholders need to be involved for each type of scaling

Has identified clear pathways or bridges to scaling/making more room for biodiversity in farming systems



Day 1: Establishing a Vision

Introduction to Hemus/ERF

The first day kicked off with a short introduction of the purpose of program and the pilot version of the project, reminding participants that their interaction was valued not only as receivers, but also as providers of ideas and feedback. A brief ice-breaker activity allowed the participants to familiarize themselves with the other people in the room. This was followed by a short refresher on the three dimensions of scaling: up, out and deep, which served as a framework during the rest of the week. Rosemarie Slobbe, director of Hemus, then officially opened the week by briefly introducing the company, Hemus/ERF, how the partnership between two such different realities (Hemus and ERF) started and why it is so central to the operations. Dr. Dirk van Apeldoorn followed the session with an introduction to strip cropping in the larger Dutch context, as well specifically within the Hemus/ERF collaboration.

The session was central to understanding the benefits of strip cropping arable crops, compared to monocultures, the high potential that it holds for being scaled to larger areas and other companies, as well as the constraints in which it currently operates. The lecture served as a link to the afternoon session, in which Dirk led participants into a field excursion to the strip cropping fields, paired with field practicals that explored the same themes of benefits and limits.

Dr. Dirk van Apeldoorn leads the participants in a field practical

Day 2: Understanding the Lock-ins

The day started with a short introduction to the concept of monocultural lock-ins and agricultural treadmill, providing a theoretical basis for the lock-ins in which many farmers find themselves.

One of the participants then presented his inspiring experience with a large scale sustainability operation, which invited the participants to reflect how, even in a very different context, the concepts of scaling up, out and deep apply.

Roy Michielsen, controller at ERF, then reported the experience of Hemus/ERF with the concept of scaling up. He first explained the policy around strip cropping and the work that the company had to do to scale the idea out. The presentation was followed by an extensive Q&A session, necessary to delve deeper into the intricacies of the transition of Hemus/ERF.

Dr. Edith Lammerts van Bueren concluded the morning of lectures with an in-depth lecture on the key role played by breeding programs, underscoring the importance of the purpose for which varieties are bred. Since most varieties nowadays are bred for monoculture, breeding could play a key role in making strip cropping and complex cropping system even more viable.

Introduction to Hemus/ERF

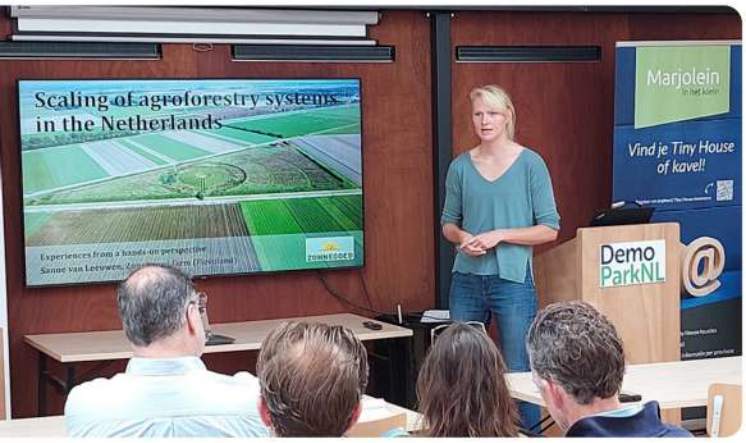
Dr. Edith Lammerts van Bueren during her presentation

In the afternoon participants were led into a visit to the main dykes in the Netherlands, next to which the geophysical conditions of the nearby strip cropping fields became evident.

The group was further led into a field practical in which they sorted and weighted freshly dug-out potatoes, in order to estimate the percentage of yield that is considered viable for the market.

The day was concluded with a traditional Dutch dinner in a nearby farm location.

Day 3: Exploring Alternatives and Societal Transformations



Sanne van Leeuwen introduces agroforestry in the Netherlands

The day began with a short lecture by Sanne van Leeuwen, who introduced the concept of agroforestry and its potential application in the Dutch context. Through the example of the farm where she currently works, Sonnegoed, Sanne provided a real example of a farm operating with both strip cropping and agroforestry, which illustrates the potential for non-monocultural farming systems.

Dr. Lenora Ditzler then gave a compelling lecture on scaling deep, the need for deeply rooted societal transformation, in order to be able to apply different, more sustainable farming systems to larger scales. The lecture focused particularly on technology, and the way we imagine our future and how that connects to the way machines are designed. Lenora stressed the key role played by design and the way agricultural machinery is conceived, since currently these are mainly designed for monocultural systems.

Dr. Lenora Ditzler gives a lecure on Scaling Deep

A demonstration of hazelnut trees pruning in an agroforestry system

The lecture was followed by Rosemarie Slobbe, who recounted Hemus/ERF's experience with agroforestry and agrivoltaics.

In the afternoon, the group was led to a visit of the new agroforestry system of Flevolandschap, including some practical exercises in its monitoring and management. The excursion invited reflection on the element of knowledge and labour to be taken into consideration in different farming systems.

Day 4: Who Needs to Be Involved?

The day started at a unique location, the greenhouse-restaurant Boerkok, where Gerjan Snippe presented his experience with organic agriculture, from the onset to the idea of creating Biobrass. Biobrass, working as a partner of Hemus/ERF, found a niche both in the product and the food provision chain, managing to grow over time to become an important player in organic food supply to supermarkets.

His presentation was followed by a visit to the processing facility of Biobrass.

Gerjan Snippe gives a guided tour of Biobrass

Jan Groen gives a presentation on the state of the organic market

Following the visit, Jan Groen gave a presentation on the general state of the organic market, bringing in his long-standing experience with the whole supply chain.

Jan's compelling report was followed by an interactive panel discussion, led by Don Lareau. The panel included different actors that interacted with the participants in an extensive Q&A. The aim of the panel was to not only reflect on further opportunities and lock-ins along the chain, but also on the participants' own role in facilitating a transition.

Extra time was provided for participants to finalise their projects and pitches for the following day.

The day ended with an excellent dinner, completely based on local products, provided by Boerkok. This allowed for further insights into what the region could provide and the importance of the end of the chain, the link between producers and consumers.

Panel discussion

Day 5: Applying the Concepts

The group work assignment was designed so that participants, at the end of each day, had some time to iteratively reflect on the lessons from the day, and apply them to their assignment.
In the scenario of the assignment, the two groups had to picture themselves in the role of partners of Hemus/ERF, whose aim was to apply for funding to scale complex farming systems to a region or the whole of the Netherlands. As a farming system, they were free to choose strip cropping, agroforestry, agrivoltaics or a combination thereof.

One of the participants' groups during their pitch

The "dragons" assess the participants' pitches

The last half day was dedicated fully to the final pitches of the participant groups, based in their group work done over the previous days.
The groups had time to present their ideas to the "dragons", who followed up with questions to assess the validity of the proposal.

Both pitches made compelling arguments and in the end the dragons made the unique decision to symbolically award the grant to one group, on the condition that the other project was incorporated.

The workshop wrapped up with a feedback session, to hear participants impressions and inputs, extremely valuable for future iterations of the Lighthouse Farm Lab.

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