



Beyond the piecemeal

Social scientists **Professors Fleur Marchand** and **Elke Rogge** want to secure a sustainable future for the agriculture industry as well as the rural areas that support it – goals which, as they explain, need not be exclusive

developed, and to test new ideas, action labs have been set up.

What facilities are available to you in the Social Sciences Unit?

Although ILVO as an institute has a broad range of modern research equipment, such as newly built, up-to-date stables, greenhouses and laboratories, the main

laboratory of the Social Sciences Unit remains the real world. We try to work with real-life cases and with real people dealing with real problems. To study these complex societal problems, we have a simulation room where stakeholders are asked to simulate (on the computer) their choices. Next to this, we also have facilities to carry out more inductive and qualitative research; for example, focus groups, workshops, etc. However, in most cases, we go into the real world and use interview, surveys and action research techniques.

Can you define what action labs are and offer an example of action research?

If we want to unravel and thoroughly understand complex societal problems, we have to follow an action-research approach. As researchers, we take an active role in societal processes, shaping and studying them at the same time. In the project mentioned above, action labs are concrete test realisations of novel ideas; examples include social catering, short supply chains, new proteins and valorisation of byproducts. In another project, launched by our Minister of Agriculture, we work with designers, architects and planners on five projects that aim to realise novel food production systems and contribute to the spatial and environmental quality of the area.

What are the main challenges involved in your work?

One important hurdle is going beyond piecemeal thinking. Of course, we all know good examples of monodisciplinary solutions to fix sustainability issues, but nowadays sustainability problems have a complexity that needs to be tackled from different angles: multidisciplinary when actors operate rather independently, interdisciplinary when they really integrate to find solutions.

Our research group tries to interpret sustainability issues within the broader perspective of transdisciplinarity, which also integrates knowledge from outside science. We believe that sustainability issues should be seen as wicked problems influenced by human behaviour – problems that are strongly interconnected in many ways. The actors themselves are interconnected and have different opinions and interests, practices are interconnected through the existence of trade-offs, and all of these issues are to be governed at multiple levels.

Could you detail some of the work being carried out at the Institute for Agricultural and Fisheries Research (ILVO) Social Sciences Unit?

First of all, it is important to position our research within the context of ILVO, which is an applied and mainly publicly funded agronomic research institute. This means that our work must rely on scientific excellence but also have practical value for our stakeholders.

Within the Social Sciences Unit of ILVO, two major research domains can be distinguished. First, a large part of our work focuses on farm and agricultural development. Farm management models are developed, the implementation and adoption of more sustainable practices are analysed, and learning processes among farmers are studied. In our second research domain, we cover a wide variety of themes dealing with rural development focused on three major themes: spatial transformation, governance and place-based regional development.

Current sustainability initiatives taking place at the societal level often lack upscaling potential and, as a result, are unable to respond effectively to policy goals. In what ways is your work addressing this problem?

In practice, we see that a lot of actors in the agri-food chain are trying to develop new business and governance models in order to contribute to sustainability. However, these actors are often working on small, standalone initiatives. We believe that sharing and comparing their experiences is essential for successful upscaling of these initiatives.

In the EU Seventh Framework Programme-funded RURAGRI ERA-NET project Rethink, this upscaling is a central focus. Fourteen European countries have all selected a case study in which people are trying to link farm modernisation, rural development and resilience. They are looking at how to develop relationships between rural areas and urban centres in a way that increases the overall resilience of both these areas.

More locally, and in one sense an upscaling from industrial subsectors, is our project with the Flemish agri-food sector. Initiated by agri-food chain actors, and with the explicit aim to keep sustainable transformation in their own hands, a concrete action plan has been



Farmers discussing the land ownership situation in a small community in West Flanders.



Organic dairy farmers sharing knowledge by visiting each other's farms.

Sustainable policy, sustainable practice

Researchers at the **Institute for Agricultural and Fisheries Research** in Flanders, Belgium, are developing multifaceted solutions for farmers and policy makers seeking to gather and act on agricultural information

THE CHALLENGES FACING the agriculture industry in Europe are manifold. Along with the pressures on production and cost-cutting that face all industries, farmers must also cope effectively with environmental issues and conflicting land-use requirements from different stakeholders. What is more, there are barriers that prevent the sharing of information between individual farm managers. Unlike in other industries, where distant facilities can nonetheless share consistent and relevant insights with one another, the individual variation between farms – even those producing the same type of crop or livestock – make knowledge sharing prohibitively difficult in the agricultural sector.

This does not mean that strategies for sustainable agriculture are not being developed. On a small scale, many promising initiatives are generated and pursued at the community level, and such activities often achieve success. Short food supply chain and urban agriculture approaches have all proven their worth in many contexts, but the problem is with upscaling these initiatives. Currently, there is a marked gap between the level at which small-scale sustainability initiatives and regional- or national-scale policies operate. As long as this remains the case, formulating policy for sustainable agriculture will remain a herculean task.

A COMPREHENSIVE METHODOLOGY

In order to address this issue, several steps are required. First, the ambiguity surrounding

the concept of sustainability must be resolved. Currently, there are a number of different interpretations of the concept that result in research, policy and practices that are not cohesive; sometimes complementary, sometimes conflicting in their foci. Second, sustainability research on food production systems needs a broader approach, one that allows for the comprehension of these systems as a whole – rather than piecemeal in economic, technical or agronomic terms. Finally, there is a gap between research and

practice that needs to be overcome; a wealth of historical information is waiting to be translated into action today.

One team at the Institute for Agricultural and Fisheries Research (ILVO) in Flanders, Belgium, is hoping to counter this multifactorial problem with an equally diverse solution. Professors Fleur Marchand and Elke Rogge both oversee research domains within ILVO's Social Sciences Unit, focusing on agricultural and farm development, and rural development, respectively. Coordination of the Unit's research spheres is undertaken with Professor Joost Dessein and ILVO's Scientific Director, Ludwig Lauwers. Over the last few years, their research efforts have contributed to the development of new policies and strategies for sustainable farming and land use.

AGRICULTURAL CHALLENGES IN EUROPE

The Social Sciences Unit at ILVO adopts emerging angles in sustainability research and recombines them to form a promising approach to the process of building knowledge and overcoming the challenges European agriculture faces. Using a three-pronged methodology, the team incorporates transdisciplinary working, system thinking and action-orientated research of the subject at hand. This means that in their projects, Marchand and Rogge encourage transdisciplinary discussion between stakeholders, leading to the generation of knowledge that is richer and more practical for

INEMAD

The Improved Nutrient and Energy Management through Anaerobic Digestion (INEMAD) project is funded under EU Seventh Framework Programme (FP7), and involves 13 partners from eight European countries. Running from 2012-16, the undertaking aims to find ways of linking crop and livestock production, thereby making farms more sustainable and reducing their environmental impact.

One issue that European farmers face is increasing pressure to specialise. Moving away from a traditional mixed farming model, agricultural workers on the continent today prefer to focus on either crop or livestock production, and sometimes even limit themselves to one or two species. This method cuts down on labour and other costs, but makes far less efficient use of the environment and leads to practices that are unsustainable. One of INEMAD's most promising solutions is to revive the mixed model by integrating new technologies to recycle byproducts from the different branches into fuel, fertiliser and feed.

Read more: www.inemad.eu



having been co-produced. "We need to grasp the local knowledge of all the chain actors to come to realistic results, as each region has its specific socioeconomic and ecological structural characteristics," Marchand reflects. Building trust between stakeholders, similarly, also has value in itself.

A systems approach to agriculture and the food production process is clearly necessary, given the complexity of these activities – and working in this way gives the scientists access to a range of useful tools, frameworks and techniques. Marchand has met with some success, for example, in using discourse analysis to understand the machinations of local food systems. Discourse analysis is

SOLID

The Sustainable Organic and Low-Input Dairying (SOLID) project is an FP7-funded endeavour looking for ways to improve the positive impact that dairying can have on the environment and biodiversity, SOLID simultaneously aims to improve the economic, agronomic and ecological payoffs of low-input dairying.

There are many challenges facing the agricultural industry today. Regardless of whether they are perceived as threats or opportunities, the need for flexibility has never been greater. By taking a broad view of sustainability that extends to animal welfare, biodiversity, as well as profitability and yield, and by working with SMEs, SOLID cultivates a participatory and balanced approach to research and dissemination.

Read more: www.solidairy.eu

SYSTEM APPROACH

BIO IN BEELD

The three-year BIO in Beeld project takes a different approach to the others run by ILVO, in terms of both its geographical scope and its transformative ambition. Looking in particular at organic agriculture in Flanders, it focuses on obtaining a comprehensive, broad and relevant insight into farming practices that can be used to guide strategies in this field of industry. The Flanders Government funds the work through its Department of Agriculture and Fisheries.

In BIO in Beeld, the researchers place particular emphasis on their three-pronged approach. An emphasis on transdisciplinary dialogue allows reflections on issues that would not otherwise come to light, and following a systems approach provides tools for understanding the complex interactions between farmers and the larger structures that support the agriculture industry. "We were able to improve knowledge transfer during network meetings and support farmers' decision making when adapting their strategies to fast changing socioecological demands," summarises Marchand.

TRANSDISCIPLINARY

Marchand and Rogge encourage transdisciplinary discussion between stakeholders, leading to the generation of knowledge that is richer and more practical

not often applied in this context, but has yielded new insights into the subject. An action-orientated outlook, finally, helps the researchers to keep their work focused on achieving practical benefits for the people they work with.

here. In time, they hope that their efforts will supply policy makers and practitioners with new information to guide their activities, as well as bridging the gap between the two and allowing for a more sustainable future in European agriculture.

DIVERSE PROJECTS

The ILVO Social Sciences Unit investigators are in the process of applying their unique methods to a wide range of projects – some of which are described

THE INSTITUTE FOR AGRICULTURAL AND FISHERIES RESEARCH (ILVO) SOCIAL SCIENCE UNIT

OBJECTIVES

To explore the sustainable development of the agriculture industry as well as rural areas in general through a three-pronged methodology that incorporates transdisciplinary working, system thinking and action-orientated research in order to assess policy relevance and formulate policy recommendations for the Flemish Government.

PARTNERS

Ghent University, Belgium (INEMAD) • **Aberystwyth University**, UK (SOLID) • **Bioforum, Inagro** and the organic sector in Flanders (Bio in Beeld)

FUNDING

Department of Agriculture and Fisheries, Flanders Government

EU Seventh Framework Programme (FP7) – contract nos 289712 (INEMAD) and 266367 (SOLID)

CONTACT

Professor Fleur Marchand

Coordinator, ILVO Agricultural and Farm Development

ILVO Social Sciences Unit
Burg. Van Gansberghelaan 115
9820 Merelbeke
Belgium

T +32 092 722 361

E fleur.marchand@ilvo.vlaanderen.be

<http://bit.ly/ILVOAFD>

<http://bit.ly/ILVORD>



FLEUR MARCHAND is coordinator of the ILVO research domain Agricultural and Farm Development, as well as Professor at the University of Antwerp where she is responsible for courses on methodologies and techniques for interdisciplinary research. She builds on her expertise in agroecology and learning processes with stakeholders in order to develop sustainable agriculture and food chains. Marchand coordinates a research group and several national and international projects on these topics.



ELKE ROGGE is coordinator of the ILVO research unit Rural Development and Professor at Ghent University. Rogge completed a PhD on the relationship between landscape perception and agriculture at the Catholic University of Leuven. Since 2007, she has been employed at the Social Sciences Unit of ILVO. In previous years, she gained expertise in spatial transformations of the countryside and the governance of multistakeholder processes. Rogge coordinates a research group and several national and international projects on these topics.



Flanders
is agriculture and fisheries.