LCSS Institute of Economics and Rural Development

20th European Rural Development Network Conference

GREEN TRANSFORMATION IN EUROPEAN RURAL AREAS

LCSS Institute of Economics and Rural Development

XX European Rural Development Network Conference

“Green transformation in the European rural areas”

Vilnius, Lithuania 11–13 September 2024

European Rural Development Network
Book of abstracts

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European Rural Development Network

Institute of Economics and Rural Development,
Lithuanian Centre for Social Sciences

Lithuanian Academy of Sciences

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Welcome letters

LIETUVOS SOCIALINIŲ MOKSLŲ CENTRAS

Biudžetinė įstaiga, A. Goštauto g. 9, LT-01108 Vilnius,
Tel. (8 5) 211 3774, el. p. lsmc@lcss.lt
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 305674949

To: conference participants and guests 2024-09-03

REGARDING PARTICIPANTION IN THE XXTH EUROPEAN RURAL DEVELOPMENT CONFERENCE "GREEN TRANSFORMATION IN EUROPEAN RURAL AREAS"

Dear colleagues,

On behalf of the researchers of the Lithuanian Centre for Social Sciences, we would like to welcome participants and guests of the XXth European Rural Development Network Conference „Green transformation in European rural areas".

We have chosen this topic for the conference in the light of the current challenges facing humanity, which require a global effort and an innovative approach. In our view, scientists must play first fiddle in the search for solutions. Not only because solutions require an innovative approach, but also because they require the courage to propose unpopular decisions.

We are delighted that so many representatives from 14 countries from inside and outside the EU have accepted the invitation to take part in an international scientific debate on how green transformation could change the lives of people in rural regions, improve the environment in which we live, create positive economic change, and mobilise communities to take ownership of a greener future for rural regions.

Scientific debate is the key to scientific collaboration. I wish you an interesting and meaningful discussion during the conference, create new contacts and get new experiences.

Sincerely Yours,

dr. Boguslavas Gruževskis

Director of the Lithuanian Centre for Social Sciences

Lietuvos mokslų akademija
The Lithuanian Academy of Sciences

Dear Participants and Guests of the 20th Conference of
the European Rural Development Network,

Significant shifts in climate change, economic uncertainties caused by the geopolitical situation, and the quest for energy independence in Europe are driving the need for green transformation. The Green Deal is a path towards a preserved planet, a modern and competitive economy, and a strong society. Each path of significant changes involves opportunities and challenges alike. To use natural resources responsibly, to switch to greener transport, to build a cleaner energy system, to restore forests, to preserve biodiversity, we need to rally and act together. Significant changes are coming not only for the big cities, but also for rural areas, where it is crucial to develop effective rural development and agricultural policies. Its development needs to take into account the latest research and insights from scientists and the thoughts and suggestions of practitioners.

It is deeply satisfying that the 20th Conference of the European Rural Development Network, organised by the Institute of Economics and Rural Development of the Lithuanian Centre for Social Sciences, the European Network for Rural Development, and the Lithuanian Academy of Sciences, has attracted keen interest and brought together researchers and practitioners in the fields of agriculture, rural development, and bioeconomy from all over Europe.

I am confident that the latest research presented at this conference, the vision for rural development discussed, and the recommendations made will contribute to the building of innovative, sustainable, and viable agriculture.

Prof. JŪRAS BANYS
President of the Lithuanian Academy of Sciences

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European Rural Development Network

Warszawa, 9.09.2024

Distinguished Colleagues!

The European Green Deal is a comprehensive plan aimed at transforming the European Union into a climate-neutral, resource-efficient, and competitive economy by 2050. This ambitious initiative requires a systemic approach to address the multifaceted challenges of climate change, environmental degradation, and sustainable development. Indeed, the European Union has long been at the forefront of environmental policy, with a track record of implementing measures to combat climate change and promote sustainability.

The crucial role of networks in the successful implementation of the green transformation and development of EU bioeconomy cannot be overstated. The challenges are complex and interconnected, requiring coordinated action across various sectors, stakeholders, and levels of governance. Networks can serve as crucial conduits for information sharing, collaboration, and the dissemination of best practices, enabling a more coherent and effective response to the demands of the Green Deal.

Since 2002, the European Rural Development Network has set itself the goal of integrating excellent researchers, exchanging their knowledge and working together to build a strong European Research Area in which all EU member states are represented, but also countries that are aspiring to join the EU. Moreover, knowledge and innovation know no boundaries so we are open to collaboration with research entities from all over the world - we believe this is the essence of a systemic approach to solving global challenges.

The importance of collaborative networks, including the ERDN, is recognised by the European Commission by inviting us to various advisory, research and dissemination bodies and our community is increasingly visible in the international research arena.

I consider it an honour that the XX European Rural Development Network Conference is taking place in Vilnius, co-organised by our key member Lithuanian Center for Social Sciences, Institute of Economics and Rural Development in cooperation with the Lithuanian Academy of Sciences. I am sure that we will be accompanied by interesting presentations, discussions, exchange of thoughts and ideas and, above all, a good time in the company of exceptional people.

Wishing you a successful conference!

dr hab. Paweł Chmieliński
Associate professor

President of the Board
European Rural Development Network

II. About the conference

Lithuanian Center for Social Sciences, Institute of Economics and Rural Development

European Rural Development Network

Lithuanian Academy of Sciences

XX European Rural Development Network Conference

"Green transformation in the European rural areas"

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Vilnius, Lithuania

The aim of the conference is to present current research and to discuss the future development of green transformation of rural areas in Europe and to develop recommendations for the creation of effective policies for rural development and agriculture. The exchange of experiences of research teams from various countries, of an interdisciplinary and intergenerational character, is extremely valuable here.

Scientific committee of the conference:

- Boguslavas Gruževskis, Lithuanian Center for Social Sciences
- Živilė Gedminaitė-Raudonė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Rita Lankauskienė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Vitalija Simonaitytė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Nelė Jurkėnaitė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Paweł Chmieliński, European Rural Development Network; Institute of Rural and Agricultural Development, Polish Academy of Sciences
- Zbigniew Floriańczyk, European Rural Development Network; Institute of Agricultural and Food Economics – National Research Institute
- Barbara Wieliczko, European Rural Development Network; Institute of Rural and Agricultural Development, Polish Academy of Sciences

Organizing committee of the conference:

- Rasa Melnikienė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Živilė Gedminaitė-Raudonė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Rita Lankauskienė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Vitalija Simonaitytė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development
- Erika Ribašauskienė, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development

- Paweł Chmieliński, European Rural Development Network; Institute of Rural and Agricultural Development, Polish Academy of Sciences
- Aleksandra Pawłowska, European Rural Development Network; Institute of Rural and Agricultural Development, Polish Academy of Sciences
- Barbara Wieliczko, European Rural Development Network; Institute of Rural and Agricultural Development, Polish Academy of Sciences
- Krzysztof Kossakowski, European Rural Development Network; Institute of Agricultural and Food Economics – National Research Institute

Host organisers

LITHUANIAN CENTRE FOR SOCIAL SCIENCES

On January 1, 2021, the Lithuanian Centre for Social Sciences (LCSS) was formed by a decision of the Lithuanian Government, uniting three prominent research institutions into one cohesive entity. This reorganization brought together the expertise of the Institute of Law, the Lithuanian Institute of Agrarian Economics, and the Lithuanian Social Research Center, which had previously operated independently. Today, the LCSS is home to a dynamic team of 148 professionals, including 132 dedicated scientists and researchers, supported by 16 administrative and technical staff members. The Centre operates through three key institutes: the Institute of Sociology, the Institute of Economics and Rural Development, and the Institute of Law.

Mission

The mission of the Lithuanian Centre for Social Sciences is to generate and disseminate high-level scientific knowledge in the fields of economics, sociology, and law, thereby shaping innovative public policies and enhancing the synergy between science, business, and society.

Vision

The Lithuanian Centre for Social Sciences is a reliable link between modern science and efficient public administration. Criteria of reliability are high competencies of researchers, international recognition and constant and active contacts with public administration institutions and international organizations.

Research and impact

The Lithuanian Centre for Social Sciences engages in a broad spectrum of activities, encompassing basic research through long-term institutional programmes and projects funded by EU programmes and the Lithuanian Research Council. It also conducts applied research to assess Lithuania's economic and social development, providing essential evidence for public policy decisions and supporting the implementation of the Lithuanian Government Programme. The Centre is at the forefront of R&D innovation, offering methodologies and recommendations for public governance, spearheading social innovation initiatives, and

fostering collaborations with businesses to accelerate innovation transfer. Furthermore, the LCSS plays a crucial role in providing expertise on agricultural economic accounts and forecasts, advising on legislative drafts, supplying data to international organizations, and implementing the National Statistics Programme, ensuring well-informed decision-making and robust agricultural policies.

Institute of Economics and Rural Development

As an integral part of the LCSS, the Institute of Economics and Rural Development is a socially responsible research institution dedicated to providing comprehensive solutions for Lithuania's rural economy and policy development. With four specialized divisions and a team of 55 employees, including 40 researchers and 30 distinguished doctors of science, the Institute leads the field of rural studies. Guided by the long-term institutional program "Transforming Agricultural and Rural Economies (2022-2026)", the Institute conducts scientific research and experimental social development in the areas of agricultural, food, and fishery economics, as well as rural development in Lithuania.

The Institute is driven by national interests and the needs of businesses and non-governmental organizations, conducting thorough research on rural areas and their processes at both scientific and practical levels. It strives to be a national leader in scientific research, a trusted partner for businesses and NGOs, and a collaborative hub that unites experts from various fields to advance the study of Lithuania's regional economy and development.

The Institute is an active member of the European Rural Development Network since 2010. This cooperation brings an important scientific collaboration between researchers, participation in preparation and implementation of various scientific research projects financed from various EU funds as Horizon 2020, Horizon Europe and other), preparation of recommendations for public authorities for the improvements of various agricultural, regional and rural issues.

Institute has an honor to be a host for the **XXth European Rural Development Network Conference** "Green transformation in European rural areas" at **11–13 September 2024 in Vilnius, Lithuania.**

Wishing a fruitful discussions and continuous cooperation!

dr. Boguslavas Gruževskis

Director of the Lithuanian Centre for Social Sciences

dr. Rasa Melnikienė

Deputy director of the Lithuanian Centre for Social Sciences and Head of Institute of Economics and Rural Development

THE LITHUANIAN ACADEMY OF SCIENCES

Looking from a global perspective, academies of sciences are not homogeneous. They differ in their aims, in methods of their activities, and in their importance within the system of studies and research of their countries. Still, the overall mission of all academies of sciences is focused on rallying the most outstanding researchers and undertaking initiatives that would enhance the country's well-being and scientific, social, cultural, and economic development. Academies are also united by traditional objectives: consistent encouragement of high-level studies and scientific research, cultivation of critical scientific thinking among the general public, nurturing of academic and scholarly freedom and the ethics of scientific research.

The Lithuanian Academy of Sciences carries out its mission by ensuring permanent and active propagation of education and research. This is achieved through a variety of forms: thematic conferences, meetings, seminars, and discussions, which are organised not only among the academicians but also between the academy and other institutions of research and studies both domestically and abroad.

The dispersion of education and research, which is crucial for progress, is always international and encompasses publishing.

Scientific deliberations are effective only when they are joined by all outstanding scientists in the country. For this reason, a number of aspects are important in the selection of academicians and in its activities. The key criterion in the selection of academy members is their research achievements. The academy must attract as many young, creative, and innovative researchers as possible. However, the initiative and creativity of the academicians, their experience in research organisation, dispersion of research results, and their expert experience are of no lesser importance. For the country's entire scientific elite to participate in the activities of the academy, it is necessary to expand cooperation between the members of the academy and those who are not its members and yet are its genuine reserve.

Another important field of activity is the encouragement of talented researchers and of scientific research in every possible way. Nowadays, although members of the academy conduct research in independent universities and research centres, the academy and academicians can have a significant impact on the country's research policies and development. Along with the prizes named after outstanding scholars, young researcher and student recognition prizes, the academy has instituted more measures stimulating the country's scientists and scientific research. Since 2004, the Lithuanian Academy of Sciences has coordinated the cooperation of the country's scientists with the European Organisation for Nuclear Research (CERN) and has promoted the participation of young researchers at the meetings of Nobel Prize laureates. Since 2010, the Academy has held a competition for 15 annual scholarships for the country's young researchers.

Provision of expertise and advice is the third sphere of the activities of the Lithuanian Academy of Sciences. Although at first sight it might appear that this is the most obvious and probably the most important function of the academy, it encompasses serious challenges to the independent and objective nature of science, for it is highly important to never violate the balance between academic freedom and responsibility. International cooperation and maintaining of international relations is another highly important field. The academy has cooperation treaties with 27 foreign academies of sciences.

In 2018, the Lithuanian Academy of Sciences founded the Young Academy of the Lithuanian Academy of Sciences. There are over 40 young academies and young scientists' associations around the world, which are united by the Global Young Academy founded in 2008. The Young Academy operates within the Lithuanian Academy of Sciences: a separate division has been established for its members with the aim of creating the best possible conditions for the development of their scientific and organisational work.

This conference are organized by two divisions: the **Division of Agricultural and Forestry Sciences** and the **Division of the Humanities and Social Sciences.**

The Division of Agricultural and Forestry Sciences was established in 1995, after the reorganisation of the Division of Biological, Medical, and Agricultural Sciences. Currently, the division is chaired by Prof. Vidmantas Stanys. At present, the division has 19 full members, eight members emeriti, and ten foreign members. The division works in five sections: **agronomy**, **forestry**, **veterinary medicine and animal sciences**, **agriculture and environmental engineering,** and **food sciences**. **The Lithuanian Soil Science Society** (chair Jonas Volungevičius) is affiliated to this division, which also supervises the work of the **Water Council** of the Lithuanian Academy of Sciences (chair Arvydas Povilaitis). The activities of the division are concentrated on the solution of the most relevant scientific issues in agriculture and forestry, food, husbandry and veterinary, environmental engineering, plant and animal biology and parallel fields and directions, on the promotion of research results, the development of and innovation in experimental agriculture. Considerable attention is paid to inter-institutional, interdisciplinary, and international relations, and to the promotion of the prestige of the agrarian sciences. The division organises international and local scientific conferences, discussions, and seminars; it is actively promoting activities of young scientists.

The Division of the Humanities and Social Sciences (chaired by Prof. Vytautas Nekrošius) has 20 full members, 12 members emeriti, and eight foreign members. The division conducts its activities in three sections: **the humanities, the social sciences**, and **the arts.** The humanities and cultural maturity of the present time are strongly influenced by the latest works of the academicians. Members of the division are active in fostering research into the Lithuanian language and literature, folklore, the history of Lithuania, cultural and ethno-cultural heritage, philosophy, the country's finance, economics, social changes, and international and civil law. Founded by the members of the academy, schools in various disciplines have gained international renown: Vilnius has deservedly become a world centre of Baltic studies, the works in medieval and other historical studies are well known and widely cited, and so are the achievements of Lithuanian scholars in cultural studies.

Every year, the division organises a number of academic conferences and round table discussions on relevant issues of research, art, culture, and preservation of cultural heritage. Commissioned by local and foreign institutions, its members carry out various expert appraisals, take part at various programmes in the country and abroad, in the activities of public organisations and NGOs, and in the work of editorial boards of local and foreign scientific publications.

Prof. JŪRAS BANYS
President of the Lithuanian Academy of Sciences

III. Conference Programme

Lithuanian Center for Social Sciences, Institute of Economics and Rural Development

European Rural Development Network

Lithuanian Academy of Sciences

XXth European Rural Development Network Conference

"Green transformation in European rural areas"

11–13 September 2024

Vilnius, Lithuania

Programme of the conference

Day 1 of the Conference: – Wednesday, 11 September 2024

The Lithuanian Academy of Sciences (Gedimino Ave. 3, Vilnius)

9:00-9:30	**Registration to the conference**
9:30-10:00	**Opening of the conference.** **Host Moderator:** dr. Rasa Melnikienė, Director of the Institute of Economics and Rural Development, Lithuanian Center for Social Sciences **Welcoming words by**: *prof. dr Paweł Chmieliński, President of the ERDN, Polish Academy of Sciences* *prof. Jūras Banys, President of the Lithuanian Academy of Sciences* *dr. Boguslavas Gruževskis, Director of Lithuanian Centre for Social Sciences*
10:00-11:30	**Plenary session I.** **Moderator:** Dr Živilė Gedminaitė-Raudonė, Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development **Scientific and social achievements for a green transition** *Mr Juozas Olekas, Former Member of the European Parliament (2019-2024)* **Speech of the Representative of the Ministry of Agriculture of the Republic of Lithuania (tbc)** **Systems approach in the European Green Deal – challenges and the role of the Network(s)**

	Dr Paweł Chmieliński, President of the ERDN, Institute of Rural and Agricultural Development Polish Academy of Sciences (IRWiR PAN) The EU Rural Pact *Ms Pascale van Doren, Leader of the Rural Pact Support Office, AEIDL* Green transformation of Lithuanian agriculture: challenges and solutions *dr. Arūnas Svitojus, President of the Lithuanian Chamber of Agriculture*
11:30-12:00	Coffee break
12:00-13:30	Plenary session II. Moderator: Dr Paweł Chmieliński, European Rural Development Network, IRWiR PAN Clusters as approach to strengthen innovation, development and green transformation in the agri-food sector *Dr. Klaus Wagner, Federal Institute of Agricultural Economics, Rural and Mountain Research (BAB), Vienna* "Green" transformation of the Common Agricultural Policy and Its Impact on Farm Income Disparities *Dr Aleksandra Pawłowska, Institute of Rural and Agricultural Development, Polish Academy of Sciences* Rural Economic Developments and Social Movements: A New Paradigm for Transformation in Rural Areas *Dr. Rita Lankauskiene, Dr. Živilė Gedminaitė-Raudonė, Dr. Dalia Vidickienė, Dr. Vitalija Simonaitytė, Dr. Erika Ribašauskienė* Green Transformation in Kosovo's Rural Areas: Opportunities, Challenges, and Implications *Dr Ekrem Gjokaj, Mihone Kerolli-Mustafa, Lindar Krasniqi, Public International Business College Mitrovica (IBCM)* How to support positive systems transformations - evaluator lens *Dr Weronika Felcis,* Latvijas Universitate/International Evaluation Academy Funding possibilities under programme Horizon Europe: Cluster 6, EU Missions "Adaptation to Climate Change" and "A Soil Deal for Europe". *Ms Irena Kuzminskienė and Ms Lina Liepytė, National Contact Points (NCP) for Cluster 6: of the Horizon Europe, Research Council of Lithuania,* *Ms Jolanta Revaitienė, National Contact Point (NCP) for the EU Missions "Adaptation to Climate Change", "A Soil Deal for Europe", Research Council of Lithuania.*
13:30-15:00	Lunch at Novotel hotel (address: Gedimino Ave. 16, Vilnius). 5 min. walk from conference venue.

15:00-16:30	Plenary session III. **Moderator:** Prof. Dan-Marius Voicilas, Romanian Academy-Institute of Agricultural Economics **Usefulness of prioritisation methods in designing CAP Strategic Plans** *Dr Barbara Wieliczko[1,2], dr Zbigniew Floriańczyk[1,3]* *1. European Rural Development Network; 2. Institute of Rural and Agricultural Development, Polish Academy of Sciences; 3. Institute of Agricultural and Food Economics – National Research Institute.* **Rural prosperity in Romania from vision to action** *Dr Monica Mihaela Tudor,* Institute of Agricultural Economics – Romanian Academy **Agriculture 4.0 in Italy: analysis of entrepreneurs' preferences and diffusion forecasts** *Prof. Ruggiero Sardaro, Antonio Urbano, Snour Ahmadi, Prof. Piermichele La Sala, Department of Economics, University of Foggia, Italy* **Interaction between stakeholders and levels of governance in Green Infrastructure plans: Lessons learnt from two strategic planning processes in Galicia and The Netherlands** *Ms Rocio Losada-Iglesias, dr Emilio Díaz-Varela, prof. David Miranda, University of Santiago de Compostela, EPSE* **BioRural toolkit as support for development pan-European Rural Bioeconomy Network** *Dr Magdalena Borzęcka, Ms Małgorzata Wydra, Mr Bas Paris, Dr Thanos Balafoutis, Institute of Soil Science and Plant Cultivation, Poland*
16:30-17:00	Coffee break
17:00-18:00	Poster session **Moderator:** Dr Marie Trantinova, Fellow of the Institute of Agricultural Economics and Information – UZEI, Czechia **Sustainability of farms of various production types - economic and environmental assessment** *Dr Zofia Koloszko-Chomentowska[1], Dr Aiste Galnaityte[2], Dr Virginia Namiotko[2], 1. Bialystok University of Technology, 2. Institute of Economics and Rural Development (Vilnius)* **Thermal insulation materials from local sheep wool**

	Dr. Virgilijus Skulskis. LCSS Institute of Economics and Rural Development, Vėjelis, S. Vilnius Gediminas Technical University Analysing nitrogen use efficiency in cereal farms: insights from Lithuanian agriculture *Dr. Tomas Baležentis, Dr. Vida Dabkienė, Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development Lithuania* A systematic literature review on gender equality norms, constraints and adoption of women's innovations in agriculture *Dr. Vida Dabkienė, Lithuanian Centre for Social Sciences, Lithuania* Lessons to be learned from the Implementation of the Lithuanian Rural Development Programme 2014–2020 Measure "Agri-Environment and Climate" *Dr. Aistė Galnaitytė, Dr. Virginia Namiotko, Dr.Irena Kriščiukaitienė, Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development* Evaluating the interaction between agricultural activity and the environment – the impact of mineral fertiliser use *Dr. Vaida Šapolaitė, Lithuanian Centre for Social SciencesInstitute of Economics and Rural Development* Institutional public tenders as a tool for the development of local supply chains *Dr. Nele Jurkėnaitė, Dr. Rasa Melnikienė, Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development* Unpacking household food waste in Lithuania: quantities, composition, and causes *Ms Ovidija Eičaitė, dr. Tomas Baležentis, Lithuanian Centre for Social Sciences Institute of Economics and Rural Development* Development of a Sustainable Food System in the Context of the European Union Long-term Vision for Rural Areas *Ms Erika Ribašauskienė, dr. Tomas Baležentis, Lithuanian Centre for Social Sciences Institute of Economics and Rural Development* Biomass supply potential analysis at national and regional levels in Poland *Ms Anna Jędrejek, Ms Małgorzata Kozak, dr hab. Rafał Pudełko, Institute of Soil Science and Plant Cultivation - State Research Institute* Livestock farming and land use: Demonstrating connections using the example of Austrian chicken fattening *Dr Heidelinde Grüneis, Dr Karin Heinschink, Dr Lisa Eller, Federal Institute of Agricultural Economics, Rural and Mountain Research, Wien*

19:00-22:00	**Gala dinner for Conference participants** **Venue:** Novotel hotel (address: Gedimino Ave. 16, Vilnius).
tbc	**Afterparty** (Sanatorija, Vilniaus st. 22, Vilnius)

Day 2 of the Conference: - Thursday, 12 September

Bus will leave at 8.30 from Novotel hotel (*address: Gedimino Ave. 16, Vilnius, please arrive 10 min. before bus departure.)*

Field trip *on innovative activities in rural areas.*

- **Field visit** I (10.00-11.00)
- Lunch (12.00-13.00)
- **Field visit II** (13.30-14.30)
- Educational trip (15.00-18.00)
- **Dinner with degustation** (18.00-21.00)
- Returning to Vilnius I (21.00-22.45)

Day 3 of the conference: – Friday 13 September

Novotel Vilnius Centre Hotel (Gedimino Ave. 16, Vilnius)

9:30-11:00	**Plenary session I** **Moderator:** Dr Zbigniew Floriańczyk, European Rural Development Network **Developing visions for rural areas through science, society and policy interfaces** *Dr David Miller[1], Dr Gerald Schwarz[2], 1. James Hutton Institute, 2. Thünen Institute of Farm Economics* **Geographical variability of agricultural cyclical set-aside in Poland: Effectiveness of the complementary EU instrument** *Dr Katarzyna Leśniewska-Napierała, Dr Marta Nalej, Dr Tomasz Napierała, Faculty of Geographical Sciences, University of Lodz* **An empirical analysis of specialized dairy farms in Lithuania in the context of selected EU countries**

	Dr Ruta Savickiene, Lithuanian Center for Social Sciences Research on the state of the Romanian Bioeconomy Strategy *Prof. Dan-Marius Voicilas[1,2], Dr Monica-Mihaela Tudor[1], Dr Lucian Luca[1], Dr Camelia-Anisoara Gavrilescu[1], Dr Elisabeta-Stefania Rosu[1], Dr Anca-Marina Izvoranu[1], Dr Florentina-Cornelia Alboiu[1)], Dr Sorinel-Ionel Bucur[1], Dr Mihai-Alexandru Chitea[1],* *1. Romanian Academy-Institute of Agricultural Economics; 2. Hyperion University-Faculty of Economic Sciences* Applications of Artificial Intelligence (AI) in the Agriculture Industry: current status and future developments *Dr. Karolis Andriuskevicius, Lithuanian Center for Social Sciences*
11:00-11:30	Coffee break
11:30-13:00	Plenary session II Moderator: Dr Klaus Wagner, Federal Institute of Agricultural Economics, Rural and Mountain Research (BAB), Vienna Community farming in Northern Ireland: definitions and impacts *Mr Jonathan H. Hanson*[1], Ciaran Collins[2], Tiziana O'Hara[3] and Matthew N. Williams[4], * Corresponding author, 1. Queen's University Belfast, Belfast, Northern Ireland, 2. CiCo Consulting, Monaghan, Ireland, 3. Co-operative Alternatives, Belfast, Northern Ireland, 4. Jubilee Community Benefit Society, Larne, Northern Ireland* Instruments and forms of support for Romania by the National Strategic Plan 2023-2027 *Dr Irina Adriana Chiurciu[1], Dr Dan Marius Voicilaș[2]*, Dr Aurelia-Ioana Chereji[3], Dr Andreea-Roxana Firățoiu[1], 1. University of Agronomic Sciences and Veterinary Medicine of Bucharest, Faculty of Management and Rural Development, 2. Romanian Academy - Institute of Agricultural Economics, Bucharest, 3. University of Oradea, Faculty of Environmental Protection, * corresponding author* Where there are good digital ground for green transformation? Spatial distribution of internet quality in Poland *Dr Krzysztof Janc, University of Wroclaw* Geoheritage as territorial capital for potential sustainable development of rural peripheries *Dr Vladimir Szekely, Institute of Geography, Slovak Academy of sciences*

	Integrating bioeconomy in the Common Agricultural Policy: Strategic planning and action plan insights from Poland and the BIOECO-UP Project *Mr Piotr Jurga[1], Prof. Stelios Rozakis[2], 1. Department of Bioeconomy and Systems Analysis, Institute of Soil Science and Plant Cultivation, State Research Institute (IUNG-PIB); 2. Bioeconomy and Biosystems' Economics Lab, School of Environmental Engineering, Technical University of Crete*
13:00-14:00	Lunch
14:00-16:00	Poster session I Moderator: Dr Rita Lankauskienė, Dr Živilė Gedminaitė-Raudonė, Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development Rural Environmental Registry (CAR): Strategic Tool for Environmental Conservation in Brazil *Dr Fátima de Souza Freire[1], Dr Valdir Adilson Steinke[2], Dr Carlos Henrique Pires Luiz [2], University of Brasília, 1. Faculty of Economics, Administration, Accounting, and Information Science, 2. Department of Geography, Graduate Program in Geography* Multivariate exploration of factors influencing perceptions of ecological transformation through circular economy in rural European areas *Dr Fabricio Guevara, Dr Juan Diego Valenzuela Cobos, Dr Jaime Coello Viejó, Fernando Pacheco Olea, Universidad Estatal de Milagro, Ecuador* Evolution of CAP SP preparations: challenges, lessons and possibilities from Lithuanian experience *Dr Vitalija Simonaitytė, Dr Rita Lankauskienė, Dr Živilė Gedminaitė-Raudonė, Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development* Green Transformation in Finland and the Baltic States: Comparative Analysis of Transition to Renewable Energy Sources *Dr Eglė Norgren[1], Dr Jelena Stankevičienė[2], 1. Institute of Economics and Rural Development, Lithuanian Centre for Social Sciences, Vilnius, Lithuania, 2. Department of Finance, Faculty of Economics and Business Administration, Vilnius University, Vilnius, Lithuania* Rural living labs as a way to support rural development policies *Dr Barbara Wieliczko[1,2] and Ms Katarzyna Gizińska[1], 1. European Rural Development Network; Institute of Rural and Agricultural Development, 2. Polish Academy of Sciences*

	Challenges for enhancing social innovations in marginalized rural areas: Lithuanian case *dr Živilė Gedminaitė-Raudonė, dr Rita Lankauskiene, dr Vitalija Simonaityte, dr Dalia Vidickiene, dr Rasa Melnikiene, Lithuanian Center for Social Sciences, Institute of Economics and Rural Development* Remote sensing monitoring as part of the eco-scheme "Water retention on permanent grasslands *Dr Anna Jędrejek, Dr Rafał Pudełko, Dr Małgorzata Kozak, Dr Krystian Mocny, Institute of Soil Science and Plant Cultivation - State Research Institute* Social innovations for collaborative transformation in Lithuanian rural area *Dr. Rita Lankauskienė, Dr. Živilė Gedminaitė-Raudonė, Dr. Dalia Vidickienė, Dr. Vitalija Simonaitytė, Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development* Multi-actor Innovation Platforms MAINSTREAMing small-scale BIO-based solutions across rural Europe *Dr Magdalena Borzęcka, Dr Małgorzata Wydra, Dr Piotr Skowron, Dr Damian Wach, Dr James Gaffey, Dr Liselotte Puggaard, Dr Beatriz Deltoro, Dr Johan Börjesson, Dr Ana Casillas, Irene Paredes, Peter Borisov, Bert Annevelink, Rommie Vanderweide, Kimberly Wevers, Dr Anastasios Karakostas, Dr Anastasios Galatsopoulos, Dr Katerina Valta, Dr Alexandros Altsitsiadis, Dr Yannis Kostopoulos, Dr Evangelia Tsagaraki, Dr Leonidas Parodos, Dr Georgios Spyridopoulos, Institute of Soil Science and Plant Cultivation, Puławy, Poland*
16:00-16:30	Coffee break
16:30-17:15	Poster session II Moderator: Dr Katarzyna Leśniewska-Napierała, Faculty of Geographical Sciences, University of Lodz Regional Inclusive Biobased Entrepeneurship Solutions (RIBES) *Dr Adam Wasilewski, European Rural Development Network* Green transformation in rural areas: what really matters? *Dr Agnieszka Kurdyś-Kujawska, Koszalin University of Technology* *Dr Barbara Wieliczko, European Rural Development Network, IRWiR PAN* BBioNets Forest and Agriculture Network *Dr Magdalena Borzęcka*, Dr Malgorzata Wydra, Dr Patrizia Borsotto, Dr Mara Lai, Dr Francesca Giarè, Dr Macarena Ureña Mayenco, Dr Elias Atienza Alonso, Dr Sofía Sánchez Seda, Dr Nathalie Chavrier, Dr Paula Rosa Álvarez, Dr Evdokia Krystallidou, Dr Elisavet Papadopoulou, Dr Macarena Leyva Manchón, Dr Conchita Mira, Dr Antonio Alvear Almunia, Dr Iakovos Delioglanis, Dr Ephy Kouzi, Dr Dafni Delioglani, Dr Marie Kubankova, Dr*

	*Valentina Galantari, Dr Jan Nedelnik, *Institute of Soil Science and Plant Cultivation, Pulawy, Poland* Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas *Dr Barbara Wieliczko[1,2], Ms Zuzanna Floriańczyk[1], Dr Paweł Chmieliński[1,2] and Dr Aleksandra Pawłowska[1,2], 1. European Rural Development Network; 2. Institute of Rural and Agricultural Development, Polish Academy of Sciences* Empirical investigation of catch crops as a carbon sequestration technique: A case study of the Carbon Farming CE initiative *Dr Jerzy Kozyra[1], Mr Piotr Jurga[1], Ms Beata Jurga[2], Dr Robert Borek[1], Krystian Mocny[1]* *1 Department of Bioeconomy and Systems Analysis, 2 Department of Plant Nutrition and Fertilization, Institute of Soil Science and Plant Cultivation – State Research institute, **Institute of Soil Science and Plant Cultivation – State Research Institute IUNG-PIB, Poland*** Spreading Open and Inclusive Literacy and Soil Culture through Artistic Practices and Education *Dr **Barbara Wieliczko**[1,2], Ms Zuzanna Floriańczyk[1], Ms Katarzyna Gizińska[1], Dr Cezary Klimkowski [1,3] and Dr Paweł Chmieliński[1,2] , 1. European Rural Development Network; 2. Institute of Rural and Agricultural Development, Polish Academy of Sciences; 3. Institute of Agricultural and Food Economics – National Research*
17:15-17:30	Conference closing remarks by organisers

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Clusters as approach to strengthen innovation, development and green transformation in the agrifood sector

Dipl.-Ing Klaus Wagner

Federal Institute of Agricultural Economics, Rural and Mountain Research (BAB), Vienna

Clusters as approach to strengthen innovation, development and green transformation in the agri-food sector

Cluster development was the topic of the ERASMUS+ project UniClaD (Enhancing capacity of universities to initiate and to participate in clusters development on innovation and sustainability principles). The presentation comprises some specific outcomes concerned theory, policies, good practices and implementation of clusters in the agricultural and rural development sector.

The examples collected by various project partners show the importance of cooperation, making use of synergies, knowledge exchange and transfers - not only among similar actors but also across sectors and spatial and political boundaries. Some common key aspects are worth to mention. The basis of well-functioning clusters are a clear system of objectives and a comprehensive structure of the management. Mostly there exist a board of directors, an advisory board and a managing team.

Essential are regular information exchanges and strong involvement of all members. A diversity of members is of advantage - from small to large enterprises, from different production and service sectors, up- and downwards entities, governmental, non-governmental organisations on different levels as well as research and educational institutes, covering all stakeholders in the chain. The members must be aware of additional values generated from cluster activities. They can range from seminars, vocational trainings, improving skills, information exchange, fostering cooperation to networking and innovation opportunities. Quality assurance and certification activities can help in trust building and keep the activities sustainable.

Member fees are common for financing the cluster activities. Often public support is necessary and given and additional money is earned via participation in policy programs or projects. The options for participation should be constantly monitored. The cluster activities of course concentrate on a certain territory but networking should go beyond this to gain broader knowledge and chances and to react to external factors may they be opportunities or threats. Therefore, umbrella organisations on national and EU level make sense for widening the horizon and flow of information.

The clusters with their activities care for a more resilient and up to date development and show new chances for enterprises and regional economy. The stimulated knowledge transfer cares for bringing general objectives (e.g. CAP and green transition)on political levels down to the implementation level and helps to achieve the goals as shown for instance in various national or regional food or agri-tourism related clusters.

Key words: Cluster Development, Rural Development, Agri-Food Clusters

“Green” Transformation of the Common Agricultural Policy and Its Impact on Farm Income Disparities

Dr. Aleksandra Pawłowska

Institute of Rural and Agricultural Development, Polish Academy of Sciences

Considering the evolution of the Common Agricultural Policy (CAP), it is wondered to what extent the “green” transformation of this policy and the accompanying change in the distribution of direct payments between farms contributed to eliminating disproportions in agricultural income. The aim of the study was to investigate the changes in the proclaimed concepts related to the development of the EU agricultural sector in terms of their “green” transformation and to assess the impact of “green” CAP payments on income inequalities between farms. The research was conducted based on the data representative for Polish commercial farms for 2004–2019, covering three financial perspectives of the agricultural policy. The methods of counterfactual modelling and assessment of income inequality were used in the study. The analyses showed that the evolution of the CAP priorities, and hence instruments, towards the pro-environmental (or, more broadly, towards sustainability) have had a rather negative impact on the income of Polish farms. In its current form, the support dedicated to environmental and climate protection did not fully compensate farmers for income losses resulting from the use of pro-environmental agricultural practices. Moreover, “green” CAP payments did not play a significant role in shaping income inequalities. Therefore, we can conclude that the CAP instruments do not contribute sufficiently to sustainable development (economic, social, and environmental) because they do not support/motivate farmers to change their production standards.

Key words: agricultural policy; agri-environment-climate payments; farms; income.

Rural Economic Developments and Social Movements: A New Paradigm for Transformation in Rural Areas

Dr. Rita Lankauskienė, Dr. Živilė Gedminaitė-Raudonė, Dr. Dalia Vidickienė, Dr. Vitalija Simonaitytė, Dr. Erika Ribašauskienė

Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development.

Today’s society calls for a new explanation of recent transformations around the world. The new innovative, sustainable, and inclusive rural development paradigm demands original qualitative dimensions of researching, exploring, and explaining rural socio-economic development and rural policy transformations in light of overall modern society’s social change. The new rural development paradigm stresses the importance of bottom-up policymaking, self-organization, creative use of knowledge in rural areas, and other innovative success principles. In our recent research, the ongoing transformations are aligned with a new look on social movements’ theories and approaches from a paradigm innovations point of view, which help disclose, explore, and explain the already on-going rural paradigm shift in post-industrial society’s development.

Classical (old) social movements as social protests were grounded in class conflict and confrontation for the justice and human social being issues most often concerning (e.g., Larana et al., 2009; Tilly et al., 2019): labor, political decisions, gender, equality of rights, regionalism, etc. In times of industrialized economies, social movements gained more institutionalized forms of representation (Crozat et al., 1997). They start appearing in scientific investigations concerning the industrial paradigm and industrialism-grounded social movements (Sen & Lee, 2015; Hess, 2016). New Social Movements (NSMs) in Western Europe start being examined by scientists in the late 1960s. NSMs appeared with new power by stressing reconciliation of interests of different groups of society aiming to obtain the maximum positive synergistic effect in a particular issue. The main observed distinctive feature of NSMs was a shift from conflict character between society and particular institutions to the promotive role of particular prospective value-based belief to become an organized acting structure. NSMs are driving philosophy of particular values-based groups of individuals, composing new local communities (e.g. which later appeared in a form of particular ecovillages); or even broader – become bord, moreover - continent-crossing powerful international society (e.g. La Via Campesina Peasantry Movement).

The aim of this scientific research is devoted to go through relevant scientific debate, and get deep into the actual practice of the rural development paradigm shift. This is accelerated by a new form of consolidated power of social change – a new generation of social movements that act as paradigm innovators and active co-creators of rural development policy. To disclose the actual reasoning for an ongoing rural paradigm shift due to the social movements, in this research, a focus is given on actors of change in rural areas, including empowered and free stakeholders: farmers and their organized structures, agricultural companies, cooperatives, ecovillages, local rural communities, other non-governmental organizations. This research goes deep into the context of ongoing organized changes in rural regions by fields in which actors make a change, distinguishing between the industrial paradigm grounded rural social movements and new post-industrial change-focused rural social movements. The analysis is placed into the general context of European Union Common Agricultural Policy (CAP) and European Green Deal (EGD) principles.

The overall investigations demonstrate the consistency, expressiveness, and impacts of an already on-going rural development paradigm shift, which is based on paradigm innovations. These innovations had already changed the everyday life of both the rural and urban population, which actively takes part in social movements, depending on their values, beliefs, and requirements for the future of rural areas. The paradigm changes are evident, and at least the time and ambitions will judge how quickly the society will accept and adapt post-industrial paradigm innovation recipes, suggested by the new generation of social movements for transformations in rural development.

Key words: transformation, rural areas, new social movements, paradigm innovations, rural development paradigm shift.

Guiding references:

• Crozat, M., Hipsher, P. L., Katzenstein, M. F., Keck, M. E., Klandermans, B., Kubik, J., ... & Reiter, H. (1997). The social movement society: Contentious politics for a new century. Rowman & Littlefield Publishers.

• Hess, D. J. (2016). Undone science: Social movements, mobilized publics, and industrial transitions. MIT Press.

• Larana, E. (2009). New social movements: From ideology to identity. Temple University Press.

• Sen, R., & Lee, C. H. (2015). Workers and social movements of the developing world: Time to rethink the scope of industrial relations?. International Labour Review, 154(1), 37-45.

• Tilly, C., Castaneda, E., & Wood, L. J. (2019). Social Movements, 1768-2018. Routledge.

Green Transformation in Kosovo's Rural Areas: Opportunities, Challenges, and Implications

Dr. Ekrem Gjokaj, Mihone Kerolli-Mustafa, Lindar Krasniqi

Public International Business College Mitrovica (IBCM)

On March 27, 2024, the European Commission released a report titled "The Long-Term Vision for Rural Areas in the EU: Achievements and Pathways Forward." With this backdrop, we attempt to provide insights into the status and aspirations of Kosovo, focusing on our current standing, future visions, and strategies for advancing rural development. In addition, this research paper explores the imperative for green transformation within Kosovo's rural regions, examining the opportunities, challenges, and broader implications of such a transition. The global community increasingly prioritizes sustainability and environmental stewardship, as well rural areas, which emerge as critical spaces for green transformative action. Kosovo, with its predominantly agrarian landscape and rural population, stands at a pivotal juncture where sustainable practices can foster economic development, enhance resilience to climate change, and mitigate environmental degradation.

The paper begins by delineating the context of Kosovo's rural areas, highlighting their socio-economic characteristics, environmental concerns, and dependence on natural resources. It then delves into the opportunities presented by green transformation, including the potential for renewable energy deployment, sustainable agricultural practices, and eco-tourism initiatives. These opportunities promise economic diversification and at the same time offer avenues for fostering local resilience and empowering rural communities.

However, realizing the vision of a green transformation in Kosovo's rural areas is not devoid of challenges. Infrastructure limitations, institutional capacity gaps, and socio-economic disparities pose significant hurdles to sustainable development efforts. Moreover, the legacy of past conflicts and geopolitical complexities add layers of complexity to the transition process.

Addressing these challenges requires a multifaceted approach that integrates policy interventions, technological innovations, and community engagement strategies. Policymakers need to prioritize investments in green infrastructure, provide incentives for renewable energy

adoption, and support capacity-building initiatives at the local level. Fostering partnerships between government agencies, civil society organizations, and private sector actors can facilitate knowledge exchange and resource mobilization.

The Guidelines for the Implementation of the Green Agenda for the Western Balkan from 6.10.2020 by the European Commission are the basis for our concrete research and implementation project for the Kosovo Green Action Agenda, also our way into the future. Importantly, the paper underscores the broader implications of green transformation beyond the borders of Kosovo. By demonstrating tangible progress towards sustainability, Kosovo can enhance its regional leadership role, attract international investments, and contribute to global efforts to combat climate change. Additionally, the adoption of green practices in rural areas can serve as a model for other countries contending with similar challenges, thereby catalyzing broader transformational processes. Furthermore, the paper advocates for a concerted effort to prioritize green transformation in Kosovo's rural areas, recognizing it as a pathway towards inclusive and sustainable development. By seizing the opportunities, addressing the challenges, and embracing innovation, Kosovo can chart a course towards a more resilient, equitable, and environmentally responsible future for its rural communities.

To finalize the paper, we will employ a comprehensive methodology that integrates research, analysis, and synthesis of information. The secondary data will encompass rural demographics, environmental indicators, agricultural practices, energy consumption patterns, and policy frameworks. Primary data will be acquired through surveys, interviews, and focus groups involving stakeholders, and subject matter experts. We will incorporate case studies and best practice with the aim of extracting valuable insights into lessons learned, success factors, and challenges encountered to Kosovo's context.

Additionally, conducting a SWOT analysis will provide a comprehensive understanding of the internal and external factors influencing the green transition in Kosovo. This analysis will facilitate the prioritization of interventions and the development of targeted strategies to leverage strengths and opportunities while addressing weaknesses and threats.

Likewise, we will apply both quantitative and qualitative analytical techniques to interpret data, identify patterns, and draw conclusions. Quantitative analysis will involve statistical methods for analyzing numerical data, while qualitative analysis will entail thematic coding of qualitative data obtained from interviews. By employing this methodological approach, we aim to ensure a thorough examination of the green transition in Kosovo, ultimately providing valuable insights for policy formulation, decision-making, and future research endeavors.

We will then also formulate S.M.A.R.T. our goals/objectives in concrete terms, our planned activities, our budget ideas/possibilities, the participating institutions in the process, the private-public partnership-possibilities/benefits, and our time frame for the realization of our activities, as well the corresponding objective verifiable performance indicators in measurable term for our long-term **vision for a beautiful-sustainable-together of Kosovo's rural areas.**

Key words: transition, green technology, mitigate, rural

How to support positive systems transformations - evaluator lens

Dr. Weronika Felcis

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Renewable energy gained a substantive focus in recent years. Although the wind energy has been sufficiently described in policies regarding regional development and guidelines on its environmental impact assessment , the solar energy is still a new and quickly developing business sector in Latvia. Simultaneously, to building the biggest in Latvia, 138ha big, solar park in Targale, guidelines on this source of energy and its impact on Latvian environment has been developing in recent months.

The conference presentation will shed a light not only on this national context, but primarily, from evaluator's perspective, show a case of community-led social impact assessment of the solar park in Targale. The approach to the first social impact assessment of this kind conducted in Latvia will be presented on the basis of principles and challenges of the local, rural communities hesitantly joining the energy transformation in Europe.

Keywords: renewables, Latvia, energy transformation, solar energy, sustainability, regional development, local community

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Usefulness of prioritisation methods in designing CAP Strategic Plans

Dr. Barbara Wieliczko [1,2] and Dr. Zbigniew Floriańczyk [1,3]

1. European Rural Development Network; 2. Institute of Rural and Agricultural Development, Polish Academy of Sciences; 3. Institute of Agricultural and Food Economics – National Research Institute

Abstract text: The recent CAP reform introduced some changes of which the most important is the new delivery model which is based on the CAP strategic plans (CSPs). These documents are much more complex than the previously applied rural development plans (RDPs). Contrary to RDPs, CSPs encompass a detailed descriptions of the interventions planned within both CAP pillars. Similarly to RDPs, they include, i.e. SWOT analyses and intervention logic.

The first step of the design of the CSPs is to conduct a SWOT analysis and base on it identify the support needs that can be addressed within the CAP objectives for the given programming period and the policy measures at hand. As the needs are multiple and the resources limited as well as certain rules in place restricting the freedom of designing the interventions and dividing the available financial resources. Therefore there is a need to assess the importance and scale of the identified needs.

The prioritisation of needs and policy measures is a key step in designing the CSPs. Therefore, it should be conducted based on the approach and methods enabling the achievement of the highest level of efficiency and effectiveness if the CSPs are to be created according to the principles of good governance. There are already available some prioritisation methods applied in policymaking and there are numerous decision making support methods and tools used by businesses to choose the optimal products and services to be offered.

The study shows the usefulness of different prioritisation in designing the CSPs by showing the benefits and constraints of different prioritisation methods. Analysed are both methods used or considered for use during the preparation of CSPs 2023-2027 as well as other policy plans and chosen methods used for non-policymaking purposes. The study is based on the research conducted within the Tools4CAP project.

(abstracts for papers or posters should be between 200 and 700 words (1.5 spaced, Times New Roman 12).

Key words: CAP strategic plans; CAP, prioritisation

Rural prosperity in Romania from vision to action

Monica Mihaela Tudor – senior researcher

Institute of Agricultural Economics – Romanian Academy

The paper presents a parallel between the long-term vision for the sustainable development of the rural area in Romania and the guidelines of the new National Strategic Plan 2023-2027, in order to synthesize the points of convergence between these two motions. The participatory approach in the focus group discussions with the participations of quadruple helix representatives led in the period 2020-2023 by the Institute of Agricultural Economics team was the main tool for co-creating a long-term vision for rural areas in Romania. The analysis of the content of the National Strategic Plan PAC 2023-2027 aimed at reporting the extent to which the needs identified in the public consultation with rural stakeholders find support in the interventions of the current strategic plan.

Between the long-term vision and the provision of the NSP 2023-2027 there are points of convergence in terms of addressed needs: increasing rural prosperity through the integration of domestic producers into the agri-food chains. There are recognised also key issues that preventing rural economies for achieving their potential prosperity: poor awareness and confidence in the cost of opportunity of the supply from local sourcing vs. other sources; fragmentation of the offer; the high cost of domestic production generated by poor cooperation between farmers.

Romanian NSP support for increasing prosperity in rural areas is particularly focused on interventions that sustain the market integration of domestic primary production by increasing its added value and incorporating bioeconomy principles on farming system. The financial allocation through NSP 2023-2027 for interventions aimed at increasing the prosperity of rural economies does not exceed 8% of the total financial envelope of the programme. Also, public support is rather focused on supporting investments in processing and marketing, addressing in

a small extent the horizontal and vertical cooperation actions, considered to be, by the stakeholders participated in the IAE focus groups, the key issue that generate fragmentation, lack of homogeneity and quality variations of primary production, especially at the level of small and medium farms.

Key words: prosperity, economic diversification, participatory approach, rural area, Romania.

JEL classification: O18, O29, Q01, R12.

Acknowledgments: This work was in part funded by the European Commission, through Horizon 2020, the project entitled: Sustainable Hub to Engage into Rural Policies with Actors (SHERPA), grant agreement no. 862448/2019

Agriculture 4.0 in Italy: analysis of entrepreneurs' preferences and diffusion forecasts

Prof. Ruggiero Sardaro, Antonio Urbano, Snour Ahmadi, Prof. Piermichele La Sala

Department of Economics, University of Foggia, Italy

Smart Agriculture (SA)(SA) is often referred to as the fourth agricultural revolution, in relation to its is often referred to as the fourth agricultural revolution, in relation to its benefits benefits in terms of reducing environmental impactsin terms of reducing environmental impacts and and improving productivityimproving productivity and and profits (Smith et al., 2013). A profits (Smith et al., 2013). A crucial element of Scrucial element of SAA is the use of technologies in the field of artificial intelligence and big data analysisis the use of technologies in the field of artificial intelligence and big data analysis toto improve the efficiency of improve the efficiency of processes and the quality of producprocesses and the quality of producee. This also . This also favoursfavours agreements aimed at agreements aimed at creating value creating value amongamong companiescompanies, which are thus incentivized to rethink the phases of , which are thus incentivized to rethink the phases of production processes.production processes. SSAA isis an innovative approach for business management based on 4.0 Technologies, such as: artificial an innovative approach for business management based on 4.0 Technologies, such as: artificial intelligence, big data analysis, cloud computing, cyberintelligence, big data analysis, cloud computing, cyber--physical systems (analysis algorithms), information physical systems (analysis algorithms), information and communication technologies and Internet of Thingsand communication technologies and Internet of Things (FAO, 2017). In the historical phases of (FAO, 2017). In the historical phases of technological change, characterized by a high level of uncertainty, managerial cognitive capacity is thetechnological change, characterized by a high level of uncertainty, managerial cognitive capacity is the crucial strategic element to encourage the integration of technological innovations into the business crucial strategic element to encourage the integration of technological innovations into the business organizationorganization (Walsh, 1995).(Walsh, 1995).

The objective of this work is to identify drivers and barriers relating to the adoption of Technologies 4.0 inin the Italian the Italian agricultural companiesagricultural companies forfor making production systems more sustainable, efficient and resilient making production systems more sustainable, efficient and resilient through increasing yields, early diagnosis of plant diseases, timely and sitethrough increasing yields, early diagnosis of plant diseases, timely and

site--specific control of weeds and specific control of weeds and optimization of irrigation practices.optimization of irrigation practices. UUnderstanding the reasons nderstanding the reasons for which the for which the agricultural companies agricultural companies useuse technological innovations is fundamental to define successful technological innovations is fundamental to define successful policy policy strategies (Swanson and Wang, 2005), strategies (Swanson and Wang, 2005), especially especially consideringconsidering the low rates of technological adoption, or even failures, emerged in the low rates of technological adoption, or even failures, emerged in manymany studiesstudies in agriculturein agriculture (Southern and Tilley, 2000).(Southern and Tilley, 2000).

The adoption of technological innovations can be determined not only by the the structural characteristics structural characteristics of of firmfirmss and and the the sociosociodemographicdemographic aspects of aspects of entrepreneurentrepreneurss, but also by the interaction , but also by the interaction amongamong the the managerial managerial perception of the external environment, perception of the external environment, the the organizational capabilities and organizational capabilities and the the managerial cognition. managerial cognition. Therefore,Therefore, a a furtherfurther objective objective of the study of the study is is to investigate the way in which these factors influence the to investigate the way in which these factors influence the adoption of adoption of technologicaltechnological solutions, so that the research questions can be summarized as follows: what are solutions, so that the research questions can be summarized as follows: what are the determinants of the adoption of 4.0 technologies in the determinants of the adoption of 4.0 technologies in the the agricultural companies? What role do managerial agricultural companies? What role do managerial perception of the external environment, organizational capacity and managerial cognition play in the perception of the external environment, organizational capacity and managerial cognition play in the investment decision?investment decision?

The methodological approach consists in consists in two two phases: the choice experiments allow phases: the choice experiments allow to investigate drivers to investigate drivers and barriers regarding the adoption of 4.0 technologies by and barriers regarding the adoption of 4.0 technologies by firmsfirms; the Bass diffusion model ; the Bass diffusion model predictpredictss the the adoption times of these technologies by adoption times of these technologies by firmsfirms. In this way, a complete cognitive framework is provided to . In this way, a complete cognitive framework is provided to the policymaker for the effective and efficient achievement of the objectives of the CAP 23the policymaker for the effective and efficient achievement of the objectives of the CAP 23--27 and the 27 and the 2030 Agenda.2030 Agenda. The study The study ffocuseocuses os on n the the Apulia region, Southern Italy, Apulia region, Southern Italy, one of the most important agricultural one of the most important agricultural

Italian regionsregions inin terms of terms of quantity and quality of several quantity and quality of several agricultural agricultural productionproductionss, namely olive oil, wine, , namely olive oil, wine, table grape and table grape and vegetables.vegetables.

Key words: 4.0 technologies; Choice experiments; Bass diffusion model; Southern Italy

Interaction between stakeholders and levels of governance in Green Infrastructure plans: Lessons learnt from two strategic planning processes in Galicia and The Netherlands

Ms Rocío Losada-Iglesias, Dr. Emilio Díaz-Varela, Prof. David Miranda

University of Santiago de Compostela, EPSE

While the concept of Green Infrastructure (GI) has gained significant attention for its applications in urban settings, such as storm-water management and the mitigation of urban heat island effects, its definition by the European Commission as a strategically planned network of natural and semi-natural areas, along with other environmental features, extends its relevance beyond urban areas. In fact, green infrastructure plays a fundamental role in improving the ecological integrity of rural areas by providing benefits such as biodiversity protection, habitat restoration, and the provision of ecosystem services. Additionally, it facilitates sustainable development practices, thereby enhancing environmental, social, and economic conditions.

However, developing successful strategic green infrastructure planning at a supra-local or regional level requires collaboration among multiple stakeholders across different levels of governance. In this study, we analyze the roles of various actors involved in the development of two strategic planning projects, one in Galicia (Spain) and the other in the Netherlands. Our focus is on the dynamics arising from the interrelations between these actors and the interactions between different levels of governance. To achieve this, we conducted a series of semi-structured interviews with stakeholders involved in the projects. The results enable us to identify key elements for more successful and effective green infrastructure strategies, particularly emphasizing the importance of stakeholder engagement for its optimal development.

Key words: Stakeholder engagement; regional planning; landscape management, sustainable development, public policy; climate change adaptation; green infrastructure

BioRural toolkit as support for development pan-European Rural Bioeconomy Network

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The pan-European Rural Bioeconomy Network created under the BioRural project connects stakeholders interested in currently available small-scale bio-based solutions in rural areas to increase the share of Bioeconomy, giving increased value in such remote areas. The framework contributes in bridging the gap between the available novel high-end bio-based solutions and the everyday European rural life by assessing the existing situation of European rural Bioeconomy, capturing grassroots-level needs and ideas, promoting effective exchange of knowledge and information and investigating the possible opportunities for regional

development through the expansion of bio-based solutions integration in rural Europe. This way, BioRural develops a transition framework towards a sustainable, regenerative, inclusive and just circular Bioeconomy across all Europe at local and regional scale and support innovators to scale-up inclusive and small-scale bio-based solutions in rural areas. In the whole EU were created four regional Rural Bioeconomy Platforms (RBPs) that will form a European Rural Bioeconomy Network (ERBN). One of them is a platform created in north-eastern Europe, bringing together Poland, Lithuania and Latvia. For users' convenience develop and continuously optimise an online open stakeholders' tool, named BioRural Toolkit. The structure of BioRural Toolkit has been designed to fulfil the main purpose of this online tool – to provide access to the material collected in the course of the BioRural project implementation, through a user-friendly, intuitive interface, and to facilitate contact and collaboration of its users within the created networks. The toolkit can be found under the link https://biorural-toolkit.eu/.

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Sustainability of farms of various production types - economic and environmental assessment

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The negative impact of agricultural production on the environment manifests, above all, in the emission of greenhouse gases (GHG). According to data from the Ministry of Climate in 2021, agriculture in Poland was responsible for 8.5% of greenhouse gas emissions [Krajowyraport…2023].Over half of the total emissions from agriculture in Poland is associated with animal husbandry. The article presents the results of research on the relationship between ecological and economic indicators at the farm level in various types of farms. The data comes from polish farms participating in FADN and concerns the years 2015-2020. The analysis included two types of farms; specializing in fieldcrops and milk production. The resultant analysis underscores substantial correlations among the examined parameters. Family farm income is a key economic category which plays the role of remuneration for labor. Dairy farms clearly stand out in terms of this feature. The average stocking density there did not pose a threat to the natural environment because it did not exceed the maximum limit. On dairy farms, the stocking rate was higher, which suggests that at the level of a single farm, environmental requirements were not always respected. The burden on the natural environment generated by plant protection products and mineral fertilizers was similar and an upward trend was observed in both studied groups of farms. Another indicator of ecological sustainability is the balance of soil organic matter. The value of this indicator was positive on milk farms only, which proves that practices used on cattle farms contribute to increasing the amount of organic matter in the soil.

The present study fits into the concept of the European Green Deal (EGD) and broadens current knowledge on the relationships between economic and ecological indicators in agriculture production. This research also has practical value. It makes to possible to evaluate of the impact

of agricultural practices on the environment in a relatively simple way and their verification at the farm level.

Key words: farm income, financial surplus, soil organic matter, stocking density

Thermal insulation materials from local sheep wool

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In addition to the main products for food and raw materials, agricultural production also produces by-products that have the clear characteristics of renewable agricultural sources. The use of such by-products creates the potential to increase farmers' income and competitiveness, but it also creates some challenges when it comes to implementing the idea.

Sheep wool is one such renewable agricultural resource, the use of which is still a challenge in the country due to the different breeds of sheep kept in the country as well as the import of cheap wool for industrial purposes. In addition, the accumulation of wool over the years and its disposal has started to create additional concerns for farmers.

The joint team initiated a research study and a European Innovation Partnership project to address these issues and to provide concrete possible solutions and examples for the use of this raw material from renewable agricultural sources.

Based on findings from various studies, the project team selected sheep wool for thermal insulation material development. They partnered with sheep farmers for supply, prototyped the materials under industrial conditions, conducted laboratory tests, and provided 20 farmers with samples for practical field testing.

The results achieved: laboratory tests on the prototype materials, showing the suitability and viability of thermal insulation materials made from sheep's wool, were published in a scientific paper; the cooperation between the participants in the European Innovation Partnership (farmers, consultants and researchers) was strengthened; the practical results provided the basis for the next step, which was to prepare this type of material for the next stage of product development and to initiate a commercialization project.

Key words: sheep wool, thermal insulation material.

Analysing nitrogen use efficiency in cereal farms: insights from lithuanian agriculture

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Cereal production is a highly significant sub-sector of agriculture, providing food for the population, fodder for livestock, shaping and maintaining landscapes and the environment, and ensuring employment and prosperity for both rural and urban populations worldwide. Likewise, cereal production farms play a crucial role in Lithuanian agriculture. One of the key factors contributing to enhanced cereal sector performance is the use of fertilizers. Since the advent of Agriculture 2.0, cereal yields and production have notably increased, with fertilizer utilization being a major driver behind these trends. Approximately two-thirds of agricultural land in the EU is fertilized, with around half of the fertilizer used allocated to cereals. Nitrogen (N) is the most essential element for proper plant growth and development, and it is the most consumed in the agricultural sector. While calculating the N balance at the national level may not accurately reflect differences in N balance results among individual farms, conducting field surveys to obtain precise data can be expensive and time-consuming. Therefore, the aim of this study is to provide an environmental assessment of cereal farms using available economic data, with a particular focus on nitrogen (N) fertilizer usage.

To achieve this objective, data from the EU Farm Accountancy Data Network (FADN) and primary farm data collected for Lithuanian FADN reports related to cereal farms were utilized for empirical research. The study is based on data from two years: 2014 and 2019, with 453 and 534 observations, respectively. Statistical data from EU AGRIDATA was used to conduct a comparative analysis of N usage indicators for Lithuanian cereal farms across selected EU countries. In this study, the soil surface method is applied, which takes into account all nutrients that enter the soil through the soil surface and exit through the plants. For the study, various indicators were calculated, such as N outputs, N inputs, nitrogen-use efficiency, N surplus, N intensity, fertilizers intensity, mineral N productivity. The efficiency indicators for Lithuanian cereal farms were evaluated using a data envelopment analysis (DEA) model.

Through the analysis of fertilizer intensity of cereal farms by country, it was determined that Lithuanian cereal farms do not exhibit any advantages compared to their counterparts in Germany and France, neither in terms of the quantity of fertilizer used nor its value. The surplus values of N in Lithuanian cereal family farms indicate excessive N usage, with significant variation observed in minimum, maximum, and standard deviation values within farms. Analysis of N performance indicators across farm size classes reveals that N inputs and outputs per hectare of crop area increase with farm size, suggesting that smaller farms exert less environmental pressure. However, results from efficiency analysis using the DEA model indicate that both the smallest and largest farms tend to achieve the highest overall efficiency, providing valuable insights as the model encompasses key inputs and desired and undesired outputs, thus revealing environmentally friendly production technology.

Key words: nitrogen fertilizers, nitrogen surplus, cereal farms, efficiency, Lithuania

A systematic literature review on gender equality norms, constraints and adoption of women's innovations in agriculture

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Gender equality is essential for fostering greater and more sustainable development. However, the development of agricultural sectors, traditionally dominated by men, does not always result in improved gender equality. This paper aims to review academic literature on gender norms, constraints, and women's adoption of innovation in agriculture. To achieve this, a systematic literature review (SLR) of scientific publications was conducted using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method. The PRISMA analysis involved steps such as identification, selection, eligibility, assessment, and presentation. Visualization of similarities (VOS) was utilized to analyze keywords. Out of 200 articles identified in Web of Science (WoS) database using the search string for 1990–2024, 130 publications were selected for the SLR. The total number of publications by year enabled classification into two phases: an initial phase (1995 to 2014) and a growth phase (2015 to 2024), demonstrating increasing scholarly interest in the field. The analysis identified ten leading countries worldwide and the top European countries regarding gender norms, constraints, and women's innovation in agriculture. The five most cited WoS articles were analysed in more detail, revealing that four of them focus on the role of women in climate change adaptation research. A comprehensive analysis of the scientific literature, based on key themes, outlined the primary constraints to women's adoption of innovation in agriculture. A deep understanding of these constraints can guide policymakers in tailoring measures to improve the situation for women in agriculture.

Key words: gender, women's innovations, agriculture, SLR

Lessons to be learned from the Implementation of the Lithuanian Rural Development Programme 2014–2020 Measure "Agri-Environment and Climate"

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Agri-environmental measures were included in the European Union Common Agricultural Policy in 1987. At that time, EU member states could choose whether to apply them, and from 1992 these measures became mandatory for all EU member states. In Lithuania, Agri-environmental measures were introduced in preparatory stage before accession the EU in 2004. Since then, the budget share for these measures is constantly increasing, with each new programming period these measures are reconsidered and improved, more and more farmers decide to participate in these measures and contribute to the environmental goals.

Agriculture and the environment are interdependent because agricultural activities are carried out over large areas. Therefore, greater participation of farmers in the Agri-environmental measures would ensure that environmentally friendly farming would be implemented in larger areas. To achieve this ambition, there is a need of in-depth studies of the reasons behind the successes and failures of the implementation Agri-environmental measures for the success in the future.

This research evaluated implementation successes and failures of the activities of the Lithuanian Rural Development Programme 2014–2020 Measure "Agri-Environment and Climate" (further Measure) by analysing data available from the Ministry of Agriculture of the Republic of Lithuania, Agricultural Data Center, and National Paying Agency under Ministry of Agriculture of the Republic of Lithuania. To support quantitative results and better clarify the motives, experiences and preferences of farmers' participation in the activities of the Measure, questionnaire was prepared and distributed to 2 455 beneficiaries through the NPA and 342 answers were received back. Knowledge was being further deepened by organizing five discussions in focus groups, formed from farmers participating and not participating in the activities, representatives of implementing institutions, employees of consulting and scientific institutions.

After analysis it was observed that the activities of the Measure were least implemented in central Lithuania, where intensive farming prevails. The implementation of activities in this part of the country, could bring the greatest benefits. However, the farms of central Lithuania often have high productivity indicators, so it is not economically beneficial for them to participate in the activities of the Measure. It is suggested that the list should include such activities that would attract intensive farms to implement environment friendly activities. For example, apply precise tillage technologies, greater crop rotation after harvesting the main crops, grow catch crops that cover the soil surface with their green mass.

Compensatory payments could be revised during the programming period considering the increase of the prices of technical, energy and labour resources. The payments should include additional transportation and labour costs compensating expenses for reaching fields located far from each other.

A more stable legal base (implementation rules) is needed to allow farmers to plan their activities several years ahead. Shorter terms of commitment would positively affect farmers' participation in the Measure for the first time. Later having the skills and seeing the benefits it is likely farmers would continue to participate more contributing to the implementation of environmental objectives.

Priority to receive investment support for those participating in the Measure, shorter terms for receiving compensatory payments would attract more farmers.

For the effective use of EU support and better achievement of environmental goals it is crucial to strengthen information activities about support in general and about the conditions for receiving it at the level of municipalities. The lack of information about suitable activities, and the procedure of fulfilling the obligations was observed. It is necessary to spread more information through the media and television programs dedicated to the farmers because not everyone uses the Internet.

After the implementation of these proposals, it is likely that the agricultural areas supported under the Measure would increase and, at the same time, would have a greater positive environmental effect.

Key words: Lithuania, Agri-environment and climate, Rural Development Programme 2014–2020.

Evaluating the interaction between agricultural activity and the environment – the impact of mineral fertiliser use

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Agriculture is not only a business, but also a strategic economic sector that ensures food security for the country's population. Farming also plays an important role in preserving the landscape, biodiversity and mitigating climate change. But to support this, farmers need an earn a reasonable income.

The environmental impact of the agricultural sector's activities has been observed over the past decades, and there is growing interest in Europe in analysing the actual use of fertilisers. The paper thus presents data on pesticide and mineral fertiliser use in the context of new policy objectives, including resource efficiency, and assessing the performance of the agricultural sector. In this context, the Economic Accounts for Agricultural provide a set of comparable data on changes in the volume and prices of agricultural products, which gives an insight into the economic viability of the farm and the income generated by the farmers, as well as the structure and composition of agricultural production, the means of production used for this production, input prices and quantity ratios.

It is important to monitor information on fertiliser inputs and volumes in agriculture in all EU countries. The purpose of this work is to examine the use of fertilisers and the importance of the economic costs that fertilisers can have on farms. Nitrogen fertiliser use in EU agriculture in 2021 was estimated at around 10.8 million tonnes, a decrease of 2.0% per year compared to 2020. However, in the medium term, the average for 2021 remained slightly higher than in 2004 (+8.4%). In the case of Lithuania, the figure for 2021 was – 0.18 million tonnes, an increase of 0.9% compared to 2020.

Key words: agriculture, environment, production, fertiliser, EU countries.

Institutional public tenders as a tool for the development of local supply chains

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The direction of green transformation encourages fundamental changes in economic systems and challenges tradeoffs between the economic growth and environmental concerns. However, there is no single and well-known path towards the green transformation, and individual Member States put together important elements of the puzzle in order to contribute to the establishment of the prosperous and climate-neutral EU economy. The development of local short supply chains that connect consumers and local producers of agricultural and food products is an important element of the puzzle that brings mutual benefits, including different aspects of rural viability, environmental and climate issues.

This research focuses on a specific niche of institutional public tenders. The aim is to investigate the main challenges, hindering the development of green public procurement distribution channels that connect local farmers and buyers in Lithuania, and to develop and verify an organizational model that allows local farmers to participate in institutional public tenders. The research investigates an experiment that takes place in Rokiškis Municipality and facilitates the cooperation between kindergartens, schools and local farmers. In 2023, this experiment implemented a new organizational model that allowed small and medium farms to participate in institutional public tenders. Research covered different methods, including literature review and content analysis, interviews with cooperative administration and project members that implemented the experiment, analysis of financial data.

The proposed organizational model was implemented by establishing a cooperative that took over information management and control as well as transportation functions from local farmers. The conducted research allows us to identify main problems of local green public procurement distribution channels that must be addressed at different levels. First, the lack of systems thinking results in contradicting legislation that impede the progress towards the desired policy goals. Second, the orientation towards local organic and national quality products must go in line with the corresponding growth of the supply. However, in kindergartens and schools, financial support for the purchase of these products does not allow to sell local high-quality products at a fair price. Third, the development of menus that rely on local seasonal products could be an important step facilitating the functioning of local short supply chains. Forth, the analysis of public tender contracts shows the unfavorable situation for farmer cooperation organizations. In fact, the buying behaviour of institutions does not allow to organize efficient logistics and reduce GHG emissions, while contracts often include unfavorable conditions that could ruin businesses that survive from a minimum mark-up. Thus, the dialogue between a farmer cooperation organization and potential buyers before public tenders is compulsory to establish a successful distribution channel. Fifth, the analysis of achieved results and financial indicators allows us to state that business diversification is compulsory in order to ensure the economic viability of farmer cooperation organizations that provide green public procurement distribution channel's services. Moreover, it is recommended to carry out market research in the particular area before business start-up and to estimate the economic viability of this business as well as attitudes of local institutions towards the establishment of short supply chains that deliver production from local farmers.

Key words: farmer cooperation model, green public procurement, local supply chain

Unpacking household food waste in Lithuania: quantities, composition, and causes

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In developed countries, households contribute the most to food waste. Food disposal in households is a major concern because it primarily involves food that could have been consumed but regrettably ends up being discarded. Quantifying and characterising household food waste, as well as identifying the underlying causes of this waste, are essential steps in addressing the problem. The present research utilizes a diary technique to gather data on edible food waste within households in Lithuania. Representatives from 130 households in both urban and rural areas provided data on the quantities and categories of food they disposed of during a 7-day period, along with the underlying causes of food waste. The results indicated that the amount of food waste generated in Lithuanian households ranged from 0.2 kg to 10.4 kg per one week, with an average of 2.5 kg of food waste per household. Per capita, this equated to 75 kg annually. Although households in rural areas threw away more food per week than households in urban areas (2.7 kg vs. 2.4 kg), there was no significant difference in terms of residential area. The major categories of food discarded comprised home-cooked food, fresh vegetables and fruits and berries, milk and milk products, drinks, and baked goods. Food spoilage was the main cause of food waste in households. In addition, quantity-related problems such as over-preparation and over-serving were also important. Other significant causes contributing to household food waste were expiration of food, as well as personal preferences, such as not liking certain food products.

Key words: food waste diary, consumption stage, estimation.

Development of a Sustainable Food System in the Context of the European Union Long-term Vision for Rural Areas

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The importance of the sustainable development of the food system is defined by its importance in providing society with accessible and safe food, its impact on the environment and the socio-economic structure of rural areas. Qualitative changes in the sustainability of the food system are necessary in order to move as smoothly as possible from the configuration of the food system based on the industrial paradigm to its alternative configuration, based on the broader principles of sustainable production and rural development Therefore, the development of a sustainable food system is one of the priorities of the European Union's long-term vision for rural areas, ensuring that rural areas are stronger, connected, resilient and prosperous. In the study, the sustainability of the Lithuanian food system is based on and evaluated through the growth of indicators reflecting the economic and social dimensions of sustainability and the decrease of indicators reflecting the environmental dimension. To determine the sustainability

of the food system, the adequacy of supply chains has been revealed (measured through the viability of supply chains); social equality (viewed through gender equality and generational change) and environmental neutrality (measured through food waste and water footprint). The study used a mixed methodology that combines surveys, statistical analysis, expert assessments, multi-criteria methods and allows to systematically examine the problems of sustainable development of food systems from an economic, social and environmental point of view and at various levels of management. The study revealed that the development of Lithuania's sustainable food system is considered sufficient. Innovation, cooperation, diversification and knowledge creation have also been identified as possible options for strategies for the sustainable development of the food system. The study revealed that food systems would be more sustainable if women were more empowered in the food system. Greater participation of women in the food system could increase environmental awareness, a tendency to innovation and the viability of supply chains.

Key words: (up to 7). Sustainability of Food Systems, Supply Chains Viability, Gender Equality and Generational Change, Food Waste and Water Footprint

Biomass supply potential analysis at national and regional levels in Poland

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Food production is the primary function of agriculture, however, in recent years, a significant need to utilize the potential of agricultural biomass has been observed, included also in the Bioeconomy strategy being developed in Poland. The ongoing Green Transformation of rural areas includes developing local energy systems based on renewable sources. Developing an accurate estimation methodology to determine the various types of agricultural biomass to analyze the flow of biomass resources between sectors, create a logistics foundation, and assess the potential of biomass contribution in the strategic energy sector seems to be a key issue. This need has been noticed by the Ministry of Agriculture and Rural Development, and the task of developing a biomass monitoring system has been assigned to IUNG-PIB under a targeted subsidy.

The Agricultural Biomass Monitoring System in Poland has been carried out at IUNG-PIB since 2020. Calculations are made annually using the updated database of the Agency for Restructuring and Modernisation of Agriculture (ARMA), maintained within the Land Parcel Identification System (LPIS) and national direct payments. This database contains the information necessary to monitor and model agricultural biomass resources for crop and livestock production. The accuracy of this data allows for the estimation of potentials at the farm level, taking into account three production directions: farms with crop production, farms with livestock production, and mixed farms. Such an approach assumes the reuse of agricultural by-product biomass on the farm itself, taking into account its production direction. Straw, hay, and residues from livestock production should be used as fodder, bedding, or natural fertilizer, respectively, and any surplus on the farm can be used regionally.

In addition, national data recorded in the database on products and packaging and waste management regarding the agricultural sector were also included in the calculations.

The results of biomass monitoring are presented annually in the geoportal, in graphical and tabular form, providing the option to generate statistics for specific administrative units. The geoportal is an open tool, freely available to all users, with the possibility to download data in various formats.

Key words: agriculture biomass, straw, hay, renewable energy, regional potential, Poland

Livestock farming and land use: Demonstrating connections using the example of Austrian chicken fattening

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Land is a scare resource and there are numerous competing forms of land use, both within agriculture and across all economic and societal actors. The different types of use have different impacts on land use, including intended and unintended impacts in fields of the economy, society and the environment. Livestock farming is particularly closely linked to land use and is addressed in many political programs and measures, such as the EU farm to fork strategy. Within our work, we follow a systemic approach and want to demonstrate the connecting links between land use and livestock farming. In a further step, we focus on Austrian chicken fattening and provide a description of the sector from a systemic perspective.

Within the first step, we carried out a systems scoping, where we analysed the 'livestock farming and land use' - system within the following characteristics: actors, drivers, activities and outcomes. Therefore, we conducted seven qualitative interviews with experts in the fields of agricultural markets, sociology, regional development, veterinary medicine, environmental history etc. Within this process, we identified eleven main topics: animal welfare, societal values, politics, food consumption and nutrition, climate change, biodiversity, sustainability, agricultural land, structural change in agriculture, nutrient cycles, crises. These issues seem crucial for the general understanding of the system in order to promote a green transformation in rural areas. In a next step, we conducted interviews with four representatives of the Austrian chicken fattening-sector, made an excursion to a chicken fattening farm and carried out extensive analyses of documents from the sector.

The first results of the sector description show, for example, that the breeding of broiler chickens is a highly technical business, with a high dependency on three companies that dominate the international market for broilers due to few genetic lines. The chicken fattening system at farm level is very specific compared to other meat sectors. The entire production cycle is planned through, from the delivery of the chicks, feed to be used, transportation of the broilers to the slaughterhouse and to prices per weight. On the one hand, this gives producers security and predictability, but on the other hand, they have hardly any room for maneuver (neither towards different modes of production). Animal welfare is a dominant topic in Austria that has led to a

number of changes in the sector (esp. regarding husbandry) in recent years, mainly due to high social expectations and pressure from NGO´s.

For a comprehensive picture on the broiler-related land use, it is necessary to consider the land required throughout the value chain, both domestically and abroad. Land use at the farm level includes agricultural buildings (e.g. livestock husbandry, machinery, storage) and other areas (e.g. open-air areas for animals, feed production, manure application). Beyond the farm-gate, land is required for infrastructure (e.g. roads, energy), upstream activities (e.g. breeding, hatchery, feed mills) and downstream activities (e.g. transport, slaughter, processing, packaging, trade, sales points). In 2020, Austria counted almost 9.5 million broiler chicks and young broilers (Agricultural Farm Survey 2020), but the country still depends on imports to cover its national broiler meat consumption.

Further work is planned to understand the sector of chicken fattening and the links to land use even better and encourage a sustainable regional development in line with a future-oriented food production.

Key words: Livestock farming, land use, chicken fattening, systemic approach

Developing visions for rural areas through science, society and policy interfaces

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This paper describes deliberative processes in two EU funded projects which align with characteristics set out by the High Level Panel of Experts for Food Security and Nutrition, FAO and Gliessman[1]. SHERPA (Sustainable Hub to Engage into Rural Policies with Actors) and UNISECO (Understanding and improving the sustainability of agroecological farming systems in the EU) operationalised science, society and policy interfaces for actors to co-construct sustainable futures. Development of these interfaces adopted a multi-actor approach, providing contextualised solutions to local problems, and bottom-up and territorial processes. They reflected the concepts of Gliessman [1] in their roadmap to agroecological transitions which includes interactions between consumer and producer, and consideration within food systems of issues of ‘equity, participation, democracy, and justice’.

Experiences in UNISECO and SHERPA show that the potential of deliberative democratic processes should be understood in four domains: i) improving policy; ii) boosting connectivity; iii) enriching rural dialogue; and iv) supporting action on the ground. Feedback on the multi-actor approach for participatory agenda setting revealed insights that deliberative democratic processes can provide on needs of rural areas and their citizens, at different levels and types of governance, with remits at local, national and EU levels [2]. The approach had an empowering effect, sparking local interest in policy processes, with the prospect of building capacity to driving sustainability transitions. This all contributes to depolarization and bridging gaps between local, regional, national and EU policy making.

Feedback received reflects local knowledge and priorities, and point to needs for systems thinking in designing policy which is coherent across scales. Examples of gaps in knowledge identified in SHERPA and UNISECO structures were: i) how knowledge is transferred within and between countries and regions, at different levels of governance, and the types of models which might be most impactful in agriculture and more broadly; ii) the levels of risk of where and what types of actors may be left behind during transitions in farming systems; iii) the roles of training and education in identifying opportunities, and designing and implementing activities that facilitate transitions to sustainable agriculture[3].

Conclusions presented on findings from the transdisciplinary forums provide evidence of how they can be used to co-construct knowledge and recommendations, and identifying pathways for creating long-term visions that contribute to achieving policy aims.

[1] Gliessman (2016) doi.org/10.1080/21683565.2015.1130765

[2] Schwarz et al. (2022) doi.org/10.1111/1746-692X.12377

[3] Zawalińska et al. (2022) doi.org/10.1111/1746-692X.12378

Keywords: science society policy interfaces, co-creating knowledge, sustainability transition

Geographical variability of agricultural cyclical set-aside in Poland: Effectiveness of the complementary EU instrument

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Context: The cyclical agricultural set-aside is regarded as one of the methods employed to reconcile the efficiency of modern agriculture with the priorities of landscape and environmental protection, particularly biodiversity. Initially used as a mandatory measure to address agricultural overproduction in the EU, setting aside arable land has been more recently justified on environmental grounds and proposed as a complementary tool within the framework of the EU Common Agricultural Policy. Consequently, according to Article 4.4.c of Regulation 2021/2115 of the European Parliament and of the Council of 2 December 2021, EU Member States have the discretion to designate eligible hectares, including areas used for agricultural activities only every two years. Spatial disparities in the implementation of this measure are hypothesised, even within individual countries.

Goal: The goal of this paper is to identify whether the complementary instrument of agricultural cyclical set-aside has been implemented in Poland over the past decade. Furthermore, our objective is to investigate the geographical variability of the set-aside application and identify the determinants that contribute to this spatial variability. This analysis will consider geographical, agricultural, and environmental factors.

Methodological framework: The study adopts spatial units – hexagons with an area of 10 hectares, similar to the average farm size in Poland. For each unit, the occurrence and sequence of changes in arable land use in 2014-2023 is examined. The aim is to capture the optimal pattern of cyclical fallowing, represented by the alternation of arable land and other land uses,

e.g. grasslands. This scenario is in contrast with the continuous presence of arable land that implies uninterrupted agricultural use or the disappearance of arable land in a given spatial unit. The study considers deviations between the actual sequence of land use and the ideal sequence of arable land set-aside on the one hand, as well as proximity to intensive agriculture, non-arable land use, or land abandonment on the other one. Spatial econometric techniques are used to identify geographic, agricultural, and environmental factors influencing the use of set-aside measures.

Key words: Set-aside; Land use; Common Agricultural Policy; Complementary agricultural tool; Geographical variability; Poland

An empirical analysis of specialized dairy farms in Lithuania in the context of selected EU countries

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The dairy sector is the second largest agricultural sector in Lithuania. It faces economic challenges (price volatility, farm consolidation and downsizing, etc.), but its importance outstrips other agricultural sectors (combining agro-systems and providing valuable food products for people). The aim of the study is to analyse Lithuanian dairy farms in the context of selected European Union (EU) countries, to identify the weaknesses of these farms and to consider the opportunities for improving their performance. As the problem of the study is complex, a set of indicators was analysed, including farm size, milk yield per cow, number of labour force on the farm, forage area, milk price, costs, self-sufficiency in milk. The analysis was carried out using data from the Farm Accountancy Data Network (FADN) for 2017-2019. As Lithuania's dairy sector is export-oriented, EU countries with more than 100% milk self-sufficiency (18 countries in total) were chosen as comparison countries. The multi-criteria assessment methods used for the study are TOPSIS, EDAS and SAW. The multi-criteria assessment concluded that dairy farms are best managed in countries with a predominance of large dairy farms (Slovakia, Estonia, Czech Republic, Denmark), while Lithuanian dairy farms perform poorly in terms of production levels and productivity. In order to further clarify the reasons for the low performance of Lithuanian dairy farms, an analysis of Lithuanian dairy farms was carried out, dividing farms into groups according to farm size. Among Lithuanian dairy farms, the best results were achieved by large farms, which had a much higher criterion score than medium and small farms. The main reasons for this are significantly higher labour productivity, lower costs per unit of output, higher prices and better productivity indicators. Large dairy farms are able to meet increasing environmental demands and ensure farm viability by generating higher incomes. Small and medium sized farms should increase the efficiency of milk production and diversify their income.

Key words: dairy farms; economic analysis; multi-criteria decision making.

Research on the state of the Romanian Bioeconomy Strategy

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Abstract text: (abstracts for papers or posters should be between 200 and 700 words (1.5 spaced, Times New Roman 12).

Main aim of the research is to initiate and enrich bioeconomy related approaches in Romanian governance processes and to inspire the process of creating the national bioeconomy strategy covering key bio-based sectors related to EU Green Deal.

There were identified the main strengths and opportunities, also weaknesses and threats of the bioeconomy in Romania, in order to facilitate the elaboration of the national bioeconomy strategy and identification of the best niches for development.

The methodology used was based on desk research, focus groups and on-line surveys. In this frame, multiple interactions with multi-actors representing quadruple helix (industry, academia, government, and civil society) were conducted. The main steps conducted during this process consisted of investigation of SWOT factors, then attributing importance to criteria, pairwise comparisons, definition of agents-actors, determined most powerful facilitators and obstacles, formulating strategies, policy coherence analysis, and conclusions with recommendations and strategic actions.

For the research done, we used the official documents of the EC and other European institutions with attributions in the field of bioeconomy, national documents from Romania (political documents, strategies, action plans, regional and national initiatives), but also results and documents of the Bioeast Initiative and BioeastsUp project. To achieve the proposed objectives, a literature review, a text analysis of the studies and documents in this field, as well as comparisons between the analysed states were performed.

Based on the findings, there were elaborated conclusions with recommendations and strategic actions, useful for policy-makers in their activity, for the construction of the national bioeconomy strategy.

Key words: Bioeconomy, Strategy, Romania

Applications of Artificial Intelligence (AI) in the Agriculture Industry: current status and future

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As worlds' population is rapidly growing, so is increasing the demand for food and employment. As a result, new automated methods ant technologies (e.g. Internet of Things, Big Data & Analytics, Artificial Intelligence (AI), and Machine Learning) are being introduced to meet food requirements because traditional methods used by farmers are insufficient to meet these requirements while also providing employment opportunities to billions of people worldwide. Artificial Intelligence (AI) is revolutionizing agriculture by enabling data-driven decision-making, optimizing resource management, and enhancing productivity while minimizing environmental impact and adding to sustainability. Ongoing research among scholars and technological advancements by practitioners continue to expand the scope and capabilities of AI applications in agriculture. Several key areas of development of AI in agriculture get particular attention: precision farming, crop monitoring and management, weed and pest control, predictive analytics, supply chain optimization, robotic farming, genomics and breeding, farm management systems. Investments in AI in agriculture are also growing steadily, driven by the increasing recognition of AI's potential to revolutionize the sector. Some key trends in investments in AI in agriculture include: venture capital funding, corporate investments, government funding, academic research, collaborative initiatives, etc. As investments in AI in agriculture reflect growing interest and commitment from various stakeholders to leverage technology for sustainable and efficient food production, current research seeks to analyse several questions. Firstly, research addresses how may AI be used to enhance agricultural productivity in diverse environmental conditions. Secondly, implications of AI driven advancements are being analysed. To answer these questions, research performs a case study and applies SWOT, and PESTEL analysis.

Key words: Artificial Intelligence, agriculture, productivity, sustainability, case study.

Community farming in Northern Ireland: definitions and impacts

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Community farming is part of a broader pattern of civic agriculture, whereby more localised food production and consumption are linked to a wider, and sometimes global, set of economic, social and environmental factors. However, although aspects of community farming, notably community-supported agriculture (CSA) and care/social farming have been well studied and defined, community farming as a broader process of civic agriculture has not. Furthermore, there is a limited number of published studies on the social, economic and environmental impacts of these varied components of community farming. A focus group was also used to generate the following definition of community farming - a process of collaborative transformation at the intersection of land, community and enterprise – and of a community farm – a place of collaborative transformation at the intersection of land, community and enterprise. This study also presents data from 9 diverse community farming projects in Northern Ireland. The Social Return on Investment (SROI) methodology was used to quantify their cumulative

impacts, employing 12 metrics: 11 monetised, and one non-monetised. The overall SROI ratio for the 10 projects was 3.52:1, with the overwhelming majority of this value being social, followed by environmental and then economic. This study provides valuable insights into the value generated by community farming, notably social, as well as a definition that can catalyse further research, practice and advocacy among stakeholders. It also places community farming on a civic agriculture continuum between, on one hand, more wellbeing-focused approaches like care and social farming, and more food production-oriented schemes such as CSA. Lastly, it highlights the potential and limitations of community farming as a component of green transformaton in European rural areas.

Key words: Ireland, community-supported agriculture, care farming, social farming, civic agriculture, social agriculture

Instruments and forms of support for Romania by the National Strategic Plan 2023-2027

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The European Union develops and implements a series of programs and plans for agriculture aimed at ensuring the sustainable development of the agricultural sector in member states. In this sense, the Common Agricultural Policy (CAP) regulates aspects of agriculture and rural development. Within the framework of the CAP, member states design and apply national strategic plans that must comply with the objectives and general principles of EU stability.

Through strategic plans, the EU allocates strategic resources to ensure efficient and equitable management of equitation and to contribute to the sustainable development of the agricultural sector and rural communities throughout its sphere of influence.

Through the implementation of the Strategic Plan, the authorities contribute to reducing the discrepancies between urban and rural areas, improving the quality of life, stimulating economic growth and innovation in the rural environment, stimulating sustainable growth in the agricultural sector, improving food security, and reducing poverty in rural areas. It can also contribute to job creation and economic development across the country.

This paper presents the new forms of instruments and support introduced in Romania by the Strategic Plan PAC 2023-2027, which support the less exploited, but with potential, agricultural sectors of Romania.

We analyze the new instruments and methods implemented. Innovative methods and tools are new to most potential end users. End users need guidance to understand the available solutions and their functioning and the implications involved in utilizing them within a national context.

After discussions with experts, the results show the difficulties of the present instruments and forms of support and the new orientation for the next programing period. Among the many suggestions, we would like to emphasize a few that can be useful for the next programing period.

Key words: Romania, Common Agricultural Policy, National Strategic Plan 2023-2027, instruments and forms of support.

Where there are good digital ground for green transformation? Spatial distribution of internet quality in Poland

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Nowadays, many negative phenomena affecting the overall functioning of rural areas, affecting communities and the economy, especially agriculture, can be observed in rural areas. These phenomena include climate change, the energy crisis and the exodus of people of working age from the rural areas. To a large extent, these problems have a universal dimension (affecting urban and rural areas) and have consequences in all areas of life. Hence, the European Union has introduced 'The European Green Deal' strategy, which aims to transform the Union into a modern, resource-efficient and competitive economy. However, in order for this strategy to become a reality, it is necessary to take into account the digital transformation which, in the case of rural areas, is closely linked to the concept of smart development and the associated smart villages, highlighting the increasing importance of digital technologies in development processes. However, the prerequisite for the successful realisation of the objectives of the above-mentioned actions is an adequate digital infrastructure - consequently a good-quality Internet available in every location. Particularly in view of the increasing range of digital technology applications, it is important to provide access to Internet of appropriate parameters. Better quality (faster) Internet means greater efficiency at work, the introduction of innovations, the possibility of full utilisation of services.

The aim of the presentation is to identify the quality of the Internet in rural areas in Poland. This issue will be considered from the perspective of providing a basis for action for the green transition in the context of smart rural development. In order to achieve this goal, an analysis of internet speed (as an indicator of its quality) at the local level was used - analysis of rural areas in relation to cities, as well as spatial differentiation of this phenomenon. The data was obtained from the Ookla service and is for the year 2023. Based on the spatial analyses, areas with good and poor internet quality, both fixed and mobile, were delimited. This made it possible to determine which areas are better prepared to implement modern, digital solutions, essential, among other things, for green transformation. In the case of spatial differences, two dimensions could be identified: the urban-rural divide, as well as the differences between individual regions of Poland occurring in rural areas. The first dimension relates to the fact that digital technologies are more rapidly developed and adopted in urban environments. The second dimension is largely due to ongoing investment in the expansion of digital infrastructure

Key words: digitalization, Internet quality, smart villages, green transformation

Geoheritage as territorial capital for potential sustainable development of rural peripheries

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Spatially differentiated Slovakia is a country with the numerous attempts aimed to the balanced (regional, urban-rural) spatial structure achieved (also) through the heterogenous efforts in tourism development. Rich geodiversity as a natural form of territorial capital, and the presence of geoheritage can be considered as the primary prerequisite for the development of the relatively new niche market of tourism - rural geotourism - that specifically focuses on unique geological and geomorphological landscapes in the countryside. In the database of the important geological sites of Slovakia, which represent the above mentioned national geoheritage, are 480 spatial units. Some of them represent the geological sites of high aesthetic quality in four geoparks which have been established and operated in Slovakia. But geoparks include not only sites of geological significance but also sites of ecological, archaeological, historical or cultural value and therefore is generally accepted that geoparks could represent the geographical territories with potential for education, science, culture and socio-economic development (mainly through tourism and/or geotourism as a special form of green economy). The aim of the study is to discuss about the opportunities of sustainable development of rural peripheries with the specific level and importance of local geoheritage through the initiatives of local authorities in the sphere of applying individual steps for introducing innovative rural geotourism. This potentially successful market policy and rural development strategy should be seen as a generator of employment, new economic activities and source of alternative income for disadvantaged rural communities in Slovakia.

Key words: geoheritage, geosites, geoparks, geotourism, sustainable rural development, Slovakia

Integrating bioeconomy in the Common Agricultural Policy: Strategic planning and action plan insights from Poland and the BIOECO-UP Project

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The economies of European countries, encompassing diverse sectors such as agriculture, necessitate comprehensive transformation to address climate change and identify innovative solutions that could diminish the consumption of non-renewable resources available to individual EU nations [1, 2]. This transformation at the European level can be facilitated by various support programs. A key initiative in this regard is the Common Agricultural Policy (CAP), which focuses on food production, environmental stewardship, and rural development.

The CAP represents a collaborative framework between society and the agricultural sector designed to ensure stable food supplies, secure income for farmers, protect the environment, and sustain the dynamic evolution of rural areas.

A critical inquiry is whether the CAP and its specific measures are congruent with the objectives and proposals delineated in the European bioeconomy strategy [1]. Despite the significant potential and extensive efforts already undertaken, Poland has yet to formulate a comprehensive bioeconomy strategy. Therefore, it is pertinent to reference other valuable documents that delineate the state of the bioeconomy within this nation [3]. In this context, an analysis has been conducted to ascertain which measures within the current CAP align with the bioeconomy framework and how the process of revising or formulating new measures within the forthcoming CAP could advance transformation more effectively, particularly in mitigating climate change and fostering novel opportunities for European agriculture [4].

The formulation of goals and the proposition of instruments within the CAP should be informed by input from various stakeholder groups, including representatives from academia, industry, associations, farming communities, agricultural producers, and governmental administration. The transformation should advance both horizontally and vertically, employing a cross-sectoral approach. Achieving this transformative agenda can be enhanced by gathering insights into the extant network of connections among key stakeholder groups shaping the Common Agricultural Policy, utilizing Social Network Analysis (SNA) methodology [5, 6, 7]. Subsequently, the high-quality information acquired enables the application of the Delphi methodology. Alongside a comprehensive literature review, this allows for conducting a reverse SWOT analysis, or the determination of development bias (S-O, S-T, W-O, W-T) [8, 9]. This methodological framework can ensure a continuous information flow and assist in prioritizing objectives. Articulating these objectives at the national level and extending their application at a transnational level, for instance within the BIOEAST initiative that connects and supports Central and Eastern European countries, enhances the potential for more effective integration of bioeconomy elements into the Common Agricultural Policy.

Sources:

1. European Commission, Directorate-General for Research and Innovation, European bioeconomy policy – Stocktaking and future developments – Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (Luxembourg: Publications Office of the European Union, 2022), https://data.europa.eu/doi/10.2777/997651.

2. Thomas Dietz et al., "Governance of the Bioeconomy: A Global Comparative Study of National Bioeconomy Strategies," Sustainability 10, no. 9 (2018): 3190, https://doi.org/10.3390/su10093190.

3. J. Kozyra, P. Chmieliński, P. Jurga, et al., "Strategic Concept Paper for Bioeconomy in Poland: Executive Summary [version 1; peer review: 3 approved, 1 approved with reservations]," Open Research Europe 3 (2023): 217, https://doi.org/10.12688/openreseurope.16229.1.

4. E. Quendler, P. Jurga, R. Soos, M. Kubankova, "Exemplary Compilation of Bioeconomy Measures," Interreg Central Europe, 2024, (confidential / not published).

5. K. Harrahill, Á. Macken-Walsh, and O'Neill, "Identifying Primary Producers' Positioning in the Irish Bioeconomy Using Social Network Analysis," Cleaner and Circular Bioeconomy 5 (2023): art. no. 100042.

6. E. Imbert et al., "The Transition Towards a Bio-Based Economy: A Comparative Study Based on Social Network Analysis," Journal of Environmental Management 230 (2019): 255-265, doi:10.1016/j.jenvman.2018.09.068.

7. M. Furmankiewicz and J. Stefanska, "Partnerstwa terytorialne jako sieci organizacyjne. Analiza powiazan w trzech wybranych lokalnych grupach dzialania w Polsce," Studia Regionalne i Lokalne 1, no. 39 (2010): 5–25.

8. Brunnhofer Magdalena et al., "The Biorefinery Transition in the European Pulp and Paper Industry – A Three-Phase Delphi Study Including a SWOT-AHP Analysis," Forest Policy and Economics 110 (2020): 101882, https://doi.org/10.1016/j.forpol.20.

9. Stelios Rozakis, Katerina Troullaki, and Piotr Jurga, "Theory and Practice in Strategic Niche Planning: The Polish Biogas Case," in Biogas Plants: Waste Management, Energy Production and Carbon Footprint Reduction, ed. Wojciech Czekala (Hoboken, NJ: Wiley, 2023), 243-260.

Key words: bioeconomy, CAP, BIOECO-UP, strategic orientation, policy, SNA

Rural Environmental Registry (CAR): Strategic Tool for Environmental Conservation in Brazil

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This study analyzes the Rural Environmental Registry (CAR) as a strategic tool for environmental management and conservation in Brazil. We assess its impact on monitoring land use, preventing illegal practices, promoting sustainable management, and ensuring compliance with environmental laws, as well as its contribution to transparency and environmental governance. This investigation evaluates how CAR identifies areas in need of restoration and contributes to the formulation of more effective public policies for conserving the country's natural resources. We analyze its effectiveness, identifying areas for improvement and opportunities to enhance its implementation and impact on Brazilian environmental conservation. This study is justified by CAR being a strategic tool for environmental management and conservation in Brazil. Established by Law 12.651/2012, within the context of the New Forest Code, CAR simplifies regulations for landowners and protects the country's natural resources, providing a basis for effective public policies. Brazil, with one of the world's greatest biodiversities, faces challenges related to deforestation and environmental degradation, especially in sensitive biomes like the Amazon, the Cerrado, and the Atlantic Forest. In this scenario, CAR emerges as a crucial environmental asset, providing precise data on rural lands.

The methodology involves a mixed approach, combining quantitative and qualitative analysis. Quantitative data primarily come from the Ministry of the Environment, through the "Public Environmental Regularization Consultation," covering registered properties, information accuracy, and compliance with environmental laws in different regions. Additionally, they will be processed and analyzed using GIS tools like ArcGIS. This enables the visualization and spatial analysis of CAR data, facilitating the identification of patterns and trends related to its implementation. This data is essential for monitoring and controlling land use, helping prevent illegal practices and promote sustainable management. Registration in CAR is mandatory for all rural properties and should include detailed information on property location and boundaries, permanent preservation areas, legal reserves, remnants of native vegetation, and other areas of environmental interest. This wealth of data not only helps determine compliance with environmental laws but also identifies areas in need of restoration, making it a vital tool for environmental and economic planning. With public access to registration information, non-governmental organizations, regulatory agencies, researchers, and the general public can contribute to environmental monitoring and advocacy. Integrating CAR with other geographic information systems and public records further enhances its value. For example, cross-referencing CAR data with environmental licensing information, protected areas, and conservation units provides a more comprehensive overview of environmental pressures and conservation challenges in each region. This type of analysis aids in crafting more effective public policies and allocating resources to critical areas. Economically, CAR also plays a relevant role. Properties that comply with registration requirements often have easier access to rural credits and incentives for sustainable agricultural practices. Moreover, compliance with environmental regulations, documented through CAR, can increase the market value of properties, thereby encouraging compliance among rural landowners. Thus, CAR, an essential component in the fight against deforestation, enables more targeted and informed action by environmental agencies and can be used to direct reforestation and land restoration campaigns. By ensuring that each land parcel is accountable for its contribution to the ecosystem, CAR protects and enhances the Brazilian environmental heritage. Therefore, CAR is more than just a registry; it is a transformative strategy that reinforces environmental legislation, promotes transparency, and fosters sustainability, playing a vital role in conserving Brazil's natural resources.

Key words: Rural Environmental Registry, environmental management, conservation, Brazil, land use monitoring, sustainable management, environmental data.

Multivariate exploration of factors influencing perceptions of ecological transformation through circular economy in rural European areas

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The ecological transformation toward a circular economy in rural European areas requires a fundamental shift in economic, social, and environmental models. However, for this transition to succeed, understanding the factors that influence rural communities' perceptions is crucial.

This raises the question: Are people in rural areas ready to engage in the circular economy and contribute to this change? The study employed a quantitative methodology based on surveys, where the data collected was analyzed using multivariate analysis techniques to identify correlations and patterns in attitudes toward the circular economy.

The main variables examined in the questionnaire include subjective norms (SJN), which capture the influence of family, friends, and authority figures on the adoption of circular practices; attitude toward decision-making (ATI), which measures how emotions impact the willingness to make decisions related to the circular economy; cognitive-behavioral control (CBC), which assesses people's perception of their ability to overcome financial or knowledge barriers in implementing ecological practices; personal economic benefit (BOE), which measures how people perceive the tangible economic benefits of circular products; attitude toward the environment (ATE), indicating the level of willingness to sacrifice traditional habits for the environment; and readiness to participate (IP), evaluating people's intention to actively engage in the circular economy and recommend it to others.

The results of the questionnaire aim to identify how various factors influence the intention to participate in the circular economy and determine the most significant financial concerns affecting people's willingness to adopt more sustainable practices. Consequently, the multivariate exploration of the questionnaire provides new insights for designing policies and strategies that encourage community participation, minimize economic concerns, and facilitate access to relevant information.

Key words: Circular economy, Multivariate analysis, Rural communities, Sustainable practices, Economic concerns.

Evolution of CAP SP preparations: challenges lessons and possibilities from Lithuanian experience

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The Common Agricultural Policy (CAP) was introduced only in 1962 as one of the general policies of the European Union (EU), but the development of the CAP and strategic plans in Lithuania is only 20 years old. Not only that, but the share of the CAP also constitutes a considerable part of the entire EU budget and, for example, in 2022 it reached 23.5 percent of the entire EU budget, and in the last 20 years, i.e. in the 2004-2024 period, the EU CAP budget increased 2.7 times from 141.8 to 386.6 billion Euros (Financing of the CAP). Therefore, CAP is one of the major public policies within the EU which causes many arguments and even disputes between different stakeholders and their inclusion in the process. Since 2004 when Lithuania joined EU, CAP became an important subject between Lithuanian stakeholders whereas the practices how national strategic plans of CAP has changed in 20 years as well.

Also, the New Delivery Model (NDM) established in the Regulation EU 2115/2021 entails significant changes to Common Agricultural Policy (CAP) governance with the introduction of the SPs and new monitoring, review and evaluation requirements. In 2019, the European

Commission (EC) also launched the European Green Deal (GD), encompassing the Biodiversity Strategy, the Farm to Fork strategy, the Soil and Forest Strategy and the Climate Adaptation plan, which set up sustainability targets to be achieved mostly by 2030 and to which the new CAP is also expected to contribute (European Commission, SWD (2020) 93 final). Nonetheless, EU priorities could still be influenced by unanticipated crises, and new challenges and needs may arise in the coming years. Policymakers and stakeholders will operate in a changing environment, with evolving priorities to which Member States (MSs) will have to respond (Tools4CAP).

Therefore, the main aim of this research is to reveal the preparation of Lithuanian CAP SPs and demonstrate the change towards more openness, collaboration and inclusion of different stakeholders and also to offer future solutions for more open and evidence based CAP and national SP.

The research revealed that recently the most commonly applied tools for the design and implementation of CAP Strategic Plan in Lithuania are focus groups, cumulative voting approach, expert judgment, socio-economic analysis, and comparative analysis. More rarely applied, but very informative tool is scenario building, or scenario modelling. The listed tools In Lithuania are used in a particular sequence or particular SP design and implementation 'policy steps'. Research demonstrates that functionality of the tools varies and focus groups tool is a good tool to collect different opinions but also it can be very political as every member of the focus group represent certain interests and seeks to represent them. However other used tools such as comparative analysis, expert judgement or socio-economic analysis are accurate and provide valid results.

It must be noted that the main challenges faced by Lithuanian policy-makers are related to different aspects, mainly considering: institutionalization issues (compulsory pre-defined national and/or supranational tool exploitation requests), various objective technical constraints (time, volume, budget, expertise), relevance (rationality of taking a long retrospective data, its reflectivity to actual ongoing transformations, flexibility to empower alternative tools), and general availability issues (data protection and openness, communication, user-friendly access). In order to seek for better organization of CAP SP, it was found out that policymakers need a good quality and timely national data, users friendly digital platforms and better time management in improving the existing tools or adopting the new ones.

To sum up, the future research for scientists and policy practitioners should be the following: firstly, to provide a shared knowledge base and an evaluation of methods and tools used for the design and implementation of the SP; secondly, to identify and adapt innovative methods and tools for the design and implementation of the SP, by taking stock of relevant and replicable solutions developed in recent and ongoing research projects and other EU initiatives; thirdly, to empower end users to adopt innovative solutions for the design and implementation of the SP, by providing them with methodological guidance on choosing the best solutions, their operationalisation, and associated good practices (Tools4CAP).

Key words: Common agricultural policy (CAP), strategic plan (SP), decision making, policy evaluation, European Union, Lithuania.

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Guiding references:

1. Financing of the CAP: facts and figuresFinancing of the CAP: facts and figures accessedaccessed: https://www.europarl.europa.eu/factsheets/en/sheet/106/financinghttps://www.europarl.europa.eu/factsheets/en/sheet/106/financing--ofof--thethe--cap (cap (1414 03 2024)03 2024)

2. Common Agricultural Policy: Key graphs & figures, Common Agricultural Policy: Key graphs & figures, accessedaccessed: : https://agriculture.ec.europa.eu/system/files/2022https://agriculture.ec.europa.eu/system/files/2022--11/cap11/cap--expenditureexpenditure--graph1_en.pdfgraph1_en.pdf

3. ((1414 03 2024)03 2024)

4. Decrease in the EU27 CAP budget by almost 30% in twenty years: the gradual abandonment of the Decrease in the EU27 CAP budget by almost 30% in twenty years: the gradual abandonment of the only integrated European policy, only integrated European policy, accessedaccessed :https://www.agriculture:https://www.agriculture--strategies.eu/en/2018/05/decreasestrategies.eu/en/2018/05/decrease--inin--thethe--eu27eu27--capcap--budgetbudget--byby--almostalmost--3030--inin--twentytwenty--yearsyears--thethe--gradualgradual--abandonmentabandonment--ofof--thethe--onlyonly--integratedintegrated--europeaneuropean--policy/ (policy/ (1414 03 2024)03 2024)

5. EU spending and revenue 2014EU spending and revenue 2014--2020, 2020, accessedaccessed https://commission.europa.eu/strategyhttps://commission.europa.eu/strategy--andand--policy/eupolicy/eu--budget/longbudget/long--termterm--eueu--budget/2014budget/2014--2020/spending2020/spending--andand--revenue_enrevenue_en ((1414 03 2024)03 2024)

6. Staff Working Document (2020) 93 final on the "Analysis of links between the CAP reform and the Staff Working Document (2020) 93 final on the "Analysis of links between the CAP reform and the Green Deal"Green Deal" https://agriculture.ec.europa.eu/document/download/b9e717dehttps://agriculture.ec.europa.eu/document/download/b9e717de--582e582e--4f554f55--94929492--489f475dbacf_en489f475dbacf_en ((1414 03 2024)03 2024)

7. Tools4CTools4CAPAP, accessed: , accessed: https://www.tools4cap.eu/about/whathttps://www.tools4cap.eu/about/what--isis--tools4cap/tools4cap/ ((1414 03 2024)03 2024) ..

Green Transformation in Finland and the Baltic States: Comparative Analysis of Transition to Renewable Energy Sources

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Energy is an important basis for economic growth and social development, and plays an important role in the green transformation of modern economic system. Fossil fuels play a vital role in the development of the current economic system, but they are also a major cause of environmental problems due to the excessive use and consumption of fossil fuels and the over-reliance on fossil fuels for economic growth. As indicated by recent studies, CO2 emissions from fossil fuel combustion account for 85% of total CO2 emissions and greenhouse gases (GHGs) account for 50% of all GHGs, which raises the serious issue of the greenhouse effect. The deployment of new renewable energy sources (RES) is an essential strategic objective to meet sustainability requirements. The European Green Deal (EU Commission European Green Deal) sets the EU's strategy to achieve a climate-neutral Europe by 2050. The Nordic countries are at the forefront of sustainable development and Finland has made significant progress in the transition to RES in road transport. The transport sector in Finland and the Baltic states (Estonia, Latvia, and Lithuania) exhibits differences in their sustainable transformation due to a combination of historical, geographical, economic, and policy factors. The aim of this paper is to evaluate the progress towards meeting sustainable development goals in the transport sector in Baltic states compared with Finland and to assess countries' performance over the past decade.

Keywords: green transformation, renewable energy sources (RES), GHG emissions, transportation sector, Finland, Baltic states

Rural living labs as a way to support rural development policies

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The rural areas in the European Union are facing numerous challenges not only to their development but also to the sustainability of significant number of rural communities. To increase the rural resilience and to fight with rural decline and peripheralization process the EC created a long-term vision for rural areas. In the work on the vision rural stakeholders were directly involved thanks to the living labs created in the EU Horizon 2020 SHERPA project encompassing representatives from society, science and policy.

To help support rural areas in achieving the vision the Rural Pact has been created. Further EU research projects are being implemented to support creating better targeted and tailored policies.

Many of these projects make use of the multi-actor approach creating rural living labs also known as multi-actor platforms.

The aim of the study is to present the possibilities of supporting rural policies with the multi-actor approach. The study is based on the approach to creating social innovations employed in the Horizon Europe ESIRA project. The study shows both the theoretical and practical issues related to creating and running rural multi-actor platforms in different regions of the EU with different socio-economic context and diverse challenges faced by rural communities.

The study results can improve the employment of rural living labs by showing good practices and challenges faced by the creators of living labs for different policy contexts.

Key words: rural development, rural vision, living labs, rural policy, rural empowerment, participatory governance.

Challenges for enhancing social innovations in marginalized rural areas: Lithuanian case

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Rural, mountainous, and remote areas within the EU territory covers approximately 80% of its territory, with 30% of the EU population, with 46% of gross value added and host most of the natural capital and cultural heritage. However, these areas face several challenges such as a low GDP per capita (high unemployment, low wages), rapidly ageing population and a lack of accessibility to goods and services. The general trends of rural areas are shrinking public budgets, the increase in the number of deteriorating and vacant houses, fewer shops, schools, healthcare, and transport facilities which decrease the liveability and thus cause an increasing depopulation. Additionally, the technology and innovation-based recovery from the financial crisis of 2007–2010, the pandemic crisis of 2020 and the ongoing war in Ukraine have left behind rural communities, which have seen how industries traditionally associated to rural areas are being increasingly automated, putting aside less skilled rural workers. Therefore, it is obvious that rural areas face the risk of poverty and social exclusion (22,4% of population at risk), amplified by challenges related to demography, remoteness, education, and labour market and with particularities for youth and elderly, women, people with disabilities and migrants.

European rural development policies aim at revitalising the countryside. The EU's long-term Vision for Rural Areas and the new Territorial Agenda acknowledge place-based approaches as necessary to make the most of the potential of rural areas. Place-based innovation empowers a bottom-up approach that considers the vulnerabilities, opportunities, and factors of the local contexts to better implement top-down policies while harnessing collaboration and engagement across the actors of local ecosystems.

Enhancement of social innovations in marginalized rural areas can decrease identified challenges of rural areas. Research of the ESIRA project identifies that innovative social economy initiatives, focusing on local networks, competences, and resources, are able to

recognise the important role of citizen-led activities to fulfil the needs of rural areas, especially marginalised ones. Social economy organisations are based on participatory governance and prioritise social and environmental goals before financial ones, thus being able to better meet territorial needs while strengthening the sense of community, diversifying the economic fabric, providing quality jobs and bringing social and environmental co-benefits. Nevertheless, some local initiatives (Local Action Groups, Business incubators, etc.) still fail to adequately support these initiatives and/or outreach vulnerable groups of population.

For the Lithuanian case in this research Druskininkai region was selected to assess how social innovations can be employed to cover the identified challenges. Druskininkai region is in remote rural area, also close to the border. Specific vulnerable groups of population to be addressed are long unemployed, elderly people, people at risk of poverty and rapid aging society. In 2021 Druskininkai region experienced the ratio of the registered unemployed to the working-age population was 16.3% (men 19.7%) comparing to 13% (men 12.7) on national level. 26.2% of residents of Druskininkai were at risk of poverty in 2018. 23% of all residents of Druskininkai is older than 65 years (while in Lithuania it is 20%) and residents younger than 14 years consist only 12.4% of all residents (in Lithuania – 14.9%). The region of Druskininkai experiences rapid phenomenon of aging society. Druskininkai region has negative crude net internal migration rate (Statistics Lithuania).

Local action group (LAG) of Druskininkai is very active in this region. Since 2009 the LAG was aiming to strengthen the community and the local economy in the territory of Druskininkai region and provide an opportunity for local residents to contribute to the development of Druskininkai region. During various events and meetings, day-to-day activities they encouraged residents to inform about existing problems and together search for solutions. Social initiatives have started to be implemented and it resulted in a better use of intangible resources of this region. Local people in vulnerable situations were involved and the scale of these projects can be enlarged aiming to sustain this region. Involvement of local actors and entrepreneurs in the development of the Druskininkai regions via various LAG initiatives and individual actions can decrease challenges for enhancing social innovations in marginalized rural areas and more initiatives is going to be tested in 2024–2026.

Key words: social innovations, marginalized rural areas, Local Actions Groups (LAG's), rural areas, local economy.

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Remote sensing monitoring as part of the eco-scheme "Water retention on permanent grasslands"

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In recent years, droughts and water shortages have become more and more frequent and have particularly affected agriculture. In response to this growing problem, a number of actions have been proposed under the common agricultural policy for 2023-2027 that could mitigate the effects of drought but also support the sustainable development of Polish farms and water management in agriculture.One of the tools for achieving environmental goals are the introduced eco-schemes and agri-environment-climate interventions implemented in all EU Member States. Eco-schemes are a new type of direct payments intended for farmers who voluntarily undertake specific actions aimed at protecting the environment, climate and animal welfare, going beyond applicable requirements, including conditionality.

One of the implemented eco-schemes is "Water retention on permanent grasslands", the main goal of which is to promote water retention by improving water management, as well as reducing carbon dioxide emissions into the atmosphere (limiting the decomposition of organic matter).

Satellite monitoring of flooding and inundation in permanent grassland carried out by IUNG-PIB is carried out in order to grant an additional annual retention payment in parallel with support: ecological or as part of the practice of extensive use of farm land with stocking of animals (as part of payments for carbon farming and nutrient management) or agri-environmental -climate related to the preservation of some valuable natural habitats and habitats of endangered bird species or extensive use of meadows and pastures in Natura 2000 areas.

The condition for granting the payment is the occurrence of flooding or flooding in permanent grasslands, and flooding or flooding occurs when the saturation of the soil profile with water remains at a level of at least 80%, for the minimum 12 consecutive days, in the period from May 1 to on September 30 of the year in which the application for payment was submitted. The Institute of Soil Science and Plant Cultivation – State Research Institute was appointed to conduct satellite monitoring. Every year, IUNG-PIB receives from the Agency for Restructuring and Modernization of Agriculture a spatial layer of agricultural plots of farmers who have declared their participation in payments for water retention on permanent grasslands. The final result of the monitoring is a digital map of the extent of flooding (raster map) and a tabular summary of flooding area with water retention for agricultural plots made available by ARiMR.

The basis for monitoring is Sentinel-1 and Sentinel-2 satellite images, but auxiliary data are also used to model flooding and inundation, including: a digital terrain model and its derivatives for estimating the probability of spatial distribution of water in the soil within the boundaries of agricultural plots; daily rainfall maps (1 km2 resolution); climatic water balance maps. Field research is also conducted annually.

Key words: water retention, grasslands, common agricultural policy, satellite monitoring, eco-schemes

Social innovations for collaborative transformation in Lithuanian rural area

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Rapidly ongoing transformations of rural areas worldwide give plenty of evidence of how novel sustainable rural development initiatives benefit from transformative social innovations. Transformative social innovations are recognized as challenging for regional planning and they require thorough bottom-linked governance (Castro-Arce & Vanclay, 2020). At the same time, they play a crucial bridging role, especially in small communities, thus composing the preconditions for collaborative transformation. The collaborative transformation has been increasingly recognized as an evolving paradigm of recently examined cases of various social innovations (e.g., Oosthuizen et al., 2018), that occur due to the collaborative power, generated in shared workspaces, that gives an outcome in the form of economic and social value in conjunction for local stakeholders.

Recently researchers have observed (e.g., Avdikos & Merkel, 2020), that shared workspaces and hubs are increasingly recognized as crucial intermediaries in facilitating entrepreneurial growth and local innovative activities of people, especially in rural communities. At the same time plenty of issues concerning small-scale shared workspace development, remain unsolved until now. First, it is necessary to highlight the issue of acceptable commercialization quality of small-scale local products and services, produced by small local entrepreneurs in rural communities, when meeting the demands of an open

and expanded digitalized market, as well as modern consumers. The second issue is the synergistic effects of combined social and economic values, which are generated by collaborative transformation in shared local community workspaces in rural areas.

The main aim of this research is to disclose the effects of social innovations on collaborative transformation in rural areas, based on the Lithuanian case. The scientific literature analysis, generalization, theoretical modelling, case study, interview, and hackathon-based live modelling methods were applied to reach the aim.

Research is based on qualitative data, gathered from the case study of the “Pociūnėliai community” from a Lithuanian rural area, Radviliškis district, situated near the geographical centre of Lithuania. Community holds over 20 years of experience in the production of dried fruits, vegetables and mixtures. The recipes have been developed and the necessary equipment (drying cabinets) has been purchased. The community does not grow the raw material for the production but is supplied by local farmers and community members. Despite the fact, that “Pociūnėliai community” is situated near the geographical centre of Lithuania, they suffer from the lack of outlets due to undeveloped culinary tourism products, which would meet the modern market needs. Community production is known and distributed more locally, within the boundaries of the community, neighbouring communities and the community’s district.

Research results show that shared workspaces, smartly utilized by local community active leaders to collaborate for joint small-scale entrepreneurial activity, compose favourable preconditions for the birth of social innovations, that drive collaborative transformation, especially in rural areas. As 'hard' support tools have been utilized already in Lithuanian rural areas, it becomes evident, that the time has come to focus more on 'soft' tools, especially – professional consultations and mentoring are most desirable to foster collaborative transformation via social innovations in rural areas of Lithuania.

Key words: social innovations, collaboration, transformation, rural community, Lithuania.

Guiding references:

Avdikos, V., & Merkel, J. (2020). Supporting open, shared and collaborative workspaces and hubs: Recent transformations and policy implications. transformations and policy implications. Urban Research & PracticeUrban Research & Practice, , 1313(3), 348(3), 348--357.357.

Castro--Arce, K., & Vanclay, F. (2020). Transformative social innovation for sustainable rural development: Arce, K., & Vanclay, F. (2020). Transformative social innovation for sustainable rural development: An analytical framework to assist communityAn analytical framework to assist community--based initiatives. based initiatives. Journal of Rural StudiesJournal of Rural Studies, , 7474, 45, 45--5454..

Oorthuizen, J., Vermaak, H., Romeu--Dalmau, C., & Papaemmanuel, E. (2018). Dalmau, C., & Papaemmanuel, E. (2018). The art of collaborative The art of collaborative transformationtransformation. Wageningen Academic Publishers. Wageningen Academic Publishers.. AAvailavailable ble at: at: https://hansvermaak.com/wphttps://hansvermaak.com/wp--content/uploads/IDHcontent/uploads/IDH--EE--bookbook--CollaborativeCollaborative--TransformationTransformation--compressed.pdfcompressed.pdf

Multi-actor Innovation Platforms MAINSTREAMing small-scale BIO-based solutions across rural Europe

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Multi-actor Innovation Platforms aim to bring together and enhance the cooperation between key regional stakeholders. The regional innovation platform created as part of the MainstremBIO project is dedicated to a wide range of stakeholders operating in agriculture and bioeconomy sector. The platform is designed to create opportunities, support, and advise biomass producers, business representatives and technology owners. The platform was established in 7 EU countries (PL, DK, SE, BG, ES, IE and NL) to enhance cooperation among

key rural players towards co-creating sustainable business model pathways in line with regional potentials and policy initiatives. The support, offered by the platform, is organized into three categories: business services, technological services, and digital toolkit. The platform supports partnerships aimed at overcoming barriers and bringing bio-innovations to market with practical innovation support, accelerating the development of bio-based products and services already available on the market. In parallel, a digital toolkit is being created to align biotechnology, social innovation, and good practices in nutrient recycling of available biomass and market trends, as well as to expand knowledge of the bioeconomy through an educational package of resources based on existing research results and tools. The digital toolkit showcases a wide range of small-scale biotechnologies, innovative business models and social solutions. It also includes a set of practices aimed at recycling nutrients and organic matter back into the soil. Finally, it provides audio-visual material on bio-based resources from 7 rural communities in the EU for a more sustainable future. The toolkit can be found under the link https://mainstreambio-digital-toolkit.eu

The authors gratefully acknowledge the financial support brought by the MainstreamBIO project funded by the Horizon Europe research and innovation programme: Grant agreement n: 101059420 (2023–2025).

Key words: Decision support system, Innovation resources, Repository, Bioeconomy

Regional Inclusive Biobased Entrepeneurship Solutions (RIBES)

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On March 1, 2024, a consortium composed of 20 public, private and non-governmental sector institutions started the implementation of the RIBES project. RIBES will address the need to enhance the uptake of biobased innovations through pioneering governance and business models developed on the convergence of the circular bioeconomy, social innovation and rural development, thus contributing to the shift from a linear to a circular economy in 9 European regions lagging in innovation. Project activities will focus on specific sub-national levels but will also encompass proactive dissemination and replication at the country level. Participating regions have been selected based on various socio-economic indicators and data concerning the characteristics of the agricultural and biobased sectors, demographics, innovation capacity, etc. RIBES will perform an in-depth multidisciplinary assessment of regional bioeconomy ecosystems and research possible correlations between the socio-economic trends, innovation bottlenecks and the role of the primary sector. RIBES will create a significant impact by delivering innovative and tailored governance solutions and business models capable of fostering grass-rooted circular bioeconomy value chains, with particular attention devoted to the advanced sustainability of regional inclusive biobased entrepreneurship solutions, thus contributing to strengthening rural development and innovation in participating regions.

Key-words: Bioeconomy, circular economy, innovations, entrepreneurship, rural development.

Green transformation in rural areas: what really matters?

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Green transformation is one of the most important directions for ensuring sustainable development and building rural resilience. This concept encompasses a set of policies, strategies and practices aimed at ensuring economic, social and environmental sustainability. Key elements of green transformation include implementing sustainable agricultural techniques, using renewable energy sources, promoting the use of biological resources and waste to create new products and energy, or upgrading rural infrastructure. Another key aspect of green transformation is the involvement of local communities in decision-making processes to ensure that green transformation meets their needs. There is a growing consensus that empirical validation needs to be carried out on green transformation efforts in rural areas due to the multifaceted challenges faced by rural communities. In particular, there is a need for research through which the most urgent actions and directions for further rural development can be identified.

This study aims to fill this gap by identifying the problems faced by rural areas, identifying actions that need urgent support and naming role models that can drive green transformation and rural development from the point of view of their inhabitants. In order to achieve the objective, data obtained through a survey study conducted in 2022 using a survey questionnaire was used. The survey covered residents of rural areas in the West Pomerania region.

From the point of view of people living in rural areas, the main problems currently facing rural areas are high vulnerability to climate change, an ageing rural population, lower than average incomes and high dependence on the agricultural sector. In order to address this, steps need to be taken to improve the position of farmers in the supply chain, to support decent farm incomes and to work towards resource efficiency (water, soil, air).

The drivers of green transformation are multifaceted and include actions in the environmental, economic, social and technological fields. Rural residents see development opportunities primarily in efforts to empower farmers in the supply chain, bioeconomy and the use of renewable energy, changing spatial planning regulations to facilitate the construction of wind or photovoltaic farms, and the digitalisation of rural areas. The research carried out will lead to a better understanding of the problems and needs of rural areas in terms of green transformation and will allow the best directions for rural development to be explored more thoroughly. On the basis of the research carried out, a number of important recommendations have been identified for policy makers to contribute to accelerating the green transition in rural areas and involving their inhabitants more closely in this process.

Key words: green transformation, rural areas, resilience, rural community

BBioNets Forest and Agriculture Network

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BBioNets is a 3-year Coordination and Support Action running from November 2023 to October 2026, funded by the European Union under the Horizon Europe Framework Programme for Research and Innovation.

In response to the increasing need for grassroots initiatives and knowledge sharing to address major challenges such as climate resilience and increased mitigation of GHG emissions, while supporting zero waste and circular economy with biomass reuse, BBioNets will constitute a thematic network that will rely on, promote, and further advance the work carried out by EIP AGRI Operational Groups (OGs) with respect to management and/or processing of agricultural and forest biomass with Bio-Based Technologies (BBTs), being those technologies or practices that use either non-food feedstock or circularity principles -or both- for delivering diverse products.

Applying the quintuple helix model and a multi-actor approach both within the consortium itself and on the ground activities, BBioNets will set up 6 regional Forest and Agriculture Networks - FANs (IE, ES, IT, GR, PL, CZ) that will ensure balanced representation of all kinds of stakeholders.

The consortium of BBioNets brings together 9 partners across 6 different countries.

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Key words: Networking, Innovation resources, Bioeconomy, AKIS, Agriculture and Forestry

Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas

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Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas (GRANULAR) is a project aiming to adapt the understanding of rural areas to the changing climate, economy, society, and environment. The goal is to update the definition of rural areas

based on size to a more complex and dynamic typology, as size does not provide enough insight into the contemporary rural-urban interrelations and identities of the EU. These innovations entail the need for more data. GRANULAR will take a multi-actor and interdisciplinary approach to understanding the different rural aspects.

First, it will critically analyze rural theories and classifications to address the lack of high-resolution data in European rural areas. This will help policymakers prioritize interventions and make informed decisions. A new framework will combine various perspectives to capture the diversity and dynamics of rural territories. The new definition will include concepts like "urban spheres of influence" and compare them with remote rural areas and will explore resilience, attractiveness, and well-being in rural contexts.

Novel databases will be built, encompassing a wide range of data. Further, the data will be combined with already established information from institutions in order to acquire relevant criteria to implement the Long-Term Vision for Rural Areas (LTVRA). The data collection methods explored will comprise national surveys, censuses, satellite observations, and machine learning. The aim is to fill data gaps, particularly in environmental and social aspects, and to prioritize the data sources and methods based on cost-effectiveness and geographical scale. New strategies for rural data collection will be implemented, including crowd-sourced data, mobility datasets, and Earth observation, to provide novel insights into rural dynamics. This data will be applied to specific needs like remoteness indicators, environmental monitoring, and social well-being. Validation will ensure the quality of these data and methods, refining the process for future rural data collection.

Rural Diversity Compass, made by GRANULAR out of the obtained information, will inform rural actors and policymakers in terms of factors affecting rural communities, therefore affecting the design and prioritization of rural policies. Additionally, the compass will guide the development of novel methods of data collection and indicators characterizing rural diversity.

Based on the data collected, indicators for various rural dimensions will be created. These dimensions consist of environmental resilience, including biodiversity and climate hazards; socio-economic resilience, such as demographic trends and social vulnerability; food production systems, considering factors like affordability and health impacts; well-being and quality of life, comparing rural and urban contexts; and rural attractiveness, including demographic trends and opportunities.

Further, a rural proofing framework based on the Rural Compass will be developed. Rural proofing guidelines will assess European policies and their local impacts. This will help tailor policies to better suit rural needs. Recommendations for rural policies will be co-constructed in participatory workshops, identifying barriers while designing solutions for local contexts. Tools for knowledge exchange will be created, such as augmented reality tools and mini-videos, to communicate policy measures effectively.

GRANULAR will also engage rural actors in collecting and analyzing data for updated local policies. Empowerment activities include cross-visits and knowledge exchanges across regions.

Finally, a platform made by and for rural actors will contain the datasets, project information, multimedia materials, and newsletters. It will also visualize and analyze rural data, providing tools for rural decision-making and knowledge sharing.

Key words: Environmental and societal change, Rural definition update, Rural Diversity Compass, Wellbeing, rural data.

Empirical investigation of catch crops as a carbon sequestration technique: A case study of the Carbon Farming CE initiative

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Carbon farming refers to the modification of agricultural practices to enhance soil carbon storage and reduce greenhouse gas emissions from livestock. This practice holds substantial potential, yet remains underutilized in Central Europe. The Carbon Farming – CE project aims to address this by raising regional awareness and adoption of the concept. The project partnership endeavors to adapt and evaluate various techniques and business models, alongside the development of a transnational, standardized carbon sequestration monitoring tool. The project implements six distinct carbon farming techniques across nine Central European countries and develops a transnational guide as a mainstreaming solution for 45 farmers.

In Poland, the project is assessing four carbon farming practices for their potential to contribute to carbon sequestration: the use of cover crops in crop rotation, the use of biogas digestate, the silvopastoral systems (agroforestry), and no-till cultivation systems. This analysis focuses on an experiment involving cover crops in the Łódź Region. The field experiment is conducted at the Agricultural Experimental Station of IUNG PIB in Topola-Błonie, Central Poland (52.085752 N, 19.167345 E). Following a project-developed methodology, various parameters are analyzed: (1) aboveground and root biomass, fresh and dry weight, chemical composition; (2) soil samples (0-30 cm; 30-60 cm) assessing Corg (volumetric weight), macronutrients (P, K, Mg), pH (KCl, H_2O), Nmin; (3) continuous soil moisture measurements (30 cm above ground level) with 0.5 m spacing between rows within the tree block.

The experiment covers an area of 11 hectares with main objectives comprising: (1) evaluating the effects of catch crops on carbon sequestration rates, soil fertility, biodiversity, and soil moisture; (2) assessing the productivity of the field in the subsequent year; (3) analyzing the economic balance of the studied system; and (4) visually documenting biomass growth of both intercrop and main crop through photos and videos. Preliminary results indicate that cover crop substantially significantly improves the carbon budget in the field. The very favourable conditions for cover crops that prevailed in autumn 2023 influenced the high level biomass production, the total fresh biomass yields of phacelia and oilseed radish was 7.05 t/ha for root biomass and 44.40 t/ha for aboveground biomass. Very interesting results were also obtained for soil water conditions under cover crops. The catch crops were used soil water during the growth period, but after the end of the vegetation period, the soil water level returned very quickly and stabilised at the level of the reference neighbouring field where no catch crops were grown.

Key words: carbon farming, Interreg Central Europe, carbon sequestration, carbon farming techniques, catch crops, regenerative agriculture, soil sampling

Spreading Open and Inclusive Literacy and Soil Culture through Artistic Practices and Education

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SOILSCAPE (Spreading Open and Inclusive Literacy and Soil Culture through Artistic Practices and Education) is an EU project within the EU Mission "Soil Deal for Europe" aiming to promote soil literacy and soil preservation through artistic and educational means across European countries. The project includes several stages.

In the Initial Assessment partnering countries will evaluate current perceptions of soil literacy and the potential of artistic methods to enhance soil preservation discussions in each nation. Second step involves defining and implementing innovative solutions, specifically, creative approaches to promote soil literacy. These innovations will be based on the initial assessment provided by each country, and will include an international artistic network and a Soil Literacy Portal. The artistic network will promote the importance of soil through art, while the Soil Literacy Portal will allow a widespread access to knowledge about soil explored through artistic means. Additionally, the Portal is going to possess a Soil Individual Calculator, allowing all citizens to calculate their individual impact on soil based on their everyday choices.

Further, through communication methods, the project is meant to raise awareness of soil importance using art and culture. The communication methods will consist of documentaries, podcasts, a festival, and over 150 artistic activities. The activities will be described in a Creative Atlas in order to engage the public in soil preservation. The Soil Festival, supported by SOILSCAPE, will celebrate soil preservation with workshops, performances and awarding Soil Heroes.

SOILSCAPE also predicts Financial Support for third parties for artistic, soil-related activities and large-scale communication campaigns. Finally, SOILSCAPE initiative will be extended to living labs and institutions, through creation of a Roadmap for SOILSCAPE Symphony. The Roadmap will concern the active usage of SOILSCAPE methodology in order to continue the initiative past the project date. In addition, the development of a comprehensive Dissemination, Exploitation, and Communication Plan (DECP) and a Soil Literacy Press kit will further support the initiative. The project's ultimate goal is to create a sustainable network of artists working on soil preservation through creative means beyond its end date.

Key words: soil literacy, artistic network, Soil Literacy Portal, Creative Atlas, Soil Festival, Roadmap for SOILSCAPE Symphony.

V. About European Rural Development Network

European Rural Development Network (ERDN) was established in 2002 to integrate efforts and competencies of various European research institutions in the jointly conducted work on the state and the paths of transformation of the rural areas and agri-food sector in EU Member States and neighbourhood countries. Thus the main objectives of the Network are parallel to the Community`s idea of building European Research Area for agriculture and rural development. The Network is meant to encompass the leading research centres carrying out the research in the area of agricultural economics and rural development in Europe, with special focus on Central-Eastern European Countries.

The network consists of universities and research institutes from Poland, Austria, Czech Republic, Slovakia, Hungary, Romania, Lithuania, Croatia but also from Ukraine, Serbia, Moldova, Montenegro and Kosovo. ERDN collaborates with scientists from the UK, Germany, France, Spain, Norway, Finland and Italy.

The efforts of network members in investigation of rural processes provides extensive knowledge needed to understand the specificity of rural development in CEECs. Different scientific backgrounds, cross-national origin of ERDN experts and over decade of successful cooperation provide complex and interdisciplinary, high quality solutions. The members of the Network are representing the leading Universities and Research Institutes in Central and Eastern Europe. The basis for the ERDN development, knowledge exchange and the source of future research ideas are annually organised conferences.

One of the main features of rural development is its complexity. Observations and analyses of the situation in rural areas should be carried out based on different scientific points of view which will help to determine the vision for the future.

The main objectives of the ERDN are:

- networking between researchers of different scientific backgrounds and countries of origin to analyse the state, perspectives and strategies of action with respect to the development of rural areas in Central-Eastern European Countries;
- international and intergenerational knowledge transfer through joint research in the area of rural development;
- advancing international scientific cooperation in rural development and agriculture, in particular drawing on the Network's experience in international scientific research programmes;
- sharing and promotion of scientific experiences and achievements of the participants of the ERDN to support policymakers and stakeholders concerned with sustainable development of European rural areas.

The efforts of the Network's members in investigation of rural processes provide extensive information needed to understand the specificity of rural development in CEE, especially in the context of the EU policy reforms and enlargements. Different scientific backgrounds, international origin of the ERDN experts and over a decade of successful cooperation help to prepare complex and interdisciplinary solutions for research and policy making. The members of the Network are representing the leading universities and research institutes in Central-Eastern Europe.

The Network takes efforts aimed at common elaboration of research topics in the fields strategic for rural development and wining new institutional partners. The cooperation involves exchange of publications, statistical data, joint initiatives to raise funds from the EU Framework Programmes (Horizon 2020 and Horizon Europe) and other entities (such as: the International Visegrad Fund, the EEA and Norway grants as well as many national programs), exchange of scientists and numerous meetings during seminars, conferences and scientific workshops.

The annual conferences are the basis for the ERDN development, knowledge sharing and the source of its future research ideas.

More info: www.erdn.eu

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VI. ERDN activity in international bodies

Rural Pact

ERDN is a member of the Rural Pact. Rural Pact is an initiative of the European Union striving for a heightened position of the rural environment on the political agenda, which ERDN is a participant of. It aims to encourage rural and national authorities to act upon the needs of rural citizens and to improve collaboration between the different participants in terms of the relevant initiative. The participants of the Rural Pact include authorities, institutions, businesses and citizens. Further, the initiative supports voluntary commitments to activities in line with the Rural Pact.

Beginning on 15th of June 2022, the participants of the Rural Pact became involved in different activities such as networking (for example, building synergies between policy makers aiming for rural development), formulating rural development strategies, direct action on the ground, relevant event organization and evaluation.

These activities are in line with the themes of Rural Pact, which consist of:

- Democracy;
- Education and training;
- Research and innovation;
- Agriculture & food;
- Governance
- Nature and environment
- Social economy
- Access to services
- Bioeconomy & circular economy
- Rural-urban linkages
- Forestry
- Health and care
- Employment
- Soil health, etc.

Rural Pact Coordination Group

Additionally, ERDN is a member of the Rural Pact Coordination Group. Rural Pact Coordination Group is an informal representative group of participants who helped prepare the Rural Pact and its role is to guide the pact's application. Moreover, the coordination group will develop it further.

Appointed by the European Commission, the group's lead Directorate-General (DG) is Agriculture and rural development, while the co-lead DG is DG Regional and urban policy.

The Coordination Group responsibilities include specifying methods to develop the Rural Pact further for its various participants, encouraging their partners to become members of the Rural Pact through clarifying the EU's rural vision, and supervising the commitment to actions of Rural Pact participants. Furthermore, the Coordination Group will evaluate the progress towards the goals of the Rural Pact and its alignment with the rural vision. They will also suggest events or tasks to be organised under the Rural Pact based on good practices collected by the Rural Pact Support Office.

Strengthened governance for EU rural areas

The European Commission launched the Rural Pact in 2021. It is as part of the EU Long-Term Vision for EU's rural areas. The Rural Pact provides a framework for cooperation between public authorities, civil society, businesses, academia and citizens, at the European, national, regional and local level.

The Rural Pact aims at supporting the achievement of the shared goals of the Long-Term Vision for Rural Areas by facilitating interaction on rural matters. It helps in fostering mutual inspiration between all levels of governance and mobilising public authorities and stakeholders to act on the needs and aspirations of rural residents.

The Rural Pact has three objectives:

- Objective 1: Amplifying rural voices and bringing them higher on the political agenda.
- Objective 2: Structuring and enabling networking, collaboration & mutual learning.
- Objective 3: Encouraging and monitoring voluntary commitments to act for the vision.

Rural Pact Community Platform

Rural Pact Community Platform is a space where Rural Pact members can find the news about Rural Pact and rural revitalization. Then can also communicate with one another and become a member of Community Groups. There are 8 such groups:

1. Rural Pact Coordination Group.
2. Smart villages.
3. Women in rural areas.
4. Mountain areas.
5. Migrants and refugees' inclusion in rural areas.
6. Youth in rural areas - Empowering the next generation.
7. Social economy.
8. Rural mobility.

Access to the Platform: https://ruralpact.rural-vision.europa.eu/index_en

The Rural Pact Support Office

The Rural Pact Support Office (RPSO) coordinates and implements the networking activities of the Rural Pact and its community with the ambition to achieve the Rural Pact objectives and the Long-term vision for EU's rural areas. The RPSO is tasked for the next years to:

- animate the members of the community as well as encourage and promote commitments to act;
- identify and promote good practices that can inspire action in rural areas;
- organise webinars for capacity building and peer learning, as well as high-level policy events;
- support the meetings of the Rural Pact Coordination Group;
- keep the community informed through the website, social media channels, the monthly newsletter and the annual Magazine.

The RPSO will build synergies and complementarities with all relevant EU policy networks and initiatives working on and for rural development to jointly contribute to stronger, connected, prosperous and resilient rural areas in Europe (https://ruralpact.rural-vision.europa.eu/rural-pact_en).

Leader of the RPSO: Pascale Van Doren

More information about RPSO: https://ruralpact.rural-vision.europa.eu/RPSO_en

New European Bauhaus

ERDN is a partner of the New European Bauhaus. The New European Bauhaus is a creative and transdisciplinary movement. This movement is aimed at facilitating and steering the transformation of EU societies along three inseparable values:

- sustainability, from climate goals to circularity, zero pollution, and biodiversity;
- aesthetics, quality of experience and style beyond functionality;
- inclusion, from valuing diversity to securing accessibility and affordability (https://new-european-bauhaus.europa.eu/about/about-initiative_en).

ERDN through its research and other activities wants to advocate for including these values in rural development.

More about the New European Bauhaus: https://new-european-bauhaus.europa.eu/about/about-initiative_en

A Soil Deal for Europe

ERDN is among the signatories of the Soil Manifesto (https://ec.europa.eu/eusurvey/runner/mission-soil-manifesto) related to the EU Mission "A Soil Deal for Europe". The so-called Soil Mission is aimed to support the transition towards healthy soils. It is to be done by:

- funding an ambitious research and innovation programme with a strong social science component;
- putting in place an effective network of 100 living labs and lighthouses to co-create knowledge, test solutions and demonstrate their value in real-life conditions;
- developing a harmonised framework for soil monitoring in Europe;
- raising people's awareness on the vital importance of soils.

The Soil Mission has 8 objectives:

1. Reduce desertification.
2. Conserve soil organic carbon stocks.
3. Stop soil sealing and increase re-use of urban soils.
4. Reduce soil pollution and enhance restoration.
5. Prevent erosion.
6. Improve soil structure to enhance soil biodiversity.
7. Reduce the EU global footprint on soils.
8. Improve soil literacy in society (https://mission-soil-platform.ec.europa.eu/about/mission-soil)

Mission Soil platform website: https://mission-soil-platform.ec.europa.eu/

Pact for Skills

ERDN is a member of the Pact for Skills. Pact for Skills is one of the EU actions related to Eur opean Skills Agenda. It is supposed to help public and private entities in upskilling and reskilling their employees. ERDN committed itself to support its members in upskilling especially when it comes to topics related to other EU initiatives it is a member, like soil health, climate and rural issues.

Pact for Skills website: https://pact-for-skills.ec.europa.eu/index_en

European Climate Pact

ERDN is a member of the European Climate Pact. The European Commission launched this Pact as part of the European Green Deal and is supposed to support reaching the EU climate goals.

The Climate Pact is an opportunity to:

- learn about climate change;
- develop and implement solutions;
- connect with others and maximise the impact of these solutions (https://climate-pact.europa.eu/index_en).

ERDN as a member of the European Climate Pact wants to conduct research and its other activities that support climate change mitigation and adaptation.

Thematic Group on Rural Proofing

Prof. Barbara Wieliczko represented ERDN as a member of the Thematic Group on Rural Proofing. It was a group created by the European Network for Rural Development (ENRD) which served as a hub for exchange of information on how Rural Development policy in the EU operated. The thematic group was active in 2022.

Thematic Group on CAP Strategic Plans: Monitoring Committees

Prof. Barbara Wieliczko represented ERDN as a member of the Thematic Group on CAP Strategic Plans: Monitoring Committees. It was created by the EU CAP Network and operated in the period 2023-2024.

Harnessing Talent Platform – Working Group "Territorial development"

Prof. Barbara Wieliczko is representing ERDN as a member of the Working Group "Territorial development" which was established in 2023 as part of the Talent Booster Mechanism being part of the "Harnessing Talent Platform. A new boost for EU regions". Harnessing Talent Platform is part of the EU regional and urban development policy.

The Working Group "Territorial development" is looking for a ways that can help the regions support life-long learning.

More information: https://ec.europa.eu/regional_policy/policy/communities-and-networks/harnessing-talent-platform/working-groups_en

Central and Eastern European Initiative for Knowledge-based Agriculture, Forestry and Aquaculture in the Bioeconomy (BIOEAST)

ERDN is a founding member of the BIOEAST initiative. The mission of the BIOEAST Initiative is to support the development of knowledge and cooperation based circular bioeconomies to enhance inclusive growth in the BIOEAST countries and also to create new value-added jobs especially in rural areas, maintaining or even strengthening environmental sustainability.

Prof. Paweł Chmieliński is Chair of the Thematic Working Group Foos Systems of the BIOEAST.

More info: https://bioeast.eu/

CEE2ACT Polish National Bioeconomy Hub

ERDN is member of the of the Polish National Bioeconomy Hub coordinated by the Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB)**.** The launch of the National Bioeconomy Hub is intended to be an effective response to the key barriers facing the development of actors in the bioeconomy sectors in Poland. During the inaugural conference, held on 3-4 October 2023 in Puławy, a group of stakeholders representing public and private actors clearly identified important issues that need to be addressed: the lack of clearly defined directions and strategies for action at the national level; the lack of trust and willingness to cooperate, but also of a platform of understanding; the lack of an adequate level of awareness and the high educational needs in this area; the lack of alignment of legislation with the needs of individual sectors and bioeconomy chains. In the context of the long-term vision, the National Bioeconomy Hub is to become an independent legal entity with the status of a National Key Hub. It will integrate key stakeholders of the bioeconomy in Poland. It will serve as a valuable advisory body for decision-makers in Poland and the European Union. As an entity, it will actively identify current and future issues in the bioeconomy area.

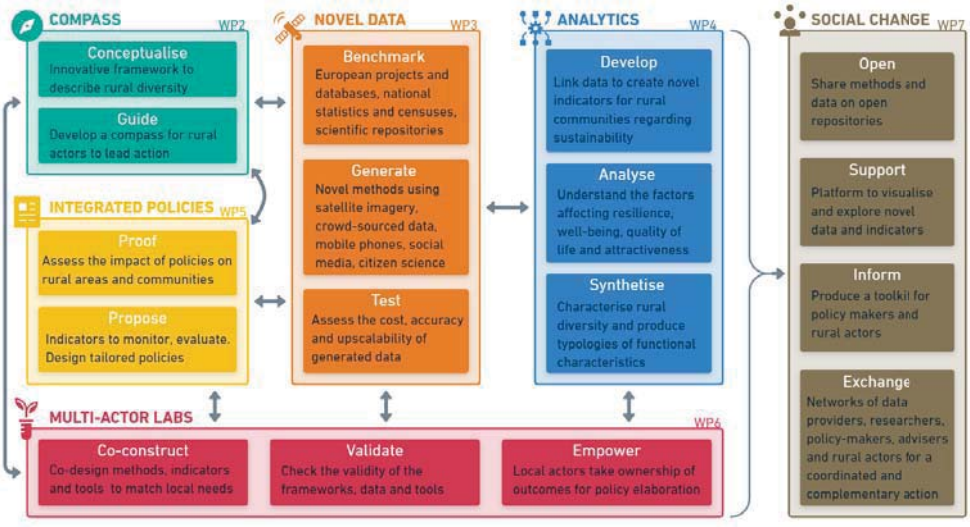
Info: https://en.iung.pl/?s=hub
https://www.youtube.com/watch?v=36Vffe62Boc

VII. Our projects

GRANULAR – Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas

Programme: HORIZON.2.6 - Food, Bioeconomy Natural Resources, Agriculture and Environment

Representing 30% of its population and over 80% of its territory, EU rural areas are facing simultaneous demographic, climate, economic, social and environmental changes which affect their characteristics and metabolisms. Responding to these challenges requires a precise understanding of what rural areas are and what rural communities are facing nowadays. Definitions of rural areas tend to lean on population density or size. They do not provide sufficient insights into the dynamics, drivers and fluidity of contemporary diverse rural-urban relations and identities that characterize ruralities across Europe. Despite the increasing acknowledgement that rural areas are diverse and that typologies should better reflect the identities of such territories, the lack of data at a fine scale prevents such innovations. Departing from an updated conceptualisation of rurality based on the multi-dimensional nature of contemporary rural-urban interrelations and interdependencies,



GRANULAR will generate new insights for characterising rural diversity based on a multi-actor and interdisciplinary approach. Based on insights from Multi-Actor Labs, it will generate novel datasets using a wide range of methods and primary data, such as remote sensing, crowd-sourced data, mobile phone data and web-scraping. This data will then be combined with a variety of existing institutional data to derive indicators relevant to rural communities for the implementation of the Long-Term Vision for Rural Areas (LTVRA), so to measure resilience, well-being, quality of life and attractiveness. This will enable GRANULAR to create a Rural Compass, that take into account the factors affecting rural communities and their functional characteristics, informing policymakers and rural actors for the design of tailored rural policies.

After ensuring the up-scalability of the results, datasets, data visualization and other tools will be directly available on a dedicated platform designed by and for rural actors. **Project leader:** Mediterranean Agronomic Institute of Montpellier, France

Project period: 1 October 2022 – 30 September 2026

https://www.ruralgranular.eu/

https://www.facebook.com/ruralgranular

https://twitter.com/ruralgranular

https://www.linkedin.com/company/87389717

Tools4CAP

HORIZON-CL6-2022-GOVERNANCE-01-05

Tools4CAP - Innovative Toolbox empowering effective CAP governance towards EU ambitions

The New Delivery Model established in Regulation EU 2115/2021 entails significant changes to Common Agricultural Policy (CAP) governance with the introduction of Strategic Plans and new monitoring, review and evaluation requirements. The CAP is expected to contribute significantly to the Green Deal's ambitions, securing the achievement of sustainability and resilience goals for the EU's Agri-food systems. Innovative governance models are essential to enable result-based policymaking to deliver the best policy pathways to facilitate the green transition. Tools4CAP will (1) support the implementation of National Strategic Plans 2023-2027, and (2) lay the foundations for sound preparation of Post-2027 Strategic Plans. Accordingly, Tools4CAP establishes a flexible and participatory Coordination & Support Action designed to boost learning, exchange processes, and adoption of innovative solutions and good practices for the design, monitoring and evaluation of CAP Strategic Plans. Tools4CAP's methods and tools will cover three key areas: (1) quantitative modelling tools for ex-ante and ex-post evaluations, (2) participatory and multi-governance decision tools, and (3) novel data and monitoring solutions. The project will deliver a comprehensive inventory of methods and tools used in the 27 Member States, methodological guidelines on innovative solutions and a Handbook of good practices. Results will be integrated in a Capacity Building Toolkit, designed to enhance science-policy interfaces. Tools4CAP utilises a Stakeholder Engagement Platform to boost bottom-up adaptation of innovative methods and tools. It will establish a Replication Lab to demonstrate their use in 10 Member States and to promote their uptake across the EU-27. The project will also set up a Capacity Building Hub to help end-users (ministries, management authorities, paying agencies, other stakeholders) reinforce their capacity to use innovative tools, including models used by the European Commission.

In Tools4CAP project ERDN is represented not only the ERDN Team Poland but also by its six institutional members:

1. Lithuanian Center for Social Sciences, Institute of Economics and Rural Development, Lithuania.

2. Agrarkozgazdasagi Intezet Nonprofit Kft (AKI), Hungary.
3. University of Latvia, Latvia.
4. Institute of Agricultural Economics, Bulgaria.
5. Institute of Agricultural Economics – Romanian Academy, Romania.
6. Slovenska Polnohospodarska Univerzita v Nitre, Slovakia.

Project leader: ECORYS, Belgium

Project period: 2023-2027

More information:

https://www.tools4cap.eu/

https://x.com/TOOLS4CAP

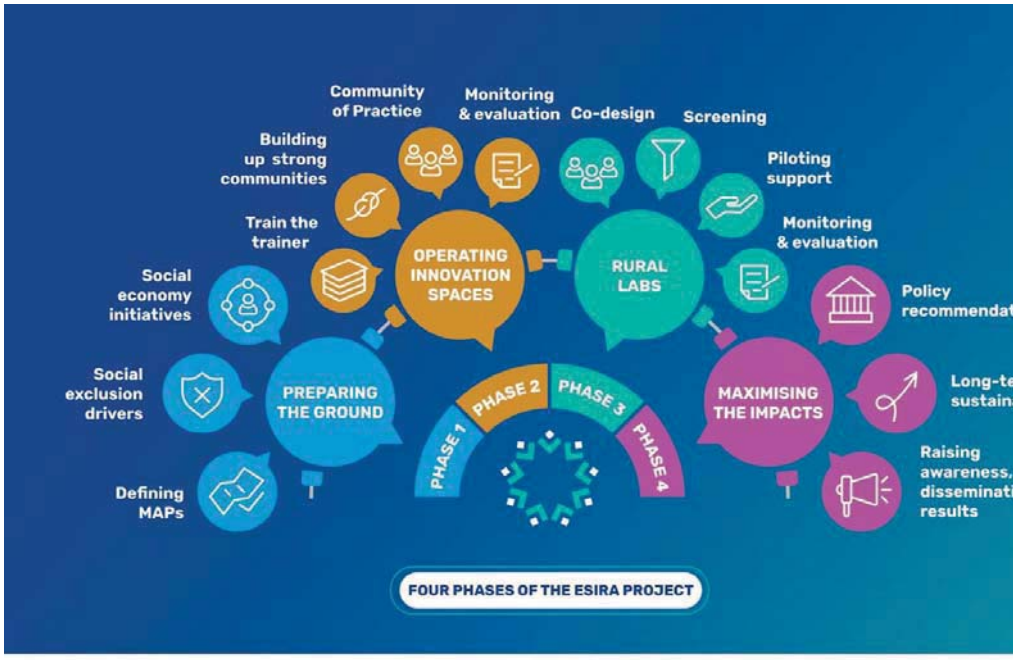
https://www.linkedin.com/company/tools4cap/

https://www.youtube.com/@Tools4CAP

ESIRA

HORIZON-CL6-2023-COMMUNITIES-01-1

Enhancing Social Innovation in Rural Areas



Funded by the European Union

ESIRA

ESIRA acknowledges that innovative social economy initiatives, focusing on local networks, competences, and resources, are able to recognise the important role of citizen-led activities to fulfil the needs of rural areas, especially marginalised ones. Nevertheless, many policies and initiatives fail to effectively support them and/or engage the more vulnerable groups of population. The main objective of ESIRA is to contribute to the rollout of place-based innovative social economy initiatives for rural inclusion and development in (marginalised) rural areas by supporting enabling frameworks, well-interconnected policy architecture and directly piloting innovative solutions which ultimately build more inclusive, resilient and prosperous rural areas.

To achieve it, ESIRA will implement a work plan focused on the research of community-led rural innovation spaces able to connect and empower actors, reinforce the social capital and sense of community, considering the great diversity of rural areas within Europe, and eventually nurturing and piloting social economy initiatives that strengthen the inclusiveness and living conditions of different groups of population in vulnerable situation, from the improvement in the provision of (social) services, economic diversification, and sustainable management of the natural capital. This will enable to stocktake and formulate recommendations for policymakers to better support the third sector and local communities, increasing the understanding of the needs and challenges of vulnerable groups of population and social economy, and boost the knowledge-exchange among local actors, building up their capacities and facilitating the scale up and replication of social economy initiatives across Rural Europe. 9 regions in 7 European countries will be involved in the project. The exploitation and dissemination activities will aim at expanding those regional spaces and replicating our concept in new regions.

Project starting date: 1 January 2024

Project duration: 48 months

Project leader: Universidad de Burgos

https://www.esira.eu

https://www.facebook.com/ESIRAProject

Instagram: @esira_project

https://www.linkedin.com/company/esira-project

RIBES

HORIZON-CL6-2023-GOVERNANCE-01-5

RIBES - Regional Inclusive Biobased Entrepeneurship Solutions

Despite its promising potential and substantial R&D investments, the bioeconomy sector is progressing slowly, particularly in rural and peri-urban areas. This slow pace is due to several barriers, including a lack of understanding, limited market awareness, insufficient skills and resources, and underdeveloped value chains.

To overcome these obstacles, the RIBES project mission is to advance the circular bioeconomy by rapidly deploying regional bioeconomies into 9 European regions that lag behind, enhancing governance structures and fostering stakeholder engagement.

RIBES seeks to transition nine European regions from outdated, linear economic approaches to dynamic, circular economic models that foster social inclusion. To do so, RIBES will empower the collaboration between rural community actors, universities, governments and businesses to co-create inclusive and sustainable regional government and bio-based business models that will accelerate growth.

Specifically, these models will utilise the innovation of digital solutions to connect and inform stakeholders while facilitating value chain development and market access for bio-based products and services. By leveraging the synergies between the stakeholders and the bio-based ecosystem, RIBES aims to deliver innovative governance models that support social entrepreneurship in deploying a circular bioeconomy that promotes sustainable rural development and creates inclusive job opportunities.

Consortium leader: Iniziativa Centro Europea - Segretariato Esecutivo (INCE), Italy

Duration: 36 months (START DATE: 1 March 2024)

https://ribesproject.eu/contact-us/

INSPIRE

HORIZON-CL6-2023-COMMUNITIES-01-1

INSPIRE - Supporting the inclusion, wellbeing, and growth of rural areas through multi-actor Smart Villages labs for enhanced governance frameworks

INSPIRE project supports sustainable and inclusive development of European rural areas by promoting social wellbeing and inclusion of rural dwellers and vulnerable groups. In particular, the project contributes to advancing in a multi-dimensional way the concept of social inclusion in rural areas, and supports the access to high-quality social services by rural citizens through a series of awareness-raising, capacity-building, and pilot deployment activities that focus on social entrepreneurship in a set of 7 different pilot territories (e.g., coastal, rural, peri-urban, mountainous). To realise its objectives, the project provides a novel territorial typology of rural areas, sets up and operationalises "Smart Village labs", and enhances governance frameworks and informed policy making through E-Democracy and user-innovation techniques, to eventually deliver a dedicated Rural Social Inclusion Policy Dashboard.

Call: HORIZON-CL6-2023-COMMUNITIES-01

Consortium leader: WHITE RESEARCH SRL (WR), Belgium

Duration: 36 months (starts in 2025)

See: www.erdn.eu for future updates!

SoilTribes

HORIZON-MISS-2023-SOIL-01-07

SoilTribes - Glocal Ecosystems Restoring Soil Values, Roles and Connectivity

Topic: HORIZON-MISS-2023-SOIL-01-07 - Back to earth: bringing communities and citizens closer to soil

SoilTribes main goal is to pave the way towards inspiring "back to Earth" narratives translated in new formats of knowing, feeling, and behaving in regard to soil, its importance and challenges, and its future, which is deeply connected with ours. Approximately 60-70% of EU soils are unhealthy and the soil degradation costs the EU several tens of billion euros per year. The EU Mission 'A Soil Deal for Europe' aims to invert this scenario having designed an ambitious plan where citizens and organisations are key. SoilTribes gathers 25 partners, from 11 countries from the different EU regions and designs a methodology that will contribute to the achievement of the ambitious EU plans by fostering soil literacy and connectivity, through the (i) establishment, activation, and empowerment of a multi-actor network (+1000 members), 7 Soil Lab Activators, 7 Stewardship Assemblies; (ii) financial and scale-up support scheme (+1,8M€ FSTP; grants, prize, competition) to nearly 80 projects/ teams recognising existing solutions or the development of new innovative and creative solutions for an enhanced soil literacy; (iii) design of +10 resources, tools and manuals for long-term use by private/public organisations willing to engage with citizens to increase soil literacy; (iv) and program, curation and implementation of nearly 200 events for wide dissemination, communication and pollination of soil topics (workshops, soilathons, soilblitz, creative exhibition, festivals). Framed by an engaging narrative, the "Tribes" will share the same commitment and will embark on a powerful journey of transition and transformation, bolstered by the nexus of science, technology, arts, and society.

In SoilTribes project the ERDN team will closely cooperate with gmina Michałowice, a rural commune in Mazowieckie region in Poland which is a member of SoilTribes consortium

Duration: 1 of November 2024 - 31 October 2027

Consortium leader: INOVA+ - INNOVATION SERVICES, SA, Portugal

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SOILSCAPE

HORIZON-MISS-2023-SOIL-01-07

Spreading Open and Inclusive Literacy and Soil Culture through Artistic Practices and Education

Topic: HORIZON-MISS-2023-SOIL-01-07: Back to earth: bringing communities and citizens closer to soil

"Once upon a time, in a world where soil degradation became a priority concern, where hundreds of soil scientists and professionals rang the alarm bell, but where major gaps in societal awareness and education on the importance of soils for humans and the ecosystems

persisted and slowed down the change towards sustainable soil governance, a rich and expansive story started to unfold. It was a tale of transformation, and a collaborative journey towards increased soil literacy.

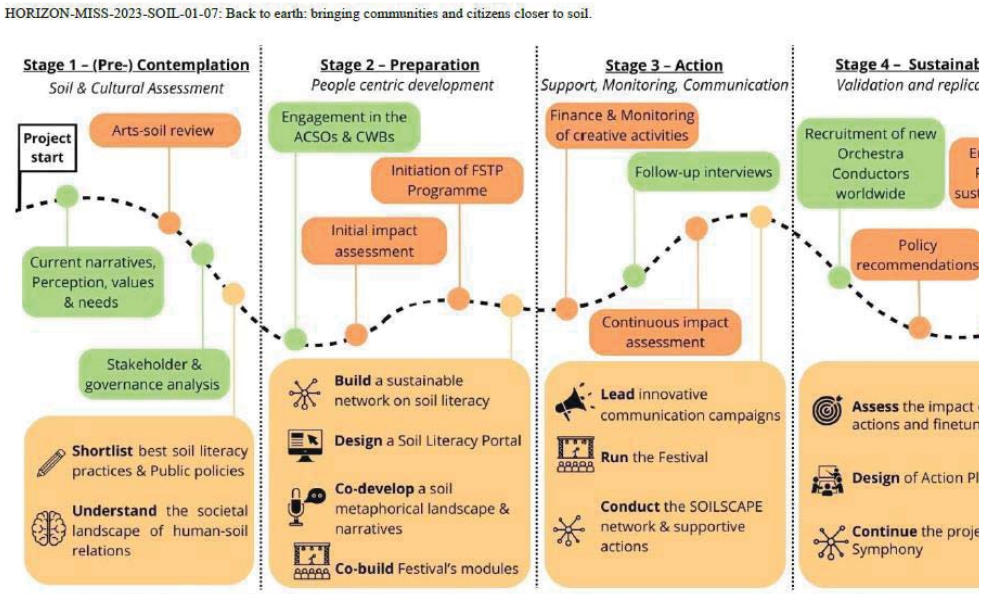

Figure 1: Time frame of the SOILSCAPE implementation, to compose and validate the Symphony. Orange the consortium; Green: Strong involvement of diverse stakeholders; Brown: Synthesis of the action

The **SOILSCAPE** story began with a group of 19 pioneers, analogous to musicians, having the same objective to help boost soil awareness and care by conducting a dynamic and territorial network of what we call *Orchestras*. All of these Orchestras are sounding of the fundamental linkage between soils and human population, soil health and human health, resulting in hundreds of inspiring arts-based initiatives (in the broadest sense) across Europe and beyond. The resulting Symphony overcame the challenges of changing society's perceptions and engaged artists, citizens, soil professionals and institutions on soils, through innovative communication campaigns, participatory art-science, and broader cultural initiatives together with creative science-based soil activities."

SOILSCAPE is a 48-month project gathering 19 partners from 8 Members states, Switzerland, and Kenya. Inter-disciplinary and trans-disciplinary activities will be conducted through the wide diversity of expertise required to increase soil literacy, initiate an international network of local actors, and engage the society in the protection and restoration of soils through creative ways. The project involves 2 of the EU largest and liveliest Soil Sciences Societies, the United Nations Educational, Scientific and Cultural Organization, the World Agroforestry, 3 CCIs, 1 cluster of CCIs and 1 of professionals, 7 research institutes, 1 EU Rural Network, and 1 non-profit organization.

Project starting date: 1 June 2024, Project duration: 48 months

Consortium leader: French Soil Science Society

See: www.erdn.eu for future updates!

thERBN

HORIZON-CL6-2024-GOVERNANCE-01-9

thERBN - Thematic European Rural Bioeconomy Network

The objective of thERBN is to put into operation an EU-wide multi-actor (MA) thematic network (TN) for knowledge sharing on innovative solutions for sustainable circular bioeconomy (CB) applicable by small farms and foresters (practitioners) at a local scale in rural areas. Such a framework will contribute to empowering practitioners (PPs) solving the gap between available and viable CB solutions and the problems they face in their everyday.

Starting from their most urgent needs on the management and use of biological by-products and residues, thERBN will identify existing solutions from grassroots from PPs, innovations developed by Operational Groups (OGs) and research applied results from national and EU projects, to produce practice-oriented easily understandable materials to be shared in national and EU demo days and training and through channels most consulted by PPs. thERBN TN will assure open access to long-term digital structures like EU-Farmbook, and EU-CAP Network, complemented by the thERBN platform to facilitate multilanguage access and a social environment to interact among and integrate CB-interested OGs, TNs & project communities, thus enhancing the cross-border dimensions and effects of thERBN TN, and reducing the fragmentation in knowledge and innovation.

The MA thERBN TN will connect with the key actors (researchers, advisors, innovation brokers) and structures (national and regional AKIS, extension services, advisors networks) necessary to encompass the transition of small rural farms and foresters towards climate neutrality and more sustainable and resilient operation. Bottom-up MA-based dialogue will yield evidence on the current PPs' needs, the remaining gaps for CB solutions that new innovative products and services can cover, and policy briefs proposing policies or instruments to support the adoption of small-scaled CB solutions by small farms.

Consortium leader: Ghent University

Project starting date: Autumn 2024

Project duration: 36 months

See: www.erdn.eu for future updates!

VISION4FOOD

HORIZON-CL6-2024-GOVERNANCE-01-2

Vision4Food - Envisioning an integrated quadruple helix and RRI framework for food system transformation and regional innovation ecosystem enhancement

VISION4FOOD aims to enhance the sustainability and resilience of EU food systems through the development of innovative governance models that contribute to better informed decision-making processes while promoting social engagement and innovation in 5 European regions (Finland, Spain, Italy, Greece, Poland) with different innovation ecosystem maturity levels. Through the project, our regions will be supported to strengthen their role in the creation of Food Innovation Platforms (FIPs), fostering collaboration among Quadruple Helix stakeholders

and facilitating the identification, and scaling of innovations for food system transformation. The methodology involves co-creating R&I strategies, emphasizing open science, and Responsible Research Innovation (RRI). Through VISION4FOOD multistakeholder approach and the integration of tools and services we will provide them all the necessary support for knowledge exchange, networking and priority setting in the form of an acceleration agenda tailored to each region's priorities and needs while facilitating the transition to an innovative and inclusive food system. We will closely monitor and evaluate the performance of the governance models' operation, providing evidence of its impacts.

Consortium leader: WHITE RESEARCH SRL (WR), Belgium,

Period: 36 months (starting date 1 january 2025)

See: www.erdn.eu for future updates!

LandShift

HORIZON-CL6-2024-CLIMATE-01-4

LandShift - Community-Led Creation of Living Spaces in Shifting Landscapes for Climate-Resilient Land Use Management and Supporting the New European Bauhaus

LandShift is a groundbreaking initiative aimed at addressing the urgent challenges of climate change, biodiversity loss, and unsustainable land management practices. With a focus on the EU's land-use sector, LandShift seeks to develop innovative solutions that not only mitigate biogenic emissions but also enhance ecosystem resilience and promote sustainable resource management. LandShift aims to support the EU's ambitious climate goals by maximizing net removals from LULUCF, while minimizing biogenic emissions from agriculture. By strategically utilizing Living Earths, integrating FAO LCCS with optimized EO data, and Data Cubes as centralized data hubs, the project aims to implement tailored strategies for local and regional contexts, fostering stakeholder engagement and collaboration. Central to LandShift's approach is the integration of NBS aligned with the principles of the New European Bauhaus. These solutions leverage natural processes and ecosystems to enhance carbon sequestration, improve biodiversity, and strengthen ecosystem services. By harnessing the power of NBS, LandShift aims to create synergies between climate mitigation, biodiversity conservation, and sustainable land management. Furthermore, LandShift recognizes the importance of data driven decision-making and monitoring to track progress and inform policy development. The project will establish robust MRV systems to ensure the effectiveness of implemented strategies and measure their impact on biogenic emissions, biodiversity, and ecosystem health. In addition to technical solutions, LandShift places a strong emphasis on policy influence and capacity building. Through targeted outreach and engagement activities, the project aims to raise awareness, build capacity, and foster collaboration among stakeholders at all levels. By empowering policymakers, land managers, and local communities, LandShift seeks to create an enabling environment for sustainable land use sector and management practices.

Topic: HORIZON-CL6-2024-CLIMATE-01-4

Type of Action: HORIZON-RIA

Call: HORIZON-CL6-2024-CLIMATE-01

Consortium leader: Eratosthenes Centre Of Excellence, Cyprus

See: www.erdn.eu for future updates!

V4GreenReporting - Green evaluation of food industries in V4 countries from EU Taxonomy perspective

Supported by

Visegrad Fund

Realization of EU's green goals is particularly important for the food industries of V4 countries. Uniform system of criteria is needed for the development of environmentally sustainable activities. After the NFRD and Green Deal, the EU Taxonomy was the next fundamental step to create principles of this system. The objectives of Taxonomy became a defining element of CSRD as well. The main aim of the project led by AKI is to provide comprehensive knowledge about the current situation and future opportunities of food industries' sustainable goals and activities in V4 countries in order to promote environmental-friendly solutions. The cooperation of V4 countries is important from geographical and financial point of view as well. There is a lack and urgent need of this intended examination in our area. The common target is to find the most effective solutions for the sustainable improvement of food industries in our region and to achieve determining behaviour-changing effects. We will focus on strengthening macroregional and sectoral cooperation by a taxonomy-centered, qualitative and quantitative analysis of voluntary and mandatory sustainability reports of large companies using sectoral financial database. We plan to accomplish unique scientific studies and to provide new, outstanding information for key stakeholders (experts, companies, financiers, consumers, political decisionmakers) in order to realize more effective changes in green transition. According to our scientific concept the planned transparent assessment can also reduce the problem of green washing.

Partners

Agrárközgazdasági Intézet Nonprofit Kft. (AKI), Széchenyi István Egyetem (HU), AMBIS vysoká škola (CZ), Slovenská poľnohospodárska univerzita v Nitre (SK), European Rural Development Network (PL)

Project ID
Visegrad Fund Project ID 22320032

Duration
1 October 2023 – 31 March 2025

Completed projects

PoliRural

RUR-01-2018-2019

POLIRURAL – Future Oriented Collaborative Policy Development for Rural Areas and People

H2020-EU.3.2. - SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy

POLIRURAL (Future Oriented Collaborative Policy Development for Rural Areas and People) was Horizon 2020 project. PoliRural provided a set of knowledge resources including an inclusive learning environment where rural populations, researchers and policymakers come together to address common problems; an evaluation exercise that uses text mining to assess the perceived effectiveness of past or planned policy interventions; and a foresight study that collected the development trajectory of agriculture and its allied sectors until 2040 using several scenarios in which the evolution of rural populations occupies a central place.

As a result of these activities, PoliRural left decision makers at different levels of government better equipped to tackle existing and emerging rural challenges, rural populations more empowered and rural areas more resilient.

Polish ERDN Team participated in this project.

Project leader: Czech University of Life Sciences Prague (CULS), Czech Republic

Project period: 2019-2022

SHERPA

RUR-01-2018-2019

Sustainable Hub to Engage into Rural Policies with Actors (SHERPA) was a project with 17 partners funded by the Horizon 2020 programme. The project aimed to gather knowledge that contributes to the formulation of recommendations for future policies relevant to EU rural areas, by creating a science-society-policy interface.

In H2020 project SHERPA we took part as ERDN community (ERDN and linked-parties). We manage multi-actor platforms (MAPs) in 6 countries! Here is our team:

- **LT MAP: Lithuanian Institute of Agrarian Economics , Lithuania**
- **HU MAP: Research Institute of Agricultural Economics – National Agricultural Research and Innovation Centre, Hungary**
- **CZ MAP: Institute of Agricultural Economics and Information, Czech Republic**
- **RO MAP: Romanian Academy – Institute of Agricultural Economics, Romania**

- **BG MAP: Institute of Agricultural Economics, Bulgaria**
- **PL MAP: ERDN, Poland.**

SHERPA has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No. 862448.

Project leader: ECORYS, Belgium

Project period: 2019-2023

https://rural-interfaces.eu/

BIOEASTsUP

RUR-18-2019

Advancing Sustainable Circular Bioeconomy in Central and Eastern European countries: BIOEASTsUP

The project BioEastsUP was aimed at advancing the BIOEAST initiative to become a catalyst for a research and innovation, rural development and other policies towards bioeconomy development in the CEE by creation of favourable inter-sectoral framework for sustainable deployment of biomass potential.

A number of the ERDN institutional members and associates participated in this project:

Poland: The Institute of Soil Science and Plant Cultivation (IUNG-PIB), the Institute of Agricultural and Food Economics – National Research Institute (IERiGZ-PIB), European Rural Development Network, Poland

Hungary: The Institute of Agricultural Economics, Budapest

Romania: Institute of Agricultural Economics, Bucharest

Project leader: The Institute of Soil Science and Plant Cultivation (IUNG-PIB)

Project period: 2019-2022

https://bioeast.eu › bioeastsup

Unlocking Transformative Ecotourism Potential for Sustainable Regional Development (RESTinBSR) was an Interreg Baltic Sea Region project aimed at unlocking the potential of an innovative form of ecotourism - transformative ecotourism - by involving into the ecotourism development new groups of actors, including rural entrepreneurs, local communities, NGOs and social movements dealing with ecology. The project seeks to use transnational learning and collaboration for developing a set of innovative tools for the promotion of transformative ecotourism businesses in the Baltic Sea region's peripheral areas.

The project was implemented by four partners:

- **Lithuanian Centre for Social Sciences, Institute of Economics and Rural development (leader)**
- **European Rural Development Network**
- **University of Latvia**
- **Council of Municipalities of Sankt Petersburg**

Project period: 2020-2021.

FSDN - transformation of the Farm Accountancy Data Network into Farm Sustainability Data Network

The project commissioned by the European Commission is intended to support the **transformation of the Farm Accountancy Data Network into Farm Sustainability Data Network**. The Polish ERDN team within this project was responsible for the Polish case study and is to conduct following tasks:

- Identify the data sources for each theme and assess their reliability. Map the governance of FADN.
- Establish a list of farm level contacts.
- Collect information for analysing.
- Report about the information collected.

Project leader: ECORYS, Belgium

Project period: 2022-2023

Pilot Project - Establishing an operational programme: structuring the agri-food sectors to safeguard the handing-on of family farms and the sustainability of local agriculture

The 'Pilot Project - Establishing an operational programme: structuring the agri-food sectors to safeguard the handing-on of family farms and the sustainability of local agriculture' aimed at producing an analysis of the advantages that producer organisations (POs) offer farmers through a quantitative assessment of the extent to which POs contribute to

- strengthening farmers' position in the agri-food supply chain; and,
- improving the economic, social and environmental sustainability of farms.

Moreover, the project aimed to produce a handbook on operational programmes (OPs) for stakeholders examining how POs can boost the overall sustainability of their members, establishing sectoral intervention through OPs, mirroring the existing model in the fruit and vegetables sector. ERDN was responsible for field studies in Poland and policy analysis.

Project leader: ECORYS, Belgium

Project period: 2022-2023

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At the time of formation of the ERDN (year 2002) key associated members included:

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Research Institute of Agricultural Economics (AKI), Budapest, Hungary

Federal Institute of Agricultural Economics (AWI), Wien, Austria

Institute of Agricultural Economics – Romanian Academy, Bucuresti, Romania

Institute of Geography, Slovak Academy of Sciences, Bratislava, Slovak Republic

Research Institute of Agricultural Economics (VUZE), Prague, Czech Republic

Lithuanian Institute of Agrarian Economics (LAEI), Vilnius, Lithuania

Latvian State Institute of Agrarian Economics, Latvia

Institute of Landscape Ecology of the Academy of Sciences, Ceske Budejovice, Czech Republic

Institute of Geography, University of Oulu, Finland

Rural Development Centre of the St. Stephan University, Gödöllö, Hungary

University of Tartu, Estonia

University of Matej Bel, Slovakia

Centre of Regional Research, Hungary

Arkleton Centre for Rural Development Research of the University of Aberdeen, Scotland

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Norwegian Institute for Urban and Regional Research at HiOA, Oslo, Norway

The Norwegian Institute of Land Inventory, Norway

Research Institute of Agricultural Economics, The Hague, Netherlands

IAMO, Halle, Germany

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