



Business Management for a Sustainable World

Projects in the Business Management Group
at the Department of People and Society

Business Management for a Sustainable World

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Welcome to the Business Management Group!

The Business Management Group develops knowledge and increases awareness of economically, socially and ecologically sustainable operations and systems in the green sector. We engage with entrepreneurship, leadership and governance across agriculture, forestry and horticulture as well as urban and rural landscapes.

Research in the subject area aims to help solve complex problems linked to significant global challenges. Qualitative and quantitative research methods are used to investigate problems and issues, contributing to positive and sustainable economic, social and ecological development.

The subject area aims to act as an agent of change for the green sector through active collaboration with networks and actors, and our research is characterised by an interdisciplinary approach, systems thinking and knowledge implementation. We are also committed to education across basic and advanced levels.

This report provides an overview of ongoing and recent projects; the researchers, teachers and advisors that are part of the team; and some background on the department, group and our related centres – the Swedish Centre for Agricultural Business Management (KCF) and the Swedish Competence Centre for Advisory Services (RådNu).

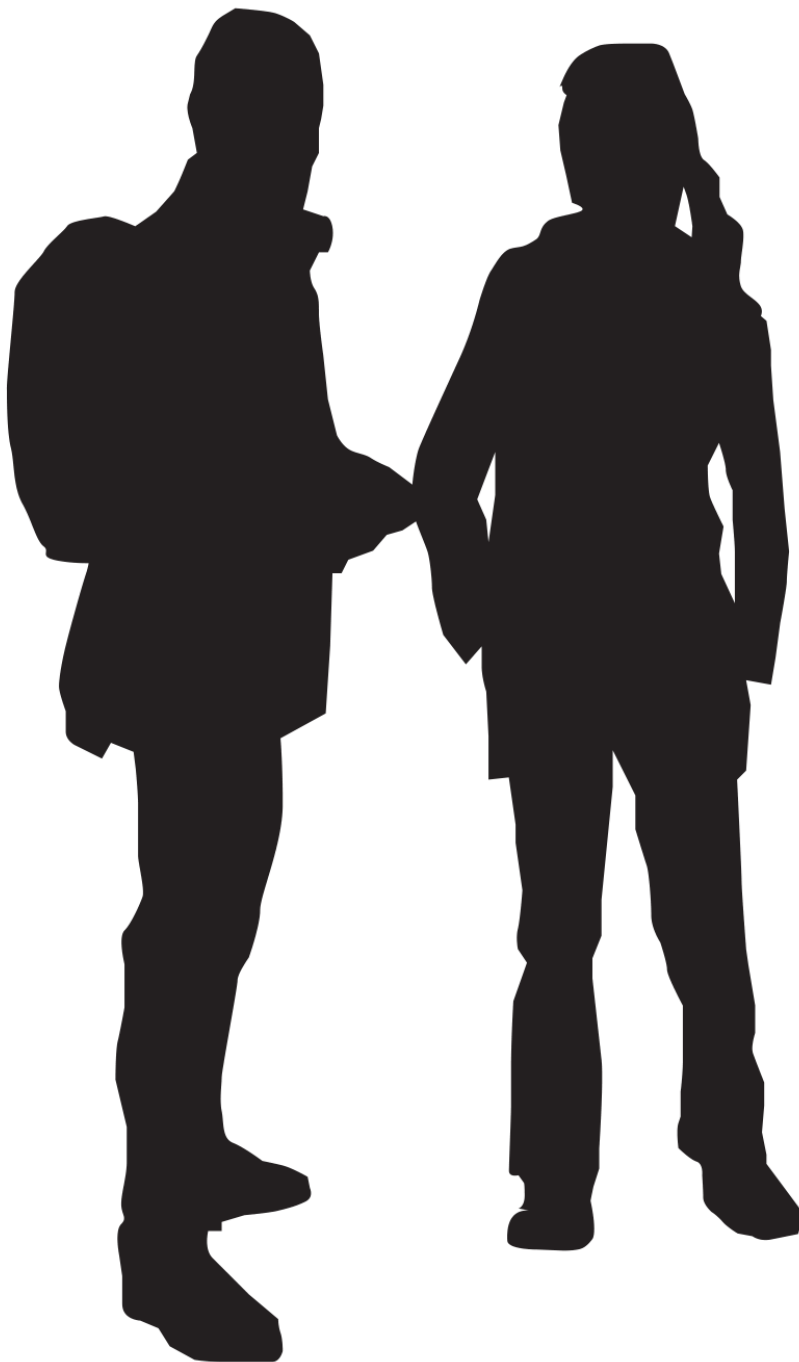
Kes McCormick

Professor of Business Development and Sustainable Innovation

Subject Area Coordinator for the Business Management Group

Department of People and Society

“We are a creative environment that develops knowledge and increases awareness of economically, socially and ecologically sustainable operations and systems.” – Sara Spendrup



Meet the Team

The Business Management Group brings together over 30 researchers, teachers and advisors working with entrepreneurship, leadership and governance across agriculture, forestry and horticulture as well as urban and rural landscapes. The team includes a mix of professors, lecturers, doctoral students, project leaders and post-doctoral researchers.

| | |
|------------------------------------|--|
| Anna Lind Lewin | Communications Officer, RådNu |
| Boel Rönnblom | Lecturer |
| Catharina Alwall Svennefelt | Lecturer (PhD) |
| Christina Lundström | Researcher, RådNu |
| Anna Nohed | Doctoral Student |
| Erik Hunter | Senior Lecturer (Associate Professor) |
| Emil Åkesson | Project Leader (PhD), KCF |
| Eva Göransson | Lecturer |
| Filiz Kinikli | Post-doctoral Researcher |
| Fredrik Fernqvist | Senior Lecturer (Associate Professor) |
| Jan Larsson | Lecturer |
| Jenny Höckert | Researcher, RådNu |
| Jonas Bååth | Associate Senior Lecturer |
| Jozefine Nybom | Researcher (PhD) |
| Kes McCormick | Professor |
| Konstantinos Karantininis | Professor |
| Lars Johansson | Field Assistant, RådNu |
| Lena Ekelund Axelson | Professor emeritus |
| Lisa Germundsson | Researcher |
| Lotta Fabricius Kristiansen | Research Assistant/Doctoral Student, RådNu |
| Magnus Ljung | Senior Extension Specialist, RådNu |
| Magnus Stark | Project Leader, KCF |
| Marianne Persson | Project Leader, KCF |
| Per Hansson | Project Leader, KCF |
| Peter Lundqvist | Senior Advisor |
| Rebecca Thörning | Lecturer |
| Sara Spendrup | Senior Lecturer (Associate Professor) |
| Samuel Bäckelin | Project Leader, KCF |
| Sebastian Remvig | Project Leader, KCF |
| Torbjörn Jonasson | Lecturer |
| Misagh Mottaghi | Post-doctoral Researcher |
| Rosa Hellman | Doctoral Student |

Background on Group

The Business Management Group at the Department of People and Society (IMS) at the Swedish University of Agricultural Sciences (SLU) includes the Swedish Centre for Agricultural Business Management (KCF) with the Knowledge Hub in Business Management and Entrepreneurship, and the Swedish Competence Centre for Advisory Services (RådNu).

IMS – Department of People and Society

At the Department of People and Society, we research and teach in environmental psychology, business management and advisory services. The purpose of our work is to create the conditions for sustainable living and working environments in rural and urban areas. We develop and communicate high quality knowledge about people, the environment and business.

RådNu – Swedish Competence Center for Advisory Services

The aim of centre is to contribute to sustainable development by strengthening the capacity of a diversity of actors and creating conditions for collaboration. Our main focus areas are sustainable land and water use, soil health and new farming methods, pollination and other ecosystem services, and beekeeping and bee health. Through our research and teaching, we want to understand, support and participate in innovative change processes.

KCF – Swedish Centre for Agricultural Business Management

We are a central hub and collaboration platform for business development in the agricultural sector. On behalf of the Swedish Board of Agriculture, the centre is working on the project Knowledge Hub in Business Management and Entrepreneurship. The aim is to achieve increased knowledge and strengthened collaboration in business management and entrepreneurship within the green sector.

Work is underway to create four knowledge hubs in Sweden with the goal of developing skills and capacities within the agricultural sector. The knowledge hubs are analysing industry needs, how to make knowledge available as well as providing education and support for advisors. The Knowledge Hub in Business Management and Entrepreneurship is part of this effort.

”We are a diverse team of researchers, teachers and advisors working closely and directly with companies and organisations in agriculture, forestry and horticulture as well as urban and rural landscapes.” – Kes McCormick



List of Projects

This report gives some insights and details on over 20 ongoing and recent projects in the Business Management Group. This includes a significant program called **Transformational Governance and System innovation funding through Impact Innovation** as well as a project supported by the **Interdisciplinary Academy** program at SLU.

| Impact Innovation: Systemic, Sustainable and Societal Impact through Transformational Governance and System Innovation (SustainGov) | | |
|---|--|--|
| SustAnimal | Transformative Climate Resilience by Nature-based Solutions in the Continental Bio-geographical Region (ARCADIA) | Enhanced Urban Greening Plans for Biodiversity Mainstreaming in Society (UGPplus) |
| Agriculture for Food Security 2030 (AgriFoSe 2030) | Promoting Green Nutrition for the Sahel Region (NutriGreen) | Scaling Urban Regenerative Food Systems in Transition (SURFIT) |
| Follow the Food: Waste reducing Retail Actions – What happens when the food reaches the consumer? | Transformative Governance for a Sustainable Food System | Domestic legumes for human consumption: “Getting the pulse to the plate” and “A Stronger Supply Chain for Plant Based Protein Food in Östergötland” |
| Sustainable Agri-Food Systems Intelligence – Science-Policy Interface (SASi-SPi) | Food Costing and Internalisation of Externalities for System Transition (FOODCoST) | Nordic Baltic Universities Boosting Entrepreneurial and Innovation Support Systems (NOBALIS) |
| Nutritious, Tasty and Health-promoting Novel Wheat Products | Nature-based Solutions for Climate Resilient, Nature Positive and Socially Just Communities in Diverse Landscapes (Naturescapes) | From wanting to daring and being able – how can we better support agricultural entrepreneurs to promote the long-term sustainability of arable land? |
| Preparing for the ‘Soil Deal for Europe’ Mission (PREPSOIL) | The Climate Game: A digital serious game for young people | Transformative Governance for a Sustainable Food System |
| Interdisciplinary Academy: Food Production and Food Security through Agriculture: Interdisciplinary Group on Rooftop Greenhouse Technology | | |

Impact Innovation

Impact Innovation is the next generation strategic innovation program. It is a long-term mobilisation, where we solve global societal challenges together and increase the pace of transition to a sustainable society. The Swedish Energy Agency, Formas and Vinnova stand behind the initiative.

Systemic, Sustainable and Societal Impact through Transformational Governance and System innovation (SustainGov)

Budget: SustainGov is funded through Impact Innovation and receives 125-150 MSEK per year over 10 years.

SLU participants: Fredrik Fernqvist, Örjan Östman, Susanna Sternberg Lewerin, Annsofie Wahlström

Overview: In the area of mission-oriented innovation the role and importance of governance has so far been overlooked. Government and governance have been regarded as part of the solution for addressing societal issues through missions but have not (yet) been the objective of change. The premise of SustainGov is that this needs to change. You simply cannot achieve societal impacts without a powerful enabler such as the public sector. Therefore, our program mission is to have achieved, by 2035, a reformed public sector able to holistically pro-mote and facilitate the health and well-being of all residents independently of geography and socio-economic status and ensuring an equitable and inclusive sustainability transition within the planet's boundaries.

The Sustainable Development Goals show that nations are willing to set joint and ambitious targets to try and address societal grand challenges. However, the way that we organize our societies today is in many respects wholly unsuited to bring about tangible, systematic and systemic change in a sustainable direction, not least because traditional government structures and approaches to policy-making are ill-equipped to address complexities and "wicked problems".

This, in turn, leads to poorly formed solutions, ad-hoc rather than systemic changes, and sometimes even decision-paralysis. In short, the incapacity of existing public sector institutions to adjust, innovate and adapt to changing contexts and needs is hindering governments from better addressing complexity and the challenges it presents. A prevailing logic of more funding will not, in itself, contribute to long-term systemic solutions. Although the public sector may not be the only weak link in the helix needed to enable society's sustainability transition, it is one with perhaps the greatest potential for accelerating societal transformation. The overall mission of SustainGov is to make this happen.

SustAnimal

Project coordinator: Sigrid Agenäs, SLU, Sweden

Project budget: 56.000.000 SEK

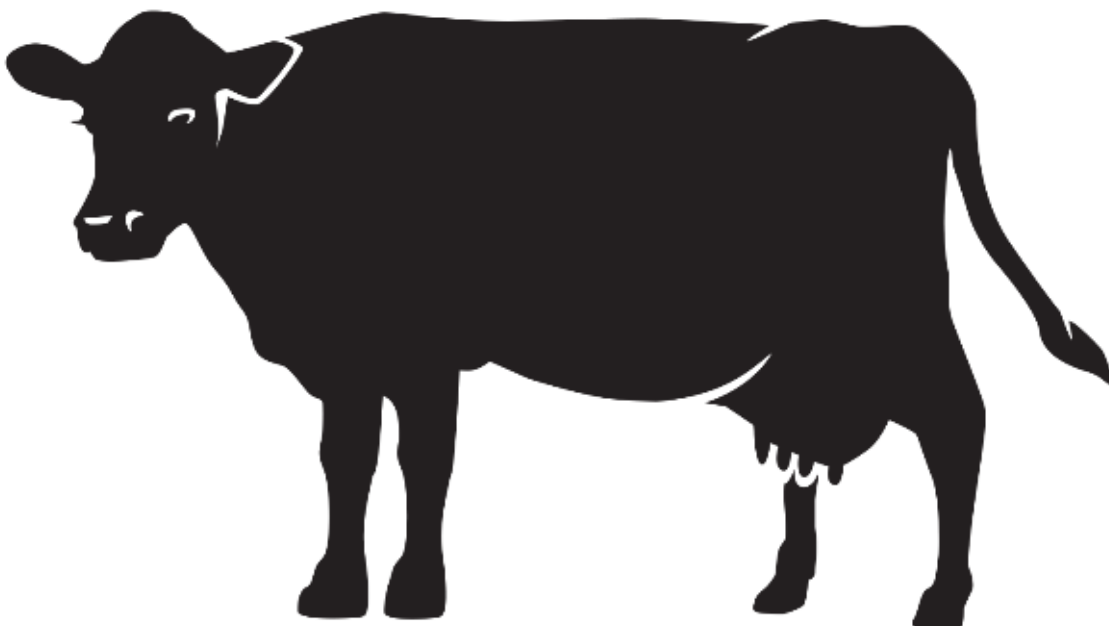
Start date: 01-01-2020

End date: 31-12-2024

Funder: Swedish Research Council for Sustainable Development (FORMAS)

SLU participants: Magnus Ljung, Sigrid Agenäs, Anna Hessle, Nilla Nilsson-Linde, Gordana Manevska Tasevska, Pernilla Tidåker, Anna Wallenbeck, Mårten Hetta, Juana Chagas, Madeleine Magnusson, Christine Haaland, Frida Dahlström

Overview: SustAnimal is a leading knowledge centre for decision-makers and stakeholders to turn to for collaboration and knowledge about the role of food-producing animals in the development of a resilient, sustainable and competitive food production in Sweden. The world shares major challenges, such as, climate change, biodiversity conservation, circular systems and sustainable growth. Food production and consumption need to change fundamentally worldwide and also in Sweden. The transition requires the research to take a holistic approach, weigh the pros and cons, create models that help us see all connections and effects, and study and evaluates these models. SustAnimal currently has 17 partners with a broad representation from universities, research institutes, industry organisations and companies. Together we ask urgent and difficult questions. We share knowledge and build new knowledge. And we are working intensively to find solutions to complex problems.



Nature-based Solutions for Climate Resilient, Nature Positive and Socially Just Communities in Diverse Landscapes (Naturescapes)

Project coordinator: Harriet Bulkeley, Utrecht University, Netherlands

Project budget: 7.087.446 Euro

Start date: 01-12-2023

End date: 01-11-2027

Funder: Horizon Europe

SLU participants: Kes McCormick

Overview: Nature-based solutions (NBS) are interventions designed to use the properties of nature to address multiple sustainability challenges and contribute to biodiversity. They are increasingly recognised as a crucial means through which the intertwined challenges of climate change, the loss of biodiversity and social injustice can be addressed. Yet despite their growing popularity, we lack an understanding of the synergies and trade-offs that multiple NBS bring and of who benefits, under which conditions. At the same time, the challenge of implementing NBS remains significant. Collaboration and partnership are essential ingredients for successful NBS implementation, yet moving from individual NBS to the landscape scale raises significant challenges for how the governance and finance needed can be achieved. Our work will generate an enhanced dialogue between society and nature, contribute to more inclusive and even sustainable development, strengthen NBS implementation and help to shape a new agenda for transformative NBS governance across the EU and internationally.



Transformative Climate Resilience by Nature-based Solutions in the Continental Bio-geographical Region(ARCADIA)

Project coordinator: Arianna Cecchi, ART-ER, Italy

Project budget: 18.661.245 Euro

Start date: 01-01-2024

End date: 31-06-2028

Funder: Horizon Europe

SLU participants: Kes McCormick, Lisa Blix Germundsson, Misagh Mottaghi, Anna Nohed

Overview: It is demonstrated that Nature-based Solutions (NBS) efficiently and effectively contribute to climate adaptation. However NBS need to be adapted locally and to be coherently chosen in order to assure sustainability and “no side effects”. To achieve this, ARCADIA will mobilise 8 European regions and communities – from Italy, Croatia, Austria, Denmark, Sweden, Bulgaria, Romania, Slovenia – to accelerate NBS adoption and assist them in accessing up-to-date, evidence-based actionable knowledge, guidance, knowledge intense tools and services, mutual learning and networking opportunities. The project will foster enabling conditions to accelerate regeneration using NBS, by analysing individual and socially determined perceptions of risks and solutions, and experimentally designing incentives and behavioural nudges fostering social acceptance and community actions. In ARCADIA, the definition of regional ambitions and of methodologies and approaches co-developed at consortium level, will be followed by the implementation of 15 co-innovation labs with the engagement of the interested communities and societal partners; the learning across policy areas will be exploited to up-scale and deploy at large scale the solutions in the regions, developing robust policy and economic tools (regulations, funding schemes, business models, investment tools).



Enhanced Urban Nature Plans for Biodiversity Mainstreaming in Society (UNPplus)

Project coordinator: Alessandro Deserti, Politecnico di Milano, Italy

Project budget: 4.997.972 Euro

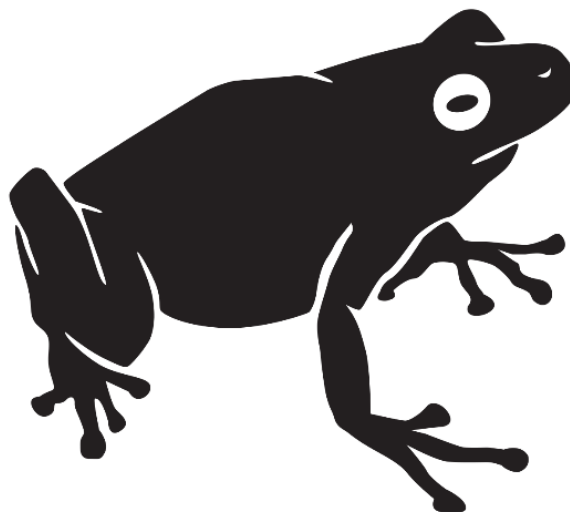
Start date: 01-01-2024

End date: 31-12-2026

Funder: Horizon Europe

SLU participants: Kes McCormick, Misagh Mottaghi

Overview: It is now widely acknowledged that to make adequate and timely progress in the direction of biodiversity mainstreaming, three critical aspects – previously overlooked or insufficiently handled by supranational policies – need to be emphasised and further explored in their transformative potential: 1) The establishment and operation of bottom-up initiatives, which may adequately complement the Country level National Sustainable Development Plans and Green Growth Strategies; 2) The introduction and refinement of appropriate methodologies, and capacity-building activities, to enable the engagement of all key societal stakeholders (notably including market players, citizens and local government actors) in concerted actions to restore the most compromised elements of the natural environments; 3) Continuous work on enabling nature-based solutions by identifying the connections, and addressing the disconnects, between biodiversity conservation and social, economic, and technological challenges. To meet the requirements of the EU Biodiversity Strategy for 2030 and of the recent European Commission proposal for a Nature Restoration Regulation, the UNPplus consortium proposes an action research plan for mainstreaming biodiversity, ecosystem services, and natural capital in urban policies and economies through adopting a whole of society approach.



Agriculture for Food Security 2030 (AgriFoSe 2030)

Project coordinator: Sofia Boqvist, SLU, Sweden

Project budget: 60.000.000 SEK

Start date: 01-01-2020

End date: 31-12-2023

Funder: Swedish International Development Agency (SIDA)

SLU participants: Sofia Boqvist, Fredrik Fernqvist

Overview: The ultimate goal of the AgriFoSe2030 programme is to contribute to the sustainable intensification of smallholder farming systems in sub-Saharan Africa and South and Southeast Asia for improved food and nutrition security. The programme is developed by a consortium of scientists from the Swedish University of Agricultural Sciences, Lund University, Linköping University and Stockholm Environment Institute. Despite economic growth and millions of people having been lifted out of poverty, food insecurity and a lack of nutrition remain daunting challenges in many parts of the world. The number of people suffering from hunger is on the rise, and two-thirds of the global extreme poor work hard to earn their livelihoods in agriculture. The challenges of achieving food and nutrition security are largest in sub-Saharan Africa and South and Southeast Asia, where smallholder farmers provide around 80% of the food consumed. Hence, transforming smallholder farming in these regions to increase productivity, profitability and environmental and social sustainability will be a key to reaching the goal to end hunger, as well as many other Sustainable Development Goals (SDGs). There is a need for a transformative agenda that includes science-based, well-crafted and, crucially, context-specific government interventions and policies, as well as improved and innovative agricultural practices.



Promoting Green Nutrition for the Sahel Region (NutriGreen)

Project coordinator: Kostas Karantininis, SLU, Sweden

Project budget: 784.249 Euro

Start date: 01-06-2021

End date: 31-03-2025

Funder: Swedish International Development Agency (SIDA)

SLU participants: Kostas Karantininis

Overview: Senegal and Burkina Faso are already exposed to an increase in extreme weather events such as droughts and floods, due to climate change. As a result, the yields of staple foods are set to decline significantly during the 21st century, adding more pressure on the already highly strained local food systems. An overlooked and underutilized group of plants that could fill this shortfall are indigenous vegetables and tree crops. They are well-adapted to the local climate, less affected by pests and diseases and therefore require fewer inputs. Moreover, many of them are highly nutritious and often part of the resident food culture. The NutriGreen project will research these traditional plants to understand how their production and consumption can be amplified through sustainable nutri-sensitive food value chains (VCs) to foster a climate-resilient local agri-food system, especially filling the food supply gap during the seasonal hunger period. To reduce volatility in agri-food production and food markets, the project will analyse, identify and test innovative technologies in the production, post-harvest/processing and marketing of selected traditional plants in Gaoua in Burkina Faso and Louga in Senegal. To engage new consumers and improve food security, NutriGreen will develop new products, healthy recipes and information campaigns. NutriGreen is a multi-actor project, with a strong partner network, that includes local food system actors right from the start.



Scaling Urban Regenerative Food Systems in Transition (SURFIT)

Project coordinator: Christian Scholl, Maastricht University, Netherlands

Project budget: 1.152.422 Euro

Start date: 01-01-2024

End date: 31-12-2026

Funder: JPI Urban Europe

SLU participants: Kes McCormick, Jonas Bååth

Overview: One of the key challenges for sustainable urban food systems is to shorten the food supply chain by connecting food producers directly to consumers locally, or regionally. Sustainable food networks (SFNs) try to achieve this ambition, but struggle with scaling their often isolated and marginal position. The SURFIT project focuses on the concept of ‘catalysers’ to jointly experiment with and learn about scaling process of SFNs. A catalyser is a strategic lever that enables scaling to the systemic level of urban food networks, while delivering ecological and socio-economic benefits to local communities (and the wider region), fostering the integration of sustainable urban food systems with other urban resource systems to increase circularity, promoting equal distribution of benefits, and providing healthy and sustainable food to all inhabitants. SURFIT will bring together SFNs, local policymakers and a multidisciplinary set of researchers from four mid-size cities to jointly conduct transdisciplinary research in Urban Food Labs (UFLs) with an urban living lab approach. The aim of this research is to explore, understand and engage in how catalysers can be designed to scale SFNs for systemic transitions. The project will deliver design principles and reflexive guidance in embedding catalysers to advance and scale SFNs.



Follow the Food: Waste reducing Retail Actions – What happens when the food reaches the consumer?

Project coordinator: Nicklas Neuman, Uppsala University, Sweden

Project budget: 6.000.000 SEK

Start date: 14-12-2023

End date: 14-12-2026

Funder: Swedish Research Council for Sustainable Development (FORMAS)

SLU Participants: Jonas Bååth, Sara Spendrup, Rosa Hellman

verview: In Sweden, the retail sector is constantly working to reduce its food waste. Examples of this are attempts to sell food in new ways or with reduced prices, or donating it to charity. Best case scenario, this benefits the stores while also reducing food waste at the consumer stage, which both in Sweden and in other high-income countries is the stage in the food chain where the largest amount of food is wasted. Still, we actually know nothing about what happens to the food that is sold or donated with the purpose of reducing food waste. In three case studies, established routines for reducing food waste will be evaluated, with the aim of following food sold or donated all the way to the consumer. Amounts of food sold or donated is measured in relation to what is thrown away in stores, and questionnaires and interviews are used to investigate what happens at the consumer stage. We ask: do actions to reduce food waste in stores lead to reduced waste at home for the consumer? A large qualitative study is also carried out in which organizational processes linked to waste reducing actions and the evaluation studies are investigated in-depth. The project is unique in following the food all the way to the consumer stage. The results will fill important scientific gaps about the relationship between retail actions and consumer behavior, and provide immediately applicable knowledge to decision makers and the retail sector.



Nutritious, Tasty and Health-promoting Novel Wheat Products

Project coordinator: Eva Johansson, SLU, Sweden

Project budget: 6.000.000 SEK

Start date: 12-01-2022

End date: 30-11-2025

Funder: Swedish Research Council for Sustainable Development (FORMAS)

SLU participants: Sara Spendrup, Eva Johansson, Mahbubjon Rahmatov, Faraz Muneer, Julia Darlison, Olawale Jubril Olalekan, Monalisa Sahoo

Overview: Wheat, as a major human food contributor, add physical (e.g. taste, flavor, aroma, and color) and nutritional (e.g. protein, minerals, phytochemicals, and amino acids) values to the food. Qualitative and quantitative factors regulate these values in a genetically strict manner. State of-the-art farm-to-fork strategies are the most effective solutions to maintain physical and nutritional properties of the wheat grain, contributing to human health and well-being. This proposal combines sensory and consumer analyses of wheat characters with cutting-edge genomics and metabolomics tools to identify improved physical and nutritional values in wheat genotypes. The project aims to define the molecular, biochemical, and phenotypic traits behind the physical and nutritional values in wheat. A combination of 1) comprehensive metabolomics analysis and association genomics to facilitate marker-aided breeding; 2) healthy product development; 3) sensory analysis; and 4) consumer perception studies, will be utilized. The results will provide breeders, geneticists, millers, and bakeries with the essential knowledge and resources required to enhance the taste, flavor and nutrition of wheat. Consequently, this project will provide a scientifically based direction leading to incremental improvements in health outcomes of the population by expanding scientific knowledge to the development of desirable and healthful food.



Projects on domestic legumes for human consumption: “Getting the pulse to the plate” and “A Stronger Supply Chain for Plant Based Protein Food in Östergötland”

Project coordinators: Lisa Blix Germundsson, SLU, and Maria Källming, Vreta KLuster AB

Project budget: 1.375.000 SEK and 970.000 SEK

Start date: 01-04-2023

End date: 30-05-2025 and 31-12-2025

Funder: Stiftelsen Lantbruksforskning

SLU participants: Lisa Blix Germundsson, Jonas Bååth, Annie Drottberger, Georg Carlsson, Lotta Nordmark; and Sara Spendrup.

Overview: An increased production and consumption of legumes can contribute to several societal benefits. Among the identified advantages are reduced emissions of climate gases, increased biodiversity and reduced eutrophication, but also new business opportunities in the food chain and positive effects on people’s health and economy. There are good conditions for growing more peas, field beans and other legumes in Sweden. However, pulses still make up a very small proportion of arable land, and farmers are experiencing difficulties in finding profitable outlets for pulses despite increasing demand. Currently, there are several gaps in the supply chain that could be remedied by a closer cooperation between stakeholders. In the project “Getting the pulse to the plate”, the hypothesis that the most important obstacles are in the steps after harvest will be tested, for example facilities for drying, cleaning, storage and early processing, as well as limited opportunities for dialogue between growers and buyers of legume raw materials. The aim of the project in Östergötland is to create a basis for a stronger supply chain for plant based protein for human consumption. Within this project the supply chain will be mapped through interviews and compilation of statistics.



Sustainable Agri-Food Systems Intelligence – Science-Policy Interface (SASi-SPi)

Project coordinator: Konstantinos Karantininis, SLU, Sweden

Project budget: 11.500.000 Euro

Start date: 01-01-2023

End date: 31-12-2027

Funder: Horizon Europe

SLU participants: Konstantinos Karantininis, Rodomiro Ortiz

Overview: Sustainable Agri-Food Systems Intelligence – Science-Policy Interface (SASi-SPi) is a project with the overall objective to contribute to the economic, social, and environmental sustainability of Aquatic and Agri-Food Systems in Africa, Asia, Latin America and the Caribbean. SASi-SPi is a social-sciences, economics in particular, driven project and it is primarily open to each of the 35 AGRINATURA member organisations. A “sister” project, named SASi is coordinated by the Food and Agriculture Organization of the United Nations (FAO). The two teams, AGRINATURA and FAO, will work in close collaboration and coordination on the overall project and each work stream. The SASi-SPi has four specific objectives and corresponding work streams. First, SASi-SPi provides fast-track intelligence within 72 hours upon request – as policy briefs. Second, SASi-SPi develops intelligence on four cross-cutting themes and it will establish Science-Policy Labs to test and implement policy recommendations. Third, SASi-SPi works with country studies in close collaboration with the FAO team and the corresponding European Commission and local stakeholders in three countries. Fourth, SASi-SPi provides communication efforts and building capacity among stakeholders through participatory methods that facilitate dialogue.



Food Costing and Internalisation of Externalities for System Transition (FOODCoST)

Project coordinator: Willy Baltussen, Stichting Wageningen Research, Netherlands

Project budget: 7.355.092 Euro

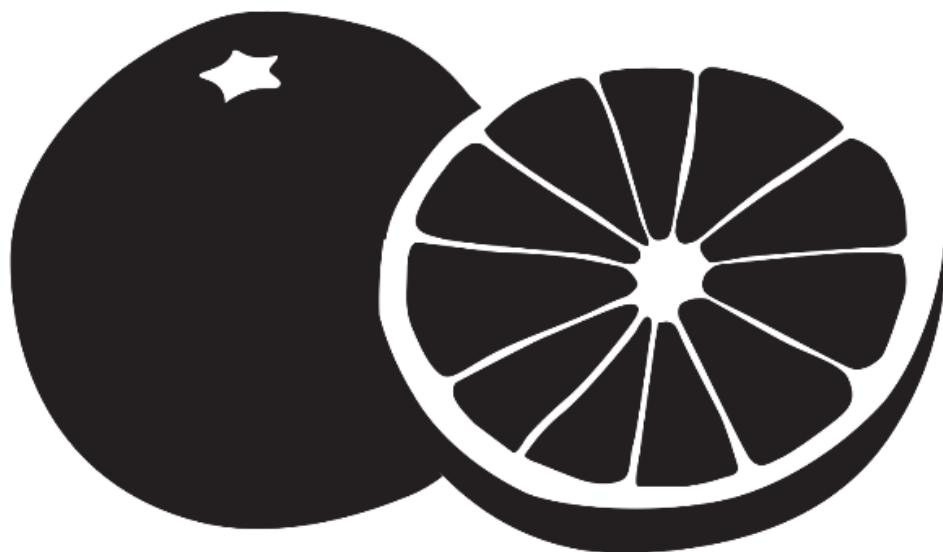
Start date: 01-06-2022

End date: 31-05-2026

Funder: Horizon Europe

SLU participants: Erik Hunter

Overview: Ensuring sustainable food systems requires vastly reducing its environmental and health costs while making healthy and sustainable food affordable to all. In current food systems many of the costs of harmful foods and benefits of healthful foods are externalized, i.e. are not reflected in market prices and therefore not in decision making of actors in food value chains. Solving the externality problems means to determine current costs of externalities and redefine food prices (true pricing) to internalize them in daily practice. Policy makers, businesses and other actors in the food system, lack sufficient information and knowledge to internalize externalities to achieve a sustainable food system. FOODCoST responds to this challenge by designing a roadmap for effective and sustainable strategies to assess and internalise food externalities. FOODCoST provides approaches and databases to measure and value positive and negative externalities, proposing a game-changing and harmonised approach to calculate the value of climate, biodiversity, environmental, social and health externalities along the food value chain based on economic cost principles.



Nordic Baltic Universities Boosting Entrepreneurial and Innovation Support Systems (NOBALIS)

Project coordinator: Solveig Fossum-Raunehaug, Norwegian University of Life Sciences, Norway

Project budget: 1.200.000 Euro

Start date: 01-12-2022

End date: 30-06-2024

Funder: EIT Food

SLU participants: Fredrik Fernqvist, Sara Spendrup, Rebecca Thörning, Per-Anders Langendahl, Erik Melin, Mats Wiktorsson

Overview: NOBALIS is implemented by a Nordic-Baltic region consortium consisting of five universities with background in life sciences, agriculture and technologies and two organizations specializing in technology transfer, start-up support and acceleration programs. The focus is to develop, share and expand innovation and entrepreneurship support capabilities in the areas of sustainable food production, circular economy, and development of new green value chains. The overall frame for the project is created by the regional and national smart specialization strategies and the research and teaching profile of partners focusing on food, bioresource and biotechnology. The project concept uses three pillars: institutional capacity building through renewal of structures, practices and policies; competency development through updated curricula and skills; NOBALIS Entrepreneurial and Innovation Capacity Development program for facilitation of food, bioresource and biotechnology start-ups. New partnership and network building activities are cross-cutting across all the pillars.



From wanting to daring and being able – how can we better support agricultural entrepreneurs to promote the long-term sustainability of arable land?

Project coordinator: Jenny Höckert, SLU, Sweden

Project budget: 4.400.000 SEK

Start date: 01.07.2022

End date: 30.06.2025

Funder: Kamprad Family Foundation for Entrepreneurship, Research and Charity

SLU participants: Jenny Höckert, Christina Lundström

Overview: The project is about supporting farmers, so-called “soil health entrepreneurs” who want to use new cultivation practices to improve soil health. Increased soil health contributes to increased food security, as the soil is better able to cope with both drought and heavy rainfall. We have met a number of committed but frustrated farmers who want to change the way they farm arable land. Improved soil health in ploughland is of great importance to society, but it requires commitment, innovative thinking, risk-taking and learning from agricultural entrepreneurs. The aim of the project is to: 1) Support agricultural entrepreneurs learning and exchange of experience on more sustainable soil management by gathering, deepening, developing and make information and experience available via an open web platform. 2) Spread knowledge about soil health via webinars and workshops. 3) Provide an overview of the bottlenecks, challenges and knowledge needs that farmers and advisers perceive as obstacles to development. 4) Produce recommendations for continued knowledge development and practical application linked to soil health based on the opinions of farmers and advisers needs.



Preparing for the ‘Soil Deal for Europe’ Mission (PREPSOIL)

Project coordinator: Jenny Barron, Århus University, Denmark

Project budget: 4.990.228 Euro

Start date: 01.07.22

End date: 30.06.25

Funder: Horizon Europe

SLU participants: Jenny Höckert, Christina Lundström

Overview: Lack of knowledge and awareness of the importance of long-term soil health is a major driver of soil degradation affecting its capacity to provide ecosystem services. The ‘Soil Deal for Europe’ Mission proposes a novel approach to research and innovation for impact, based on Open Science and strong stakeholder and citizen engagement. PREPSOIL will adopt a proactive approach to co-create with stakeholders, leveraging on both offline and online facilities, with the ultimate purpose of generating long-lasting interaction spaces. SLU leads a task that will identify, promote and reward innovative examples of soil education for young people, in primary and secondary school. The aim is to find interesting examples on soil pedagogy that could inspire teachers in order to increase soil literacy among young people. Jenny Höckert leads a task that aims to 1) assess awareness and understanding of soil health concepts and how they put this into practice in professional roles (AKIS), e.g. as agricultural advisors and 2) will identify public/private extension programs and grass root initiatives to explore strengths, weaknesses and possible improvements of co-learning systems within soil health.



The Climate Game

Project coordinator: Christina Lundström, SLU, Sweden

Project budget: 6.900.000 SEK

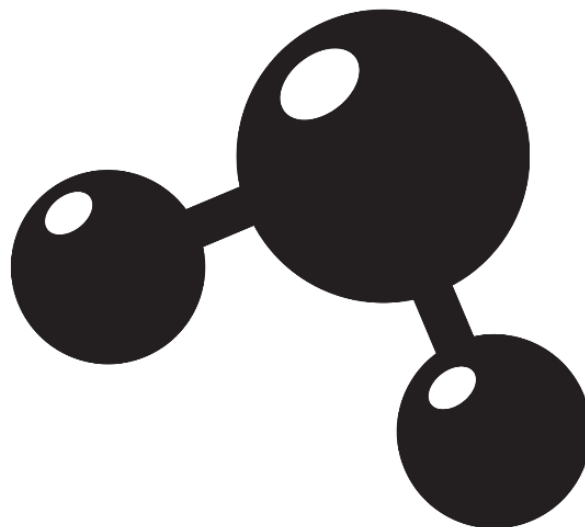
Start date: 01-12-22

End date: 30-11-25

Funder: Swedish Research Council for Sustainable Development (FORMAS) and the Swedish Inheritance Fund

SLU participants: Christina Lundström, Anna Hessle

Overview: The project will produce a digital game for learning, the KliMat game, which clarifies challenges and opportunities in a situation where society both wants to increase its degree of self-sufficiency in food production and reach the goals that affect climate, and biodiversity. For several years now, Sweden has had environmental goals that concern this, but the issues have become even more relevant during the pandemic and with the war in Ukraine. Four youth organizations 4H, Svenska Kyrkans Unga, Sverok Väst and WWF Sweden Youth participate in the project. In addition, SLU, SLU Holding, the University of Skövde, the National Resource Center for Biology Teaching and NTA School Development participate. The target group is young people in secondary school. Some of the greatest challenges of our time are to increase food production and at the same time reach set goals regarding climate and biodiversity. Large-scale food production is questioned by some, for others price and efficiency in the food chain are decisive. The amount of meat we eat is being questioned due to climate impacts, while grazing animals are required to maintain our biodiversity and soil health. Technological development and different consumption and production patterns, perspectives and models complicate the picture even more and in the end the consumer must make “good” decisions. Many people play computer games and climate, environment and food are important to all of us.



Transformative Governance for a Sustainable Food System

Project coordinator: Fredrik Fernqvist, SLU, Sweden

Project budget: 2.800.000 SEK

Start date: 01.09.2024

End date: 31.08.2028

Funder: Swedish University of Agricultural Sciences (SLU)

SLU participants: Fredrik Fernqvist

Overview: Working with complex challenges, such as food system sustainability, requires long-term planning and collaborations across sectors and across scales, such as urban and rural planning on local, regional and national levels. This PhD project takes forward food planning as a case in governance and food systems research. In the context of the shift from government to governance”, this project looks at how local authorities through public sector innovation may affect the dynamics of local food systems and their long-term sustainability. This project takes an interdisciplinary approach to investigate how food planning unfolds in the context of wider cross-sectoral systems thinking, and to understand the dynamics between local governance contexts, urban food governance mechanisms, and local food systems. The project will deliver science-based knowledge and theoretical ground for research, practice, policy and strategy connected to food systems.



Interdisciplinary Academy

The Interdisciplinary Academy is a program at SLU where researchers are offered the opportunity to collaborate across disciplinary boundaries on complex issues in the broad field of green transformation. It also arranges open webinars to inspire and promote interdisciplinary collaboration across SLU.

Food Production and Food Security through Agritecture: Interdisciplinary Group on Rooftop Greenhouse Technology

Budget: The Interdisciplinary Academy provides funding for 20% of employment costs per participant over a year.

SLU participants: Sara Spendrup, Marie-Claude Dubois, Karl-Johan Bergstrand, Tobias Emilsson, Paul Becher, Anders Larsolle

The projected growth in urban population, is expected to put unprecedented pressure on resources, including food, energy, and water, which calls for alternative solutions such as urban agriculture (UA). Among several UA systems, agritecture is a newly emerging concept describing the symbiosis between “agriculture” and “architecture”. It involves the planning, design and implementation of agricultural systems on or within buildings to optimise space use by exploiting rooftops, walls or other building parts to grow food in the city.

Agritecture encompasses various systems, including indoor vertical farming (VF), rooftop farming (RTF) and rooftop greenhouses (RTGs), semi-attached greenhouses, etc. It has the potential to transform cities into more self-sufficient and resilient ecosystems, where food production becomes integrated in urban life and reconnects people to the food they consume. Since agritecture involves considerations regarding architectural design, engineering, horticulture, hydroponics, and urban planning, it is an ideal subject for interdisciplinary collaboration within and outside SLU.

One subset of agritecture, which is currently expanding in several countries, is rooftop greenhouse technology. RTGs can be designed in various forms, ranging from simple structures to more complex systems incorporating hydroponics, aquaponics, nutrient film technique, or other soilless cultivation methods. RTGs often utilize innovative technologies, such as LED lighting and automated irrigation systems, to optimize growing conditions and increase productivity, which calls for expertise in several fields.



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